Lake County

LAKE COUNTY GENERAL PLAN 2050

March 2026 | Draft Environmental Impact Report

State Clearinghouse No. 2024010158

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LAKE COUNTY GENERAL PLAN 2050

for Lake County

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EXECUTIVE SUMMARY

ES.1 INTRODUCTION

This executive summary has been prepared in compliance with the California Environmental Quality Act (CEQA) Guidelines Section 15123. This Draft Environmental Impact Report (EIR) addresses the environmental effects associated with the implementation of the proposed Lake County General Plan 2050 (proposed 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 Lake County's CEQA procedures. Lake County, as the lead agency, has reviewed and revised all submitted drafts, technical studies, and reports as necessary to reflect its own independent judgment, including reliance on County technical personnel from other departments and review of all technical subconsultant reports.

ES.2 ENVIRONMENTAL PROCEDURES

This EIR has been prepared pursuant to CEQA and the CEQA Guidelines to assess the environmental effects associated with implementation of the proposed project, as well as anticipated future discretionary actions and approvals. CEQA established six main objectives for an EIR:

1. Disclose to decision makers and the public the significant environmental effects of proposed activities.
2. Identify ways to avoid or reduce environmental damage.
3. Prevent environmental damage by requiring implementation of feasible alternatives or mitigation measures.
4. Disclose to the public reasons for agency approval of projects with significant environmental effects.
5. Foster interagency coordination in the review of projects.
6. Enhance public participation in the planning process.

An EIR is the most comprehensive form of environmental documentation in CEQA and the CEQA Guidelines; it is intended to provide an objective, factually supported analysis, and full disclosure of the environmental consequences of a proposed project with the potential to result in significant, adverse environmental impacts.

An EIR is 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. Before approving a proposed project, the lead agency must consider the information in the EIR, determine whether the EIR was prepared in accordance with CEQA and the CEQA Guidelines, determine that it reflects the independent judgment of the lead agency, adopt findings concerning the project's significant environmental impacts and alternatives, and adopt a statement of overriding considerations if significant impacts cannot be avoided.

ES.2.1 Draft EIR Organization

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

Chapter 1: Introduction. Describes the purpose of this EIR, background on the proposed project, the notice of preparation, the use of incorporation by reference, and Final EIR certification.

Chapter 2: Project Description. Provides a detailed description of the project, including its objectives, its area and location, approvals anticipated to be required as part of the proposed project, necessary environmental clearances, and the intended uses of this EIR.

Chapter 3: Environmental Analysis. Each environmental topic is analyzed in a separate section that discusses: the applicable regulatory framework; existing conditions; the significance criteria used to determine if a significant impact would occur; the methodology to identify and evaluate the potential impacts of the project; the potential adverse and beneficial effects of the project; the level of impact significance with and without mitigation; and the potential cumulative impacts of the proposed project and other existing, approved, and proposed projects in the area.

Chapter 4: Alternatives to the Proposed Project. Describes the alternatives and compares their impacts to the impacts of the proposed project. Alternatives include the No Project Alternative and the Focused Growth and Reduced Commercial Alternative.

Chapter 5: Other CEQA Considerations. Provides a discussion of effects found not to be significant, significant and unavoidable impacts, significant irreversible changes to the environment, and growth-inducing effects.

Chapter 6: Report Preparers and Organizations Consulted. Includes a list of people and organizations that prepared or were contacted during the preparation of this Draft EIR.

Appendices. The appendices for this document include the following supporting documents:

- Appendix A: Notice of Preparation and Scoping Comments
- Appendix B: Transportation Data
- Appendix C: Air Quality and Greenhouse Gas Emissions Data
- Appendix D: Biological Resources Assessment
- Appendix E: Noise Data
- Appendix F: Proposed General Plan 2050 Policies and Actions

ES.2.2 Type and Purpose of this Draft EIR

As described in the CEQA Guidelines, different types of EIRs are used for varying situations and intended uses.

This EIR 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. 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 encourage the use of Program EIRs, citing five advantages:

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

ES.3 PROJECT LOCATION

Lake County lies within the Pacific Coastal range, approximately 100 miles north of San Francisco, 90 miles northwest of Sacramento, and 35 miles east of the Pacific Ocean. Lake County is bounded by Mendocino and Glenn Counties to the north; Yolo, Colusa, and Glenn Counties to the east; Sonoma and Napa Counties to the south; and Mendocino and Sonoma Counties to the west. The major roadways that traverse the county include State Route- (SR-) 20, which connects to Highway 101 and Interstate (I-) 5 to the west and east, and SR-29, SR-53, and SR-175. The total area of Lake County is approximately 1,330 square miles, of which, 686 square miles are unincorporated county land.

ES.4 SUMMARY OF THE PROPOSED PROJECT

The proposed project would replace the County's existing General Plan with an updated General Plan. The existing General Plan was comprehensively adopted in 2008 and includes a horizon year of 2025 (2008 General Plan). The County also has a set of eight Local Area Plans adopted between 1988 and 2010 that contain the land use plans for development in each area of the county that are not a part of the 2008 General Plan but are complementary supplements used as planning tools in Lake County to provide more detailed and specific land use guidance for the eight local areas in the county.

The proposed General Plan 2050 would respond to changing policy, social, and physical landscapes with the guidance of the Lake County community and guide the county's economic and physical growth as well as preservation of natural, mineral, and agricultural resources over a 25-year buildout horizon. The existing Local Area Plans would be updated and integrated into the General Plan 2050 as part of the proposed project. The proposed General Plan 2050 includes a set of elements organized at both the countywide level and planning area (formally Local Area Plan) level, together containing the required general plan elements pursuant to California Government Code Section 65302 as well as other topics of particular interest to Lake County. Chapter 2, *Project Description*, of this Draft EIR includes a detailed description of the proposed project.

ES.5 SUMMARY OF PROJECT ALTERNATIVES

CEQA Guidelines Section 15126.6(a) states that an EIR must address "a range of reasonable alternatives to the project, or to the location of the project, which would 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 Draft EIR were based, in part, on their potential to reduce or eliminate the impacts determined to be potentially significant for implementation of the proposed project (see Table ES-1, *Summary of Significant Environmental Impacts and Proposed Mitigating Policies and Actions*). The project alternatives were not reviewed for financial feasibility. Project alternatives are assessed in further detail in Chapter 4, *Alternatives to the Proposed Project*.

ES.5.1 No Project Alternative

Consistent with CEQA Guidelines Section 15126.6(e)(2), Alternative A presents the No Project scenario. Accordingly, under this alternative, the proposed project would not be adopted or implemented, and further development in the county would continue to be subject to existing policies, regulations, development standards, and land use designations under the 2008 General Plan.

ES.5.2 Focused Growth and Reduced Commercial Alternative

The Focused Growth and Reduced Commercial Alternative would focus residential development in proximity to existing transit facilities and services through the redesignation of certain low-density residential parcels as medium- and high-density residential in appropriate areas. Commercial development potential would also be reduced under this alternative. Overall, under this alternative, there would be the same number of households, residential units, and population as the proposed project, but less nonresidential development and therefore fewer jobs.

ES.6 ISSUES TO BE RESOLVED

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

1. Whether this EIR adequately describes the environmental impacts of the project.
2. Whether the benefits of the project override those environmental impacts which cannot be feasibly avoided or mitigated to a level of insignificance.
3. Whether the proposed land use changes are compatible with the character of the existing area.
4. Whether the identified goals, policies, or mitigation measures should be adopted or modified.
5. Whether there are other mitigation measures that should be applied to the project besides the mitigation measures identified in the EIR.
6. 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.

ES.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. Prior to preparation of the Draft EIR, Lake County issued a Notice of Preparation (NOP) on January 9, 2024. The CEQA-mandated scoping period for this EIR was between January 9, 2024, and February 7, 2024, during which, interested agencies and the public could submit comments about the potential environmental impacts of the proposed project. During this time, Lake County received 15 comment letters and 10 people spoke at the NOP Scoping Meeting on January 24, 2024. The comment letters were from a variety of State and local agencies as well as several organizations and members of the public. Appendix A, *Notice of Preparation and Scoping Comments*, of this Draft EIR contains the NOP as well as the comments received by Lake County in response to the NOP.

The following is a discussion of issues that are likely to be of particular concern to agencies and interested members of the public during the environmental review process. Though every concern applicable to the CEQA process is addressed in this Draft EIR, this list is not necessarily exhaustive but rather attempts to capture concerns that are likely to generate the greatest interest based on the input received during the scoping process.

- Impact of commercial tobacco smoke and cannabis
- Conservation of Clear Lake hitch
- Protection of Clear Lake
- Preservation of oak woodlands
- Establishing migration corridors
- Adequacy of existing transportation network
- Adequacy of existing water supply and increased water demand

ES.8 SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Table ES-1, *Summary of Significant Environmental Impacts and Mitigation Measures,* presents the significant impacts with associated mitigation measures, including the impact's level of significance with the mitigation measure. Table ES-2, *Summary of Significant Environmental Impacts and Proposed Mitigating Policies and Actions,* presents the significant impacts and the proposed mitigating General Plan 2050 policies and actions, including the impact's level of significance with the imposition of mitigating policies and actions. As summarized in the following table, and as required by CEQA, some impacts remain significant and unavoidable after implementation of the proposed mitigation measures as well as the proposed mitigating General Plan 2050 policies and actions. For a complete description of potential impacts, including those where no mitigation measures are required, please refer to the specific discussions in Sections 3.1 through 3.20. For the full list of proposed General Plan 2050 policies and actions, see Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR.

Table ES-1 Summary of Significant Environmental Impacts and Mitigation Measures

Environmental Impact	Level of Significance without Mitigation	Mitigation Measures	Level of Significance with Mitigation
AGRICULTURE AND FORESTRY RESOURCES			
Impact AGF-1: Implementation of the proposed project could result in the conversion of Prime Farmland, Farmland of Statewide Importance, or Unique Farmland land (together referred to as "qualifying Farmland") to nonagricultural land uses.	**S**	**Mitigation Measures Considered:** In compliance with CEQA, "each public agency shall mitigate or avoid the significant effects on the environment of the project it carries out or approves whenever it is feasible to do so." 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." CEQA Guidelines Section 15370 defines "mitigation" as: (1) avoiding the impact altogether by not taking a certain action or parts of an action; (2) minimizing impacts by limiting the degree or magnitude of an action and its implementation; (3) rectifying the impact by repairing, rehabilitating, or restoring the impacted environment; (4) reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and (5) compensating for the impact by replacing or providing substitute resources or environments. The following is a brief discussion of the mitigation measures considered for mitigating or avoiding the impact of the conversion of agricultural lands to other uses and their infeasibility. However, as shown, no feasible mitigation measures are available that would reduce the agricultural resource impact to less-than-significant levels. **Replacement of Agricultural Resources.** This measure would replace the existing agricultural use with the same use on other property that is not currently used for agriculture. From a statewide perspective, the replacement of farmland means that there will be no net loss of farmland in the state. However, qualifying Farmland would still be developed. There is limited undeveloped land within the EIR Study	**SU**

Table ES-1 Summary of Significant Environmental Impacts and Mitigation Measures

Environmental Impact	Level of Significance without Mitigation	Mitigation Measures	Level of Significance with Mitigation
		Area that is not currently designated as agricultural, restricting the amount of agricultural land that would be able to be replaced elsewhere in the area, and thus conversion of these lands would be insufficient to achieve no net loss. Moreover, even if adequate land could be identified to achieve no net loss, the challenges of creating the soil, irrigation, climatic, and economic conditions that are required for productive farmland (i.e., that achieves the same Important Farmland, Farmland of Statewide Importance, or Unique Farmland status) are significant and there would be no guarantee that replacement land could be successfully farmed. In addition, replacing existing undeveloped areas with active agriculture could trigger a range of negative environmental impacts, including increased groundwater consumption, habitat destruction, erosion, air quality impacts, and herbicide and pesticide application. As such, the replacement of the existing agricultural uses on other properties within the EIR Study Area is infeasible. **Transfer of Development Rights.** Transferring development rights would involve the purchasing of the right to develop land from a currently undeveloped piece of land and transferring those rights to farmland within the EIR Study Area. Thus, this option is also infeasible because there would still be a net loss of farmland (i.e., the farmland preserved would still likely be preserved anyhow). Even if farmland would be preserved elsewhere in the EIR Study Area, the qualifying Farmland in the EIR Study Area would be developed, resulting in a net loss of Farmland. Therefore, for the reasons outlined previously, and in this paragraph, it would not prevent significant impacts from occurring in the EIR Study Area and it would not be an effective CEQA	

Table ES-1 Summary of Significant Environmental Impacts and Mitigation Measures

Environmental Impact	Level of Significance without Mitigation	Mitigation Measures	Level of Significance with Mitigation
		mitigation measure, nor is this mitigation measure feasible from an economic perspective within this region. **Relocation of Prime Farmland Topsoil.** This measure would remove the top 12 to 18 inches of topsoil from affected areas and haul this soil to a farm site or several farm sites that have lower-quality soils. The Prime Farmland, Farmland of Statewide Importance, or Unique Farmland soils may assist in increasing crop yield at the relocated site. This measure would have its own environmental impacts, including increased truck traffic on local roadways from both hauling soil off-site and replacement of soil on-site, increased diesel truck emissions, construction noise, and increased duration of construction. The relocation of prime farmland soils on another active farm would increase other environmental impacts and is therefore considered infeasible. As described, these measures were considered and found to be infeasible for mitigating or avoiding the impact of the conversion of agricultural lands to other uses pursuant to the definition of CEQA in that there is no guarantee that measures would result in successfully establishing Important Farmland, Farmland of Statewide Importance, or Unique Farmland, if doing so could happen within a reasonable period of time, that their implementation would not potentially cause greater environmental impacts, and that acquiring additional lands to be established as Important Farmland, Farmland of Statewide Importance, or Unique Farmland would be economically possible.	

Table ES-1 Summary of Significant Environmental Impacts and Mitigation Measures

Environmental Impact	Level of Significance without Mitigation	Mitigation Measures	Level of Significance with Mitigation
Impact AGF-2: Implementation of the proposed project could result in the loss of agricultural land under the Williamson Act.	**S**	**Mitigation Measures Considered:** As described under Impact AGF-1, pursuant to CEQA, the County has considered mitigation to reduce impacts from implementation of the proposed project that could conflict with lands under a Williamson Act contract. However, as shown, no feasible mitigation measures are available that would reduce the agricultural resource impact to less-than-significant levels. Specifically, the County considered a measure that would result in the replacement of Williamson Act contract farmland that would place other farmland under Williamson Act contract. Even if feasible, the placing of alternative farmland under Williamson Act contract would establish a commitment to retain that alternative farmland for agricultural use. The length of time that the alternative land will remain in agricultural use would depend on the terms of the Williamson Act contract. However, the Williamson Act contract will only reduce the potential that the alternative land will convert to non-agricultural use. The individual and cumulative loss of agricultural land caused by the proposed project would still occur. Therefore, this mitigation measure will not reduce the proposed project's impacts on agriculture to below the level of significance. For these reasons, placing alternative privately held land under permanent restriction through Williamson Act contracts is considered infeasible.	**SU**
Impact AGF-3: The proposed project, in combination with past, present, and reasonably foreseeable projects, could result in a significant cumulative impact with respect to the conversion of Prime Farmland, Farmland of	**S**	Same as Impact AGF-1 and Impact AGF-2.	**SU**

Table ES-1 Summary of Significant Environmental Impacts and Mitigation Measures

Environmental Impact	Level of Significance without Mitigation	Mitigation Measures	Level of Significance with Mitigation
Statewide Importance, or Unique Farmland land (together referred to as "qualifying Farmland") and Williamson Act properties to non-agricultural uses.			
UTILITIES AND SERVICE SYSTEMS			
Impact UTIL-5: Impacts from potential future development under the proposed General Plan 2050 could create a solid waste in excess of the capacity of local infrastructure	**S**	**Mitigation Measure UTIL-1:** Prior to renewal of the Eastlake Landfill permit, which expires in December 2026, Lake County shall coordinate with CalRecycle and the Lake County Environmental Health Department to increase the maximum permitted daily tonnage at the landfill.	**LTS**

S = Significant; SU = Significant and Unavoidable; LTS = Less than Significant

Table ES-2 Summary of Significant Environmental Impacts and Proposed Mitigating Policies and Actions

Environmental Impact	Level of Significance without Mitigation	Proposed Mitigating Policies and Actions	Level of Significance with Proposed Mitigating Policies and Actions
AESTHETICS			
Impact AES-1: Impacts from potential future development under the proposed General Plan 2050 could create a substantial adverse effect on a scenic viewshed.	S	▪ **Policies CM-OS-8.1*, EL-OS-9.1*, K-OS-9.1*, L-OS-9.1*, LL-OS-8.1*, M-OS-8.1*, NL-OS-9.1*, and R-OS-9.1*:** In rural areas, require structures built in the immediate foreground view of a scenic route to be sited a sufficient distance from the roadway edge to minimize intrusion on the natural features and backdrops as viewed from the roadway or adjacent residences. In rural and urbanized areas, require structures built in the immediate foreground of a scenic route to minimize obstruction of views of significant natural features. Require development on hillsides to blend in with the surroundings through exterior color choices and maximum height restrictions. ▪ **Actions CM-OS-8.a*, K-OS-9.a*, L-OS-9.a*, LL-OS-8.a*, M-OS-8.a*, NL-OS-9.a*, and R-OS-9.a*:** Develop an ordinance that regulates development on or near ridgelines and hilltops to minimize impacts to scenic viewsheds.	LTS
Impact AES-2: Impacts from potential future development under the proposed General Plan 2050 could create substantial light or glare which would adversely affect day or nighttime views in the area.	S	▪ **Policies CM-OS-1.23*, EL-OS-1.23*, K-OS-1.23*, L-OS-1.23*, LL-OS-1.23*, M-OS-1.23*, NL-OS-1.23*, and R-OS-1.23*:** Require lighting in residential areas, along roadways, and adjacent to sensitive habitat areas to prevent artificial lighting from spilling and/or reflecting into adjacent properties, including natural or open space areas by incorporating design features, such as shielded lighting and landscaping.	LTS

Table ES-2 Summary of Significant Environmental Impacts and Proposed Mitigating Policies and Actions

Environmental Impact	Level of Significance without Mitigation	Proposed Mitigating Policies and Actions	Level of Significance with Proposed Mitigating Policies and Actions
		▪ **Policies CM-OS-9.3*, EL-OS-10.3*, K-OS-10.3*, L-OS-10.3*, LL-OS-9.3*, M-OS-9.3*, NL-OS-10.3*, and R-OS-10.3*:** Require lighting that enhances visibility, convenience, and public safety without creating glare or light pollution. ▪ **Policies CM-OS-9.4*, EL-OS-10.4*, K-OS-10.5*, L-OS-10.4*, LL-OS-9.4*, M-OS-9.4*, NL-OS-10.4*, and R-OS-10.4*:** Require the use of low-glare building materials for new buildings constructed in the Planning Area. ▪ **Actions CM-OS-9.a*, EL-OS-10.a*, K-OS-10.a*, L-OS-10.a*, LL-OS-9.a*, M-OS-9.a*, NL-OS-10.a*, R-OS-10.a*:** Amend the Zoning Ordinance to regulate outdoor lighting in a way that minimizes light pollution that disrupts dark skies while providing for safety and reasonable use.	
AIR QUALITY			
Impact AIR-1: Implementation of the General Plan 2050 could expose air quality sensitive receptors to substantial toxic air contaminant concentrations from construction activities and from permitted and non-permitted sources during operation.	**S**	▪ **Policy HS-5.6*:** Require project applicants of discretionary projects, as appropriate, to prepare technical assessments evaluating potential project construction and operation phase-related air quality impacts to Lake County for review and approval prior to project approval. Such evaluations shall be prepared in conformance with the Lake County Air Quality Management District (LCAQMD) or Bay Area Air District criteria and methodology in assessing air quality impacts. If air pollutants are found to have the potential to exceed the LCAQMD or Bay Area Air District thresholds of significance, ensure mitigation measures, such as those listed in the General Plan Environmental Impact	**SU**

Table ES-2 Summary of Significant Environmental Impacts and Proposed Mitigating Policies and Actions

Environmental Impact	Level of Significance without Mitigation	Proposed Mitigating Policies and Actions	Level of Significance with Proposed Mitigating Policies and Actions
		Report, are incorporated to reduce air pollutant emissions during construction or operational activities. ▪ **Policy HS-5.7*:** Require project applicants of discretionary projects on sites greater than one acre, within 1,000 feet of sensitive land uses (e.g., residences, schools, day care facilities, and nursing homes, etc.) as measured from the property line of the project, that utilize off-road equipment of 50 horsepower or more and that occur for more than 12 months of active construction (i.e., exclusive of interior renovations), to prepare a construction health risk assessment (HRA) in accordance with policies and procedures of the State Office of Environmental Health Hazard Assessment and Lake County Air Quality Management District (LCAQMD). If the construction HRA shows that the incremental cancer risk exceeds 10 in a million, the appropriate noncancer hazard index exceeds 1.0, or the thresholds as determined by the LCAQMD, require the project applicant to identify and demonstrate measures, such as those listed in the General Plan Environmental Impact Report, that can reduce potential cancer and noncancer risks to an acceptable level. ▪ **Policy HS-5.8*:** Require project applicants of discretionary projects to prepare an operational health risk assessment (HRA) for industrial or warehousing land uses and commercial land uses that would generate substantial diesel truck travel (i.e., 100 diesel trucks or 40 or more trucks with diesel-powered transport refrigeration units per day based on the California Air Resources Board recommendations for siting new sensitive land uses) prior to project approval. The operational HRA shall be prepared in	

Table ES-2 Summary of Significant Environmental Impacts and Proposed Mitigating Policies and Actions

Environmental Impact	Level of Significance without Mitigation	Proposed Mitigating Policies and Actions	Level of Significance with Proposed Mitigating Policies and Actions
		accordance with policies and procedures of the State Office of Environmental Health Hazard Assessment and the Lake County Air Quality Management District (LCAQMD). If the operational HRA shows that the incremental cancer risk exceeds 10 in a million, the appropriate noncancer hazard index exceeds 1.0; or the thresholds as determined by the LCAQMD, require the project applicant to identify and demonstrate measures, such as those listed in the General Plan Environmental Impact Report, that can reduce potential cancer and noncancer risks to an acceptable level.	
Impact AIR-2: Implementation of the General Plan 2050 could result in the development of odor-generating land uses and agricultural cultivation operations that could affect a substantial number of people.	**S**	▪ Action AR-2.e*: Amend Article 27, Uses Generally Permitted, of the Zoning Ordinance to establish a performance standard for the odor response program component of the commercial cannabis cultivation Property Management Plan.	**LTS**
BIOLOGICAL RESOURCES			
Impact BIO-1: Impacts to special-status species or the inadvertent loss of bird nests in active use, which would conflict with the federal Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (CFGC), could occur as a result of implementation of the proposed project.	**S**	▪ **Policies CM-OS-1.7*, EL-OS-1.7*, K-OS-1.7*, L-OS-1.7*, LL-OS-1.7*, M-OS-1.7*, NL-OS-1.7*, and R-OS-1.7*:** Require a qualified biologist to prepare a biological resource assessment as part of project approval for proposed development on sites that may support special-status species, sensitive natural communities, important wildlife corridors, or regulated wetlands and waters to identify potential impacts and measures for protecting the resource and surrounding habitat. Require a qualified biologist conduct focused surveys, as identified and recommended in the	**LTS**

Table ES-2 Summary of Significant Environmental Impacts and Proposed Mitigating Policies and Actions

Environmental Impact	Level of Significance without Mitigation	Proposed Mitigating Policies and Actions	Level of Significance with Proposed Mitigating Policies and Actions
		biological resources assessment, during the appropriate season(s) for identification of the resource. ▪ **Policies CM-OS-1.10*, EL-OS-1.10*, K-OS-1.11*, L-OS-1.10*, LL-OS-1.11*, M-OS-1.10*, NL-OS-1.10*, and R-OS-1.10*:** Require that construction or other ground-disturbing activities avoid nests of native birds when in active use by implementing protection measures to ensure compliance with the California Fish and Game Code and federal Migratory Bird Treaty Act. Compliance guidelines are detailed in the General Plan Environmental Impact Report. ▪ **Policies CM-OS-1.11*, EL-OS-1.11*, K-OS-1.12*, L-OS-1.11*, LL-OS-1.12*, M-OS-1.11*, NL-OS-1.11*, and R-OS-1.11*:** Require installation and maintenance of construction barrier fencing around sensitive resources on or adjacent to construction sites prior to construction activities and throughout the construction period. ▪ **Policies CM-OS-1.19*, EL-OS-1.18*, K-OS-1.20*, L-OS-1.19*, LL-OS-1.23*, M-OS-1.19*, NL-OS-1.19*, and R-OS-1.19*:** Protect wildlife migration corridors and, prior to approval of projects that might impact identified wildlife connectivity and wildlife linkage areas, require that a habitat connectivity/wildlife corridor evaluation be completed by a qualified biologist	
Impact BIO-2: Impacts to riparian areas, drainages, and sensitive natural communities could occur from potential future development under the proposed	**S**	▪ **Policies CM-OS-1.14*, EL-OS-1.14*, K-OS-1.16*, L-OS-1.14*, LL-OS-1.16*, M-OS-1.14*, NL-OS-1.14*, and R-OS-1.14*:** Require Creek Management Plans and Mineral Reclamation Plans to include measures to protect and maintain riparian resources and habitats.	**LTS**

Table ES-2 Summary of Significant Environmental Impacts and Proposed Mitigating Policies and Actions

Environmental Impact	Level of Significance without Mitigation	Proposed Mitigating Policies and Actions	Level of Significance with Proposed Mitigating Policies and Actions
General Plan 2050 where natural habitat remains.		▪ **Actions CM-OS-1.c*, EL-OS-1.c*, K-OS-1.c*, L-OS-1.c*, LL-OS-1.c*, M-OS-1.c*, NL-OS-1.c*, and R-OS-1.c*:** Adopt a Creek and Riparian Area Management Ordinance in consultation with a qualified biologist to support Clear Lake hitch and other sensitive riparian habitat and educate affected property owners on their responsibilities and options for proper maintenance on private properties.	
Impact BIO-3: Potential future development from implementation of the proposed General Plan 2050 could result in direct and indirect impacts to wetland habitat.	**S**	▪ **Policies CM-OS-1.9*, EL-OS-1.9*, K-OS-1.10*, L-OS-1.9*, LL-OS-1.10*, M-OS-1.9*, NL-OS-1.9*, and R-OS-1.9*:** Require a wetland delineation study prepared using the protocol defined by the US Army Corps of Engineers as part of project approval for proposed development on sites with the potential to contain wetland resources. Require that a report on the findings of this survey be submitted to the County as part of the application process and, where proposed development would impact a wetland resources, require mitigation measures prior to project approval.	**LTS**
Impact BIO-4: Potential future development in the EIR Study Area could result in impacts on the movement of wildlife and potential for increased risk of bird collisions.	**S**	Same as Impact BIO-1, BIO-2, and BIO-3.	**LTS**

Table ES-2 Summary of Significant Environmental Impacts and Proposed Mitigating Policies and Actions

Environmental Impact	Level of Significance without Mitigation	Proposed Mitigating Policies and Actions	Level of Significance with Proposed Mitigating Policies and Actions
CULTURAL RESOURCES			
Impact CUL-1: Impacts to known or yet to be classified historic resources could occur from potential future development under the proposed General Plan 2050.	**S**	▪ **Policies CM-OS-2.1*, EL-OS-2.1*, K-OS-2.1*, L-OS-2.1*, LL-OS-2.1*, M-OS-2.1*, NL-OS-2.1*, and R-OS-2.1*:** Review proposed development projects in conjunction with the California Historical Resources Information System, Northwest Information Center, at Sonoma State University, to determine whether project areas contain known archaeological resources, both prehistoric and/or historic-era, and Tribal Cultural Resources, or if they have the potential to hold such resources, and if so, implement mitigation to protect the resource. ▪ **Policies CM-OS-2.2*, EL-OS-2.2*, K-OS-2.2*, L-OS-2.2*, LL-OS-2.2*, M-OS-2.2*, NL-OS-2.2*, and R-OS-2.2*:** Whenever possible, require new development to preserve significant historical, archaeological, or paleontological resources on-site through project design. If on-site preservation is not feasible, mitigate impacts through techniques such as relocation of structures, adaptive reuse, preservation of facades, and thorough documentation and archival of records. Any documentation of historic resources shall be conducted in accordance with Historic American Building Survey (HABS) Level III standards, as defined by the US Secretary of the Interior. ▪ **Policies CM-OS-2.3*, EL-OS-2.3*, K-OS-2.3*, L-OS-2.3*, LL-OS-2.3*, M-OS-2.3*, NL-OS-2.3* and R-OS-2.3*:** Upon discovery of significant archaeological, paleontological, historic, or Tribal Cultural Resources during site development, require all activity to be halted within 100 feet of the find(s) and notify a professional archaeologist, paleontologist, historian, and/or local Tribal	**LTS**

Table ES-2 Summary of Significant Environmental Impacts and Proposed Mitigating Policies and Actions

Environmental Impact	Level of Significance without Mitigation	Proposed Mitigating Policies and Actions	Level of Significance with Proposed Mitigating Policies and Actions
		government representative (if appropriate) to evaluate the find(s) and recommend mitigation procedures, if necessary. Findings and mitigation measures are subject to review and approval by the Lake County Planning Commission prior to resuming site development work. ▪ **Policies CM-OS-2.4*, EL-OS-2.4*, K-OS-2.4*, L-OS-2.4*, LL-OS-2.4*, M-OS-2.4*, NL-OS-2.4*, and R-OS-2.4*:** As a condition of approval for discretionary grading permits, require construction employees to be trained in recognizing potentially significant archaeological, paleontological, historic, or Tribal Cultural Resources that may be discovered during ground-disturbing activities. Require project proponents to submit verification that all site workers have received sensitivity training prior to commencement of ground-disturbing activities. ▪ **Policies CM-OS-2.5*, EL-OS-2.5*, K-OS-2.5*, L-OS-2.5*, LL-OS-2.5*, M-OS-2.5*, NL-OS-2.5*, and R-OS-2.5*:** Require discretionary review for demolition permit applications on important historic sites to mitigate impacts. ▪ **Actions CM-OS-2.b*, EL-OS-2.b*, K-OS-2.b*, L-OS-2.b*, LL-OS-2.b*, M-OS-2.5*, NL-OS-2.b*, and R-OS-2.b*:** Contract with an archaeologist(s) that meets the Secretary of the Interior's Professionally Qualified Standards to perform cultural resource studies for environmental analysis on discretionary projects where a cultural resource report is deemed necessary, including outreach to Tribal governments for input on Tribal Cultural Resources. ▪ **Policies CM-OS-3.6*, EL-OS-3.6*, K-OS-3.6*, L-OS-3.6*, LL-OS-3.6*, M-OS-3.6*, NL-OS-3.6*, and R-OS-3.6*:** Consult with	

Table ES-2 Summary of Significant Environmental Impacts and Proposed Mitigating Policies and Actions

Environmental Impact	Level of Significance without Mitigation	Proposed Mitigating Policies and Actions	Level of Significance with Proposed Mitigating Policies and Actions
		culturally affiliated Tribal governments when developing mitigation measures to avoid or minimize impacts on Tribal Cultural Resources. Mitigation could include notification of culturally affiliated Tribal governments prior to and tribal monitoring during ground-disturbing activities.	
Impact CUL-2: Impacts to known and unknown archeological resources could occur from potential future development under the proposed General Plan 2050.	**S**	▪ **Policies CM-OS-2.4*, EL-OS-2.4*, K-OS-2.4*, L-OS-2.4*, LL-OS-2.4*, M-OS-2.4*, NL-OS-2.4*, and R-OS-2.4*:** As a condition of approval for discretionary grading permits, require construction employees to be trained in recognizing potentially significant archaeological, paleontological, historic, or Tribal Cultural Resources that may be discovered during ground-disturbing activities. Require project proponents to submit verification that all site workers have received sensitivity training prior to commencement of ground-disturbing activities. ▪ Policies CM-OS-2.3*, EL-OS-2.3*, K-OS-2.3*, L-OS-2.3*, LL-OS-2.3*, M-OS-2.3*, NL-OS-2.3* and R-OS-2.3*: Upon discovery of significant archaeological, paleontological, historic, or Tribal Cultural Resources during site development, require all activity to be halted within 100 feet of the find(s) and notify a professional archaeologist, paleontologist, historian, and/or local Tribal government representative (if appropriate) to evaluate the find(s) and recommend mitigation procedures, if necessary. Findings and mitigation measures are subject to review and approval by the Lake County Planning Commission prior to resuming site development work.	**LTS**

Table ES-2 Summary of Significant Environmental Impacts and Proposed Mitigating Policies and Actions

Environmental Impact	Level of Significance without Mitigation	Proposed Mitigating Policies and Actions	Level of Significance with Proposed Mitigating Policies and Actions
GEOLOGY AND SOILS			
Impact GEO-1: Impacts from potential future development under the proposed General Plan 2050 where there are known geological hazards could occur over the buildout horizon of the proposed project.	**S**	▪ **Policy HS-12.1*:** Require areas with more than 30 percent slope or in areas mapped with naturally occurring asbestos to submit engineering plans and geotechnical studies for all construction and grading. These plans must address roads, utility corridors, and similar off-site improvements as well as erosion and dust control. Development in other areas possessing potential landslide risk, regardless of slope, shall require engineering plans and/or geotechnical study prior to discretionary approval or approval of grading or building permits. ▪ **Policy HS-12.2*:** Prohibit the siting of critical facilities in areas within Alquist-Priolo Special Studies Zones, in mapped naturally occurring asbestos areas, in areas subject to seiches, liquefaction, in areas with a high landslide risk, or on seismically unstable soils, unless a geologic/seismic hazards geotechnical engineering study can be performed to identify potential impacts and engineering recommendations prior to siting or site acquisition. ▪ **Policy HS-12.9*:** Prohibit new development on a hazardous fault trace, active landslide, or other geologic or seismic hazard area that poses a significant risk, including areas located downstream or downslope from such hazards, as shown on Figure HS-8 and Figure HS-9.	**LTS**

Table ES-2 Summary of Significant Environmental Impacts and Proposed Mitigating Policies and Actions

Environmental Impact	Level of Significance without Mitigation	Proposed Mitigating Policies and Actions	Level of Significance with Proposed Mitigating Policies and Actions
Impact GEO-2: Impacts from potential future development under the proposed General Plan 2050 where there are potentially unstable soils could occur over the buildout horizon of the proposed project.	**S**	▪ **Policy GR-3.7*:** In consultation with informed parties, such as the California Geologic Energy Management Division, Bureau of Land Management, and other experts, as appropriate, require subsidence monitoring and mitigation as a condition of approval for proposed geothermal operations. Require corrective measures if monitoring indicates that the geothermal operation has caused land subsidence creating a hazard or significant adverse impact on the local environment. ▪ **Policy HS-12.2*:** Prohibit the siting of critical facilities in areas within Alquist-Priolo Special Studies Zones, in mapped naturally occurring asbestos areas, in areas subject to seiches, liquefaction, in areas with a high landslide risk, or on seismically unstable soils, unless a geologic/seismic hazards geotechnical engineering study can be performed to identify potential impacts and engineering recommendations prior to siting or site acquisition. ▪ **Policy HS-12.9*:** Prohibit new development on a hazardous fault trace, active landslide, or other geologic or seismic hazard area that poses a significant risk, including areas located downstream or downslope from such hazards, as shown on Figure HS-8 and Figure HS-9.	**LTS**
Impact GEO-3: Impacts from potential future development under the proposed General Plan 2050 where there are expansive soils could occur over the buildout horizon of the proposed project.	**S**	▪ **Policy HS-12.2*:** Prohibit the siting of critical facilities in areas within Alquist-Priolo Special Studies Zones, in mapped naturally occurring asbestos areas, in areas subject to seiches, liquefaction, in areas with a high landslide risk, or on seismically unstable soils, unless a geologic/seismic hazards geotechnical engineering study can be performed to identify potential impacts and engineering recommendations prior to siting or site acquisition.	**LTS**

Table ES-2 Summary of Significant Environmental Impacts and Proposed Mitigating Policies and Actions

Environmental Impact	Level of Significance without Mitigation	Proposed Mitigating Policies and Actions	Level of Significance with Proposed Mitigating Policies and Actions
		▪ **Policy HS-12.9*:** Prohibit new development on a hazardous fault trace, active landslide, or other geologic or seismic hazard area that poses a significant risk, including areas located downstream or downslope from such hazards, as shown on Figure HS-8 and Figure HS-9.	
Impact GEO-4: Impacts from potential future development under the proposed General Plan 2050 where development could use septic systems with soils incapable of supporting septic or alternative wastewater systems could occur over the buildout horizon of the proposed project.	**S**	▪ **Policies CM- PF-4.c*, EL- PF-4.c*, K- PF-4.c*, L- PF-4.c*, LL- PF-4.c*, M- PF-4.c*, NL- PF-4.c* and R- PF-4.c*:** Periodically review standards for septic tanks to ensure they continue to protect water quality and public health, consistent with current best practices.	**LTS**
HAZARDS AND HAZARDOUS MATERIALS			
Impact HAZ-1: Impacts from potential future development under the proposed General Plan 2050 could 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.	**S**	▪ **Policy HS-10.7*:** Require that developers have a Phase I environmental site assessment (ESA) performed during the design phase on sites known to contain hazardous materials or which had previously been utilized for the handling or storage of hazardous materials. If the Phase I ESA finds hazardous materials on the project site, a Phase II ESA shall be prepared for mitigation prior to issuance of building permits.	**LTS**

Table ES-2 Summary of Significant Environmental Impacts and Proposed Mitigating Policies and Actions

Environmental Impact	Level of Significance without Mitigation	Proposed Mitigating Policies and Actions	Level of Significance with Proposed Mitigating Policies and Actions
HYDROLOGY AND WATER QUALITY			
Impact HYD-1: Impacts from operation of potential future development under the proposed General Plan 2050 could degrade surface and groundwater quality.	**S**	▪ **Policy GR-3.5*:** Require that geothermal resource developers obtain and comply with waste discharge permits for drilling sumps (including the analysis of discharged material) and geothermal releases to the air, water, or land and consider technological solutions to further reduce environmental impacts. ▪ **Policy WR-1.7*:** Prior to project approval, coordinate review of proposed development projects with appropriate agencies to ensure potential impacts on surface water and groundwater quality are mitigated, including from water quality risks associated with soil erosion, pollutant discharge, floating debris, and runoff contamination. Require project applicants to include project features that improve water quality (e.g., vegetative filters, wetlands, and swales). ▪ **Policy WR-1.10*:** Require new and expanded industrial uses that may directly or indirectly discharge pollutants to surface waters or critical groundwater basins to incorporate appropriate wastewater discharge-reduction measures, including on-site treatment, to protect water quality. In addition, require such uses to monitor and report to the County on their compliance with discharge regulations. ▪ **Policy WR-1.11*:** Require development projects to control erosion and sediment and protect water quality during construction and post-construction through application of the County's Grading Ordinance and Stormwater Management Ordinance as part of the project approval process.	**LTS**

Table ES-2 Summary of Significant Environmental Impacts and Proposed Mitigating Policies and Actions

Environmental Impact	Level of Significance without Mitigation	Proposed Mitigating Policies and Actions	Level of Significance with Proposed Mitigating Policies and Actions
Impact HYD-2: Impacts from operation of potential future development under the proposed General Plan 2050 could decrease groundwater supplies and interfere with groundwater recharge.	**S**	▪ **Action WR-1.b*:** Identify and implement additional development regulations and strategies to incorporate into land use practices, project siting, and design that protect the health of the county's watersheds, groundwater basins, and surface water drainage areas, including strategies or regulations to discourage or prohibit uses with the potential to discharge harmful pollutants, increase erosion, or otherwise degrade water quality. ▪ **Policy WR-4.8*:** Require that new development projects demonstrate there is sufficient water supply to meet the additional demand associated with the proposed project prior to project approval and, where there is not sufficient water, ensure potential impacts on water supply are mitigated through measures such as the installation of low-flow water fixtures, water conservation efforts, or the retrofit of existing uses to offset increased demand. Require new development to obtain a will-serve letter from the water purveyor within the service area prior to the issuance of construction permits to ensure that the water purveyor has the capacity to supply water to the project.	**LTS**
NOISE			
Impact NOI-1: Construction activities associated with potential future development could expose sensitive receptors to excessive noise from construction equipment.	**S**	▪ **Policy N-1.5*:** Require a project-specific acoustic study for projects that may exceed County noise standards to be prepared by a qualified technician and subject to review by County staff. At a minimum, studies will assess the noise environment in the project vicinity, describe the noise generation of the proposed project, recommend mitigation strategies, and provide a noise monitoring program.	**LTS**

Table ES-2 Summary of Significant Environmental Impacts and Proposed Mitigating Policies and Actions

Environmental Impact	Level of Significance without Mitigation	Proposed Mitigating Policies and Actions	Level of Significance with Proposed Mitigating Policies and Actions
Impact NOI-2: Operational noise from stationary sources associated with potential future development could expose sensitive receptors to excessive noise from stationary equipment.	**S**	▪ **Policy N-1.4*:** Prohibit the development of new noise-generating land uses adjacent to existing sensitive noise receptors, such as housing, schools, and health care facilities, if CNEL is expected to exceed 55 dBA during daytime hours (7:00 a.m. to 10:00 p.m.) or 45 dBA during nighttime hours (10:00 p.m. to 7:00 a.m.), measured at the property line of the noise-sensitive land use, unless effective mitigation measures are incorporated into the project design. ▪ **Policy N-1.5*:** Require a project-specific acoustic study for projects that may exceed County noise standards to be prepared by a qualified technician and subject to review by County staff. At a minimum, studies will assess the noise environment in the project vicinity, describe the noise generation of the proposed project, recommend mitigation strategies, and provide a noise monitoring program.	**LTS**
Impact NOI-3: Construction activities associated with potential future development could expose sensitive receptors to excessive vibration from construction equipment.	**S**	▪ **Policy N-1.5*:** Require a project-specific acoustic study for projects that may exceed County noise standards to be prepared by a qualified technician and subject to review by County staff. At a minimum, studies will assess the noise environment in the project vicinity, describe the noise generation of the proposed project, recommend mitigation strategies, and provide a noise monitoring program. ▪ **Policy N-1.12*:** The performance of any construction, alteration, or repair activities which require the issuance of any building, grading, or other permit shall not result in groundborne vibration in excess of 0.3 peak particle velocity (in/sec) at the nearest receiving offsite structure.	**LTS**

Table ES-2 Summary of Significant Environmental Impacts and Proposed Mitigating Policies and Actions

Environmental Impact	Level of Significance without Mitigation	Proposed Mitigating Policies and Actions	Level of Significance with Proposed Mitigating Policies and Actions
TRANSPORTATION			
Impact TRA-1: Growth associated with the proposed project would cause home-based VMT per resident and home-based work VMT per employee to be higher than the baseline average.	**S**	▪ **Actions CM-C-3a*, EL- C-3a*, K-C-3a*, L-C-3a*, LL-C-3a*, M-C-3a*, NL-C-3a*, and R-C-3a*:** Adopt and maintain a VMT environmental threshold and development project screening process based on the Lake Area Planning Council Senate Bill 743 Vehicle Miles Traveled Regional Baseline Study. ▪ **Actions CM-C-3b*, EL- C-3b*, K-C-3b*, L-C-3b*, LL-C-3b*, M-C-3b*, NL-C-3b*, and R-C-3b*:** Require new development with the potential to increase VMT, to prepare a VMT analysis and to reduce VMT through feasible California Air Pollution Control Officers Association (CAPCOA) on-site VMT reduction strategies, as needed to be consistent with the County's adopted VMT threshold.	**SU**
Impact TRA-2: Implementation of the proposed General Plan 2050 could result in inadequate evacuation access.	**S**	▪ **Action HS-2.a*:** Regularly review and update emergency evacuation plans for all identified hazards, at least every five years, and following any major emergency event, to ensure alignment with current best management practices and evolving hazard conditions.	**LTS**
Impact TRA-3: Growth associated with the proposed project would cause a cumulatively significant impact to VMT.	**S**	Same as Impact TRA-1.	**SU**

Table ES-2 Summary of Significant Environmental Impacts and Proposed Mitigating Policies and Actions

Environmental Impact	Level of Significance without Mitigation	Proposed Mitigating Policies and Actions	Level of Significance with Proposed Mitigating Policies and Actions
TRIBAL CULTURAL RESOURCES			
Impact TCR-1: Impacts to known or yet to be classified Tribal Cultural historic resources could occur from potential future development under the proposed General Plan 2050.	**S**	▪ **Policies CM-OS-2.1*, EL-OS-2.1*, K-OS-2.1*, L-OS-2.1*, LL-OS-2.1*, M-OS-2.1*, NL-OS-2.1*, and R-OS-2.1*:** Review proposed development projects in conjunction with the California Historical Resources Information System, Northwest Information Center, at Sonoma State University, to determine whether project areas contain known archaeological resources, both prehistoric and/or historic-era, and Tribal Cultural Resources, or if they have the potential to hold such resources, and if so, implement mitigation to protect the resource. ▪ **Policies CM-OS-2.2*, EL-OS-2.2*, K-OS-2.2*, L-OS-2.2*, LL-OS-2.2*, M-OS-2.2*, NL-OS-2.2*, and R-OS-2.2*:** Whenever possible, require new development to preserve significant historical, archaeological, or paleontological resources on-site through project design. If on-site preservation is not feasible, mitigate impacts through techniques such as relocation of structures, adaptive reuse, preservation of facades, and thorough documentation and archival of records. Any documentation of historic resources shall be conducted in accordance with Historic American Building Survey (HABS) Level III standards, as defined by the US Secretary of the Interior. ▪ **Policies CM-OS-2.3*, EL-OS-2.3*, K-OS-2.3*, L-OS-2.3*, LL-OS-2.3*, M-OS-2.3*, NL-OS-2.3* and R-OS-2.3*:** Upon discovery of significant archaeological, paleontological, historic, or Tribal Cultural Resources during site development, require all activity to be halted within 100 feet of the find(s) and notify a professional archaeologist, paleontologist, historian, and/or local Tribal	**LTS**

Table ES-2 Summary of Significant Environmental Impacts and Proposed Mitigating Policies and Actions

Environmental Impact	Level of Significance without Mitigation	Proposed Mitigating Policies and Actions	Level of Significance with Proposed Mitigating Policies and Actions
		government representative (if appropriate) to evaluate the find(s) and recommend mitigation procedures, if necessary. Findings and mitigation measures are subject to review and approval by the Lake County Planning Commission prior to resuming site development work. ▪ **Policies CM-OS-2.4*, EL-OS-2.4*, K-OS-2.4*, L-OS-2.4*, LL-OS-2.4*, M-OS-2.4*, NL-OS-2.4*, and R-OS-2.4*:** As a condition of approval for discretionary grading permits, require construction employees to be trained in recognizing potentially significant archaeological, paleontological, historic, or Tribal Cultural Resources that may be discovered during ground-disturbing activities. Require project proponents to submit verification that all site workers have received sensitivity training prior to commencement of ground-disturbing activities. ▪ **Policies CM-OS-2.5*, EL-OS-2.5*, K-OS-2.5*, L-OS-2.5*, LL-OS-2.5*, M-OS-2.5*, NL-OS-2.5*, and R-OS-2.5*:** Require discretionary review for demolition permit applications on important historic sites to mitigate impacts. ▪ **Actions CM-OS-2.b*, EL-OS-2.b*, K-OS-2.b*, L-OS-2.b*, LL-OS-2.b*, M-OS-2.5*, NL-OS-2.b*, and R-OS-2.b*:** Contract with an archaeologist(s) that meets the Secretary of the Interior's Professionally Qualified Standards to perform cultural resource studies for environmental analysis on discretionary projects where a cultural resource report is deemed necessary, including outreach to Tribal governments for input on Tribal Cultural Resources. ▪ **Policies CM-OS-3.6*, EL-OS-3.6*, K-OS-3.6*, L-OS-3.6*, LL-OS-3.6*, M-OS-3.6*, NL-OS-3.6*, and R-OS-3.6*:** Consult with	

Table ES-2 Summary of Significant Environmental Impacts and Proposed Mitigating Policies and Actions

Environmental Impact	Level of Significance without Mitigation	Proposed Mitigating Policies and Actions	Level of Significance with Proposed Mitigating Policies and Actions
		culturally affiliated Tribal governments when developing mitigation measures to avoid or minimize impacts on Tribal Cultural Resources. Mitigation could include notification of culturally affiliated Tribal governments prior to and tribal monitoring during ground-disturbing activities.	
Impact TCR-2: Impacts to unknown Tribal Cultural Resources could occur from potential future development under the proposed General Plan 2050.	**S**	▪ **Policies CM-OS-2.1*, EL-OS-2.1*, K-OS-2.1*, L-OS-2.1*, LL-OS-2.1*, M-OS-2.1*, NL-OS-2.1*, and R-OS-2.1*:** Review proposed development projects in conjunction with the California Historical Resources Information System, Northwest Information Center, at Sonoma State University, to determine whether project areas contain known archaeological resources, both prehistoric and/or historic-era, and Tribal Cultural Resources, or if they have the potential to hold such resources, and if so, implement mitigation to protect the resource. ▪ **Policies CM-OS-2.2*, EL-OS-2.2*, K-OS-2.2*, L-OS-2.2*, LL-OS-2.2*, M-OS-2.2*, NL-OS-2.2*, and R-OS-2.2*:** Whenever possible, require new development to preserve significant historical, archaeological, or paleontological resources on-site through project design. If on-site preservation is not feasible, mitigate impacts through techniques such as relocation of structures, adaptive reuse, preservation of facades, and thorough documentation and archival of records. Any documentation of historic resources shall be conducted in accordance with Historic American Building Survey (HABS) Level III standards, as defined by the US Secretary of the Interior. ▪ **Policies CM-OS-2.3*, EL-OS-2.3*, K-OS-2.3*, L-OS-2.3*, LL-OS-2.3*, M-OS-2.3*, NL-OS-2.3* and R-OS-2.3*:** Upon discovery of	**LTS**

Table ES-2 Summary of Significant Environmental Impacts and Proposed Mitigating Policies and Actions

Environmental Impact	Level of Significance without Mitigation	Proposed Mitigating Policies and Actions	Level of Significance with Proposed Mitigating Policies and Actions
		significant archaeological, paleontological, historic, or Tribal Cultural Resources during site development, require all activity to be halted within 100 feet of the find(s) and notify a professional archaeologist, paleontologist, historian, and/or local Tribal government representative (if appropriate) to evaluate the find(s) and recommend mitigation procedures, if necessary. Findings and mitigation measures are subject to review and approval by the Lake County Planning Commission prior to resuming site development work. ▪ **Policies CM-OS-2.4*, EL-OS-2.4*, K-OS-2.4*, L-OS-2.4*, LL-OS-2.4*, M-OS-2.4*, NL-OS-2.4*, and R-OS-2.4*:** As a condition of approval for discretionary grading permits, require construction employees to be trained in recognizing potentially significant archaeological, paleontological, historic, or Tribal Cultural Resources that may be discovered during ground-disturbing activities. Require project proponents to submit verification that all site workers have received sensitivity training prior to commencement of ground-disturbing activities. ▪ **Policies CM-OS-2.5*, EL-OS-2.5*, K-OS-2.5*, L-OS-2.5*, LL-OS-2.5*, M-OS-2.5*, NL-OS-2.5*, and R-OS-2.5*:** Require discretionary review for demolition permit applications on important historic sites to mitigate impacts. ▪ **Actions CM-OS-2.b*, EL-OS-2.b*, K-OS-2.b*, L-OS-2.b*, LL-OS-2.b*, M-OS-2.5*, NL-OS-2.b*, and R-OS-2.b*:** Contract with an archaeologist(s) that meets the Secretary of the Interior's Professionally Qualified Standards to perform cultural resource studies for environmental analysis on discretionary projects where	

Table ES-2 Summary of Significant Environmental Impacts and Proposed Mitigating Policies and Actions

Environmental Impact	Level of Significance without Mitigation	Proposed Mitigating Policies and Actions	Level of Significance with Proposed Mitigating Policies and Actions
		a cultural resource report is deemed necessary, including outreach to Tribal governments for input on Tribal Cultural Resources. ▪ **Policies CM-OS-3.6*, EL-OS-3.6*, K-OS-3.6*, L-OS-3.6*, LL-OS-3.6*, M-OS-3.6*, NL-OS-3.6*, and R-OS-3.6*:** Consult with culturally affiliated Tribal governments when developing mitigation measures to avoid or minimize impacts on Tribal Cultural Resources. Mitigation could include notification of culturally affiliated Tribal governments prior to and tribal monitoring during ground-disturbing activities. ▪ **Policies CM-OS-3.7*, EL-OS-3.7*, K-OS-3.7*, L-OS-3.7*, LL-OS-3.7*, M-OS-3.7*, NL-OS-3.7*, and R-OS-3.7*:** Upon discovery of a burial, human remains, or suspected human remains, require immediate halt to all work within 100 feet and notify the Sheriff's Department, the culturally affiliated Tribal governments, and a qualified archaeologist for proper internment and tribal rituals according to Public Resources Code Section 5097.98 and Health and Safety Code Section 7050.5.	
UTILITY AND SERVICE SYSTEMS			
Impact UTIL-1: Impacts from potential future development under the proposed General Plan 2050 could create a significant impact on water infrastructure.	**S**	▪ **Policy WR-4.8*:** Require that new development projects demonstrate there is sufficient water supply to meet the additional demand associated with the proposed project prior to project approval and, where there is not sufficient water, ensure potential impacts on water supply are mitigated through measures such as the installation of low-flow water fixtures, water conservation efforts, or the retrofit of existing uses to offset increased demand. Require new development to obtain a will-serve letter from the water purveyor within the service area prior	**SU**

Table ES-2 Summary of Significant Environmental Impacts and Proposed Mitigating Policies and Actions

Environmental Impact	Level of Significance without Mitigation	Proposed Mitigating Policies and Actions	Level of Significance with Proposed Mitigating Policies and Actions
		to the issuance of construction permits to ensure that the water purveyor has the capacity to supply water to the project. ▪ **Actions CM-PF-4.f*, EL-PF-4.h*, K-PF-4.f*, L-PF-4.g*, LL-PF-4.g*, M-PF-4.h*, NL-PF-4.i*, and R-PF-4.g*:** In water districts where there is insufficient water to serve new development, require new developments to offset demand so that there is no net increase in demand through measures such as the installation of low-flow water fixtures, water conservation efforts, or the retrofit of existing uses to offset increased demand. These measures shall be achieved in partnership with the applicable water district.	
Impact UTIL-2: Impacts from potential future development under the proposed General Plan 2050 could create a significant impact on wastewater infrastructure.	**S**	▪ **Action WR-1-g*:** Conduct a survey of the locations and densities of existing onsite wastewater treatment systems (OWTS) in the county and explore the need to establish a moratorium on new OWTSs in designated areas, especially in locations in close proximity to Clear Lake and other drinking water sources. Such a moratorium might allow for exceptions upon approval of Lake County Environmental Health Department. ▪ **Action WR-1.h*:** Prior to the transfer of property on a site with an existing OWTS, a septic system inspection shall be required by a qualified professional to ensure that the OWTS is in good operating condition. ▪ **Actions CM-PF-4.h*, EL-PF-4.j*, K-PF-4.h*, L-PF-4.i*, LL-PF-4.i*, M-PF-4.j*, NL-PF-4.k*, and R-PF-4.i*:** Require new development projects to obtain a will-serve letter from the wastewater agency within the project's service area prior to project approval to ensure that the agency has the capacity to accept wastewater from the project and provide water for interior sprinkler systems	**SU**

Table ES-2 Summary of Significant Environmental Impacts and Proposed Mitigating Policies and Actions

Environmental Impact	Level of Significance without Mitigation	Proposed Mitigating Policies and Actions	Level of Significance with Proposed Mitigating Policies and Actions
Impact UTIL-3: Impacts from potential future development under the proposed General Plan 2050 could create a significant impact on stormwater infrastructure.	**S**	▪ **Action WR-1.i*:** Develop a Master Drainage Plan detailing existing systems, identifying deficiencies, and outlining future infrastructure needed to control stormwater runoff, water quality, and potential flooding. ▪ **Action WR-1.j*:** Evaluate the assessment of storm drain impact fees for new development to fund capital improvements to the storm drain system. ▪ **Action WR-1.k*:** In areas where the existing storm drain infrastructure is inadequate and prone to cause flooding, require new development to demonstrate that the project would not result in a net increase in stormwater runoff from the site (i.e., post-construction runoff rates are equal to or less than pre-development runoff rates).	**SU**
Impact UTIL-4: Impacts from potential future development under the proposed General Plan 2050 could create a significant impact on water supply.	**S**	**Same as Impact UTIL-1.**	**SU**
WILDFIRE			
Impact WIL-1: Development under the proposed General Plan 2050 would increase population, buildings, and infrastructure in wildfire-prone areas and thereby could expose people of structure, either directly or indirectly, to a	**S**	▪ **Policy HS-8.11*:** Limit new development in the High or Very High Fire Hazard Severity Zones or wildland urban interface identified by CAL FIRE (see Figure HS-3 and Figure HS-4). If development is proposed in these zones, require review by the Community Development Department and appropriate fire service district prior to the issuance of development permits for proposed	**SU**

Table ES-2 Summary of Significant Environmental Impacts and Proposed Mitigating Policies and Actions

Environmental Impact	Level of Significance without Mitigation	Proposed Mitigating Policies and Actions	Level of Significance with Proposed Mitigating Policies and Actions
significant risk of loss, injury, or death involving wildland fires.		development projects and conceptual landscaping plans. Plans for proposed development in such areas shall include, at a minimum: o Site plan, planting plan, planting palette, and irrigation plan to reduce the risk of fire hazards and with consideration to site conditions, including slope, structures, and adjacencies. o Development and maintenance of defensible space, including defensible space within 100 feet of all structures, stricter vegetation management within 0 to 30 feet of a structure, and an ember resistant zone within 5 feet of all structures, as defined by California Government Code, Sections 51181 to 51189, and California Code of Regulations, Title 14, Division 1.5, Chapter 7, Subchapter 3. o More than one point of ingress and egress to improve evacuation, emergency response, and fire equipment access, and adequate water infrastructure for water supply and fire flow that meets or exceeds the standards in the California State Minimum Fire Safe Regulations. o Class A roofing assembly materials for new and replacement roofs. o Location and source of anticipated water supply to ensure adequate water supply for firefighting purposes. o Require new construction to install alternative water storage for interior sprinkler systems if new construction is connected to a public water system.	

Table ES-2 Summary of Significant Environmental Impacts and Proposed Mitigating Policies and Actions

Environmental Impact	Level of Significance without Mitigation	Proposed Mitigating Policies and Actions	Level of Significance with Proposed Mitigating Policies and Actions
Impact WIL-2: Implementation of the proposed General Plan 2050 could result in inadequate evacuation access the impair the implementation of an emergency evacuation plan.	**S**	▪ **Action HS-2.a*:** Regularly review and update emergency evacuation plans for all identified hazards, at least every five years, and following any major emergency event, to ensure alignment with current best management practices and evolving hazard conditions.	**LTS**
Impact WIL-3: Development under the proposed General Plan 2050 would increase population, buildings, and infrastructure in wildfire-prone areas, thereby exacerbating wildfire risks.	**S**	Same as Impact WIL-1.	**SU**
Impact WIL-4: Potential future development under the proposed General Plan 2050 could, in combination with other surrounding and future projects in the Very High FHSZs and the WUI, 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, vegetation, or other factors.	**S**	Same as Impact WIL-2.	**SU**

S = Significant; SU = Significant and Unavoidable; LTS = Less than Significant

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1. INTRODUCTION

1.1 PURPOSE OF THE EIR

This Draft Environmental Impact Report (EIR) has been prepared pursuant to the California Environmental Quality Act (CEQA)[1] and the CEQA Guidelines.[2] Pursuant to the CEQA Guidelines, Chapter 14 of the California Code of Regulations Section 15378(a), the proposed Lake County General Plan 2050 is considered a "project" subject to environmental review. The implementation of General Plan is "an action [undertaken by a public agency] which has the potential for resulting in either a direct physical change in the environment or a reasonably foreseeable indirect physical change in the environment." This Draft EIR provides an assessment of the potential environmental consequences of adoption and implementation of the proposed Lake County General Plan 2050, herein referred to as the "proposed project."

This Draft EIR identifies mitigation measures and alternatives to the proposed project that would avoid or reduce significant impacts. This Draft EIR compares the development of the proposed project with the existing baseline condition, described in detail in Chapter 3, *Environmental Analysis*, of this Draft EIR. Lake County (County) is the Lead Agency for the proposed project. This assessment is intended to inform the County's decision makers, other responsible agencies, and the public of the nature of the proposed project and its effect on the environment.

1.2 ENVIRONMENTAL REVIEW PROCESS

Pursuant to Public Resources Code (PRC) Section 21080(d) and CEQA Guidelines Section 15063, the County determined that the proposed project could result in potentially significant environmental impacts and that an EIR would be required. The following describes the environmental review process for an EIR.

[1] The CEQA Statute is found at Public Resources Code, Division 13, *Environmental Quality*, Sections 21000 to 21189.

[2] The CEQA Guidelines are found at California Code of Regulations, Title 14, *Natural Resources*, Division 6, *Resources Agency*, Chapter 3, *Guidelines for Implementation of the California Environmental Quality Act*, Sections 15000 to 15387.

1.2.1 Notice of Preparation

In compliance with PRC Section 21080.4, the County circulated a Notice of Preparation (NOP) of an EIR for the proposed project to the California Governor's Office of Land Use and Climate Innovation's (LCI) State Clearinghouse and interested agencies and people on January 9, 2024, for a 30-day review period. A public scoping meeting was held on Wednesday, January 24, 2024, from 10:00 a.m. to 12:00 p.m.

The NOP and scoping process solicited comments from responsible and trustee agencies,[3] as well as interested parties, regarding the scope of the environmental analysis presented in the Draft EIR. Appendix A, *Notice of Preparation and Scoping Comments*, of this Draft EIR, contains the NOP and the comments received by the County in response to the NOP.

1.2.2 Draft EIR

This Draft EIR will be available for review by the public and interested parties, agencies, and organizations for a 45-day comment period ending Friday, April 24, 2026. The Planning Commission will conduct a public hearing during this period to receive comments on the Draft EIR. During the comment period, the public is invited to submit written comments via mail or email on the Draft EIR to the Lake County Community Development Department by 5:00 p.m. on Friday, April 24, 2026. Comments may also be hand delivered to the Community Development Department by this deadline. Comments should be submitted as follows:

Written: Mireya G. Turner, Director
Lake County Community Development Department
255 North Forbes Street
Lakeport, CA 95453

Email: LakeCounty2050@lakecountyca.gov with "Lake County 2050 General Plan EIR" as the subject line

[3] A Responsible Agency is a public agency with the responsibility for carrying out or approving a project for which the Lead Agency is preparing or has prepared an EIR. Responsible Agencies include all public agencies other than the Lead Agency that have discretionary approval power over a project (CEQA Guidelines Section 15381).
A Trustee Agency is a State agency having jurisdiction by law over natural resources affected by a project which are held in trust for the people of the State of California. There are four Trustee Agencies – California Department of Fish and Wildlife, State Lands Commission, Department of Parks and Recreation, and the University of California (CEQA Guidelines Section 15386).

1.2.3 Final EIR Certification

After completion of the 45-day review period for the Draft EIR, the County will review all written comments received and prepare written responses to each comment on the adequacy of the Draft EIR. A Final EIR will then be prepared, and will contain all the comments received, responses to comments raising environmental issues, and any changes to the Draft EIR. The Final EIR will then be presented to the Planning Commission where a public hearing will allow for public comment on the Final EIR and to consider recommendation for certification of the Final EIR. Following the public hearing, the Final EIR will be presented to the Board of Supervisors for consideration of the certification as the environmental document for the proposed project. Anyone who comments on the Draft EIR and provides contact information will be notified of the availability of the Final EIR and the date of the public hearing, which is tentatively scheduled to be held in December 2026.

In compliance with CEQA Section 21092.5, all responses to comments submitted on the Draft EIR by agencies will be provided to those agencies at least 10 days prior to certification of the EIR. The Board of Supervisors will make findings regarding the extent and nature of the impacts as presented in the Final EIR. The Final EIR will need to be certified as having been prepared in compliance with CEQA by the County prior to deciding to approve or deny the proposed project. Public input is encouraged at all public hearings before the County.

If the Board of Supervisors certifies the EIR, it may then consider action on the proposed project. If approved, the Board of Supervisors would adopt and incorporate into the project all feasible mitigation measures identified in the EIR and may also require other feasible mitigation measures.

In some cases, the Board of Supervisors may find that certain mitigation measures are outside the jurisdiction of the County to implement, or that no feasible mitigation measures have been identified for a given significant impact. In that case, the Board of Supervisors, pursuant to CEQA Guidelines Section 15093, may nonetheless determine that economic, legal, social, technological, or other benefits of the proposed project outweigh the unavoidable, significant effects on the environment.

1.3 MITIGATION MONITORING

Pursuant to PRC Section 21081.6, the Lead Agency is required to adopt a Mitigation Monitoring and Reporting Program (MMRP) for any project for which it has made findings pursuant to PRC Section 21081 or adopted a Negative Declaration pursuant to PRC Section 21080(c). Such a program is intended to ensure the implementation of all mitigation measures adopted through the preparation of an EIR or Negative Declaration. If mitigation measures are required, the MMRP for the proposed project will be completed congruently as part of the Final EIR process.

1.4 INCORPORATION BY REFERENCE

Some documents are incorporated by reference into this Draft EIR, consistent with CEQA Section 15150 of the CEQA Guidelines. These documents are available for review at the Lake County Community Development Department, 255 North Forbes Street, Lakeport, CA 95453.

2. PROJECT DESCRIPTION

This chapter of the Draft Environmental Impact Report (EIR) describes the proposed Lake County General Plan update (General Plan 2050), herein referred to as the "proposed project." This Draft EIR has been prepared in accordance with the California Environmental Quality Act (CEQA). CEQA requires that state and local public agencies analyze proposed projects to determine potential impacts on the environment and disclose any such impacts (CEQA Guidelines Section 15002(a)). As described in Chapter 1, *Introduction*, of this Draft EIR, consistent with CEQA Guidelines, Section 15168, this Draft EIR provides a programmatic analysis of the environmental impacts associated with implementation of the proposed project, including the projected buildout of the General Plan. This Draft EIR is also intended to be used for purposes of tiering, pursuant to CEQA Guidelines Section 15152, and other tiering and streamlining provisions of CEQA and the CEQA Guidelines. Lake County (County) is the Lead Agency for environmental review of the proposed project.

This chapter provides a detailed description of the proposed project, including the location, setting, and description of the EIR study area; as well as the components of General Plan 2050, project objectives, and required permits and approvals. More detailed descriptions of the environmental setting as it relates to each of the environmental issues are included in the environmental setting discussions contained within Sections 3.1 through 3.20 of Chapter 3, *Environmental Analysis*.

2.1 OVERVIEW

Every city and county in California is required to have an adopted comprehensive long-range general plan for the physical development of the county or city and, in some cases, land outside the city or county boundaries.[1] It is a jurisdiction's overarching policy document that defines a vision for future change and sets the guidelines for locating and designing new development, expanding the local economy, conserving resources, improving public services and safety, and fostering community health. The proposed General Plan functions as the County's primary land use regulatory tool. It will be used as the basis for all planning-related decisions made by County staff, the Planning Commission, and the Board of Supervisors.

Pursuant to California Government Code Section 65302, a general plan must address eight mandated topics: land use, circulation, housing, conservation, open space, noise, environmental justice, and safety. Typically, general plans cover a timeframe or forecast of 15 to 20 years.

[1] Government Code Section 65300.

General plan housing elements are required to be updated every eight years to comply with the Regional Housing Needs Allocation (RHNA) and safety elements are required to be updated upon the update of a housing element or Local Hazard Mitigation Plan, but no less than every eight years to comply with California Government Code Section 65302(g)(6).

The County's General Plan Land Use Map is integrated with the County's Zoning Map, which shows the parcel-specific delineation of the zoning districts throughout the county and depicts permitted and conditionally permitted uses. A parcel's zoning district stems directly from its General Plan land use designation, with the zoning district acting to implement the General Plan by refining the specific uses and development standards for that parcel.

All specific plans, master plans, and zoning in the county must be consistent with the General Plan.[2] Similarly, the General Plan must be used as the basis for all planning-related decisions made by County staff, the Planning Commission, and the Board of Supervisors. Other decision-making bodies that rely on the General Plan to guide future decisions are described in Section 3.11, *Land Use and Planning.* The General Plan itself, however, does not approve or entitle any development project. Future project applicants have control over when they wish to propose a project and final development approval decisions are made on a project-by-project basis by County staff, the Planning Commission, and/or the Board of Supervisors.

2.2 BACKGROUND

The existing General Plan was comprehensively adopted in 2008 and includes a horizon year of 2025 (2008 General Plan). Pursuant to California Government Code Section 65302, the 2008 General Plan includes the following elements, which contain a description of the existing conditions and trends for the element topics, along with goals, policies, and implementation measures:

- Land Use
- Housing
- Public Facilities and Services
- Transportation and Circulation
- Health and Safety
- Noise
- Open Space, Conservation, and Recreation
- Geothermal Resources
- Water Resources
- Agricultural Resources

The County also has a set of eight Local Area Plans adopted between 1988 and 2010 that contain the land use plans for development in each area of the county. Though they are not part of the 2008 General Plan, the Local Area Plans are complementary supplements to the 2008 General Plan and are used as planning tools in Lake County to provide more detailed and

[2] Government Code Section 65860.

specific land use guidance for the eight local areas in the county. The eight existing Local Area Plans are as follows:

- Cobb Mountain Local Area Plan (1989)
- Kelseyville Local Area Plan (1995)
- Lakeport Local Area Plan (2000)
- Lower Lake Local Area Plan (1988)
- Middletown Local Area Plan (2010)
- Rivieras Local Area Plan (2007)
- Shoreline Communities Local Area Plan (2009)
- Upper Lake-Nice Local Area Plan (2002)

State planning laws have significantly changed since the adoption of the 2008 General Plan and accompanying Area Plans. Additionally, the county and local communities are changing due to the impacts of growth, compounded by the effects of climate change, record droughts, and catastrophic wildfires. The proposed General Plan 2050 would respond to these changing policies, social dynamics, and physical landscapes with the guidance of the Lake County community and guide the county's economic and physical growth as well as preservation of natural, mineral, and agricultural resources over a 25-year buildout horizon. The existing Local Area Plans would be updated and integrated into the General Plan 2050 as part of the proposed project. Accordingly, the County is completing a comprehensive update to the 2008 General Plan and Local Area Plans as part of the proposed project. The proposed project includes updates to the goals, policies, and actions (or implementation measures in the 2008 General Plan) that set the long-term plan for potential future development in unincorporated Lake County over an approximately 25-year buildout horizon.

The County's current Housing Element covers the planning period of 2019 to 2027 and was adopted on June 16, 2020. Therefore, the next Housing Element will be developed under a separate process. The current Housing Element is incorporated into the proposed General Plan 2050 by reference. The Housing Element underwent a separate environmental review as part of its adoption process; however, the residential development that could occur under the Housing Element is incorporated into the residential development analyzed as part of this EIR.

Additionally, the Aggregate Resources Management Plan will be updated under a separate process and is not included in the proposed project. The proposed General Plan 2050 is discussed in more detail in Section 2.7, *General Plan 2050.*

2.3 LOCATION AND SETTING

Lake County lies within the Pacific Coastal range, approximately 100 miles north of San Francisco, 90 miles northwest of Sacramento, and 35 miles east of the Pacific Ocean. Lake County is bounded by Mendocino and Glenn Counties to the north; Yolo, Colusa, and Glenn Counties to the east; Sonoma and Napa Counties to the south; and Mendocino and Sonoma Counties to the west. The major roadways that traverse the county include State Route (SR-) 20, which connects to Highway 101 and Interstate (I-) 5 to the west and east, and SR-29, SR-53, and SR-175. Figure 2-1, *Regional and Vicinity Map*, shows the county's location within Northern California.

The total area of Lake County is approximately 1,330 square miles (851,050 acres). The northern part of the county extends into Mendocino National Forest, under the jurisdiction of the United States Forest Service (USFS). The western portion of the county contains the South Cow Mountain Off-Highway Vehicle Recreation Area, owned by the Bureau of Land Management (BLM), and the southern portion of the county contains the Boggs Mountain Demonstration State Forest, owned and managed by the California Department of Forestry and Fire Protection (CAL FIRE). Clear Lake, the largest natural lake in California, with a surface area of 68 square miles, is in the middle of Lake County. Additionally, there are three major watersheds in the county: Cache Creek, Putah Creek, and Eel River.

Public transit in Lake County is served by the Lake Transit Authority, providing service around Clear Lake, west to Ukiah, and south towards Calistoga and Deer Creek. Residents of and visitors to Lake County also navigate the area by a variety of arterial, collector, and residential streets, as well as regional and local pedestrian and bicycle routes.

Most of Lake County's populated areas are around Clear Lake in the central part of the county. This includes the two incorporated cities of Lakeport and Clearlake, as well as numerous unincorporated communities. Land inside the city limits of incorporated municipalities are not under the County's jurisdiction. As of 2024, the population of the county was 67,000, with 68 percent, or approximately 45,600 people, living in unincorporated areas (USCB 2024). The unincorporated areas consist of both single-family residential, established communities, and widely separated rural homes. There were approximately 20,000 people in the county in 1970, and the population has risen steadily since the mid-1900s. By 2010, the population had increased to approximately 64,000, and by 2020, the population had risen to 68,200 countywide and 46,300 in the unincorporated county. However, since 2020, the population has been steadily declining (ACS 2025).

Figure 2.1
Regional and Vicinity Map

2.4 LAKE COUNTY BOUNDARIES

The Lake County boundary encompasses 1,330 square miles (851,050 acres), as described in Section 2.3, *Location and Setting.* The boundary encompasses the incorporated and unincorporated areas of Lake County as well as federal, state, and tribal land. Table 2-1, *Acreage by Jurisdictional Area,* shows the amount of land within Lake County's boundary that is classified as federal land, state land, tribal land, incorporated cities, and unincorporated county lands. Each land type is described further in the following sections; however, the County only has jurisdiction over unincorporated county land. The location of each of these jurisdictional areas is outlined in Figure 2-2, *Lake County by Jurisdictional Area.*

Table 2-1 Acreage By Jurisdictional Area

Land Types	Size (Acres)
Federal	381,100
State	18,500
Tribal	1,100
Incorporated Cites	8,500
Unincorporated County	441,850
Total	**851,050**

Note: Numbers are rounded from original sources.

2.4.1 Federal Lands

There are approximately 381,100 acres of federal land within Lake County. Mendocino National Forest, under USFS jurisdiction, is in the northern part of the county and extends beyond the county line into Mendocino, Glenn, and Colusa Counties. The entirety of Mendocino National Forest is 913,306 acres. The Berryessa Snow Mountain National Monument, managed by BLM, was established in 2015 and lies on the southern part of the Mendocino National Forest in the eastern part of Lake County (USFS 2024; BLM 2024a).

Additional BLM land includes Cache Creek Wilderness in the southeast part of the county, east of the City of Clearlake, which is part of the National Wilderness Preservation System and contains a total of 27,294 acres (BLM 2024b). BLM also has jurisdiction over South Cow Mountain Recreation Area within the Mayacamas Mountains in the northwestern part of the county, west of the City of Lakeport. South Cow Mountain Off-Highway Vehicle Recreation Area consists of approximately 23,000 acres of public land that is managed for off-highway vehicle (OHV) use (BLM 2024c).

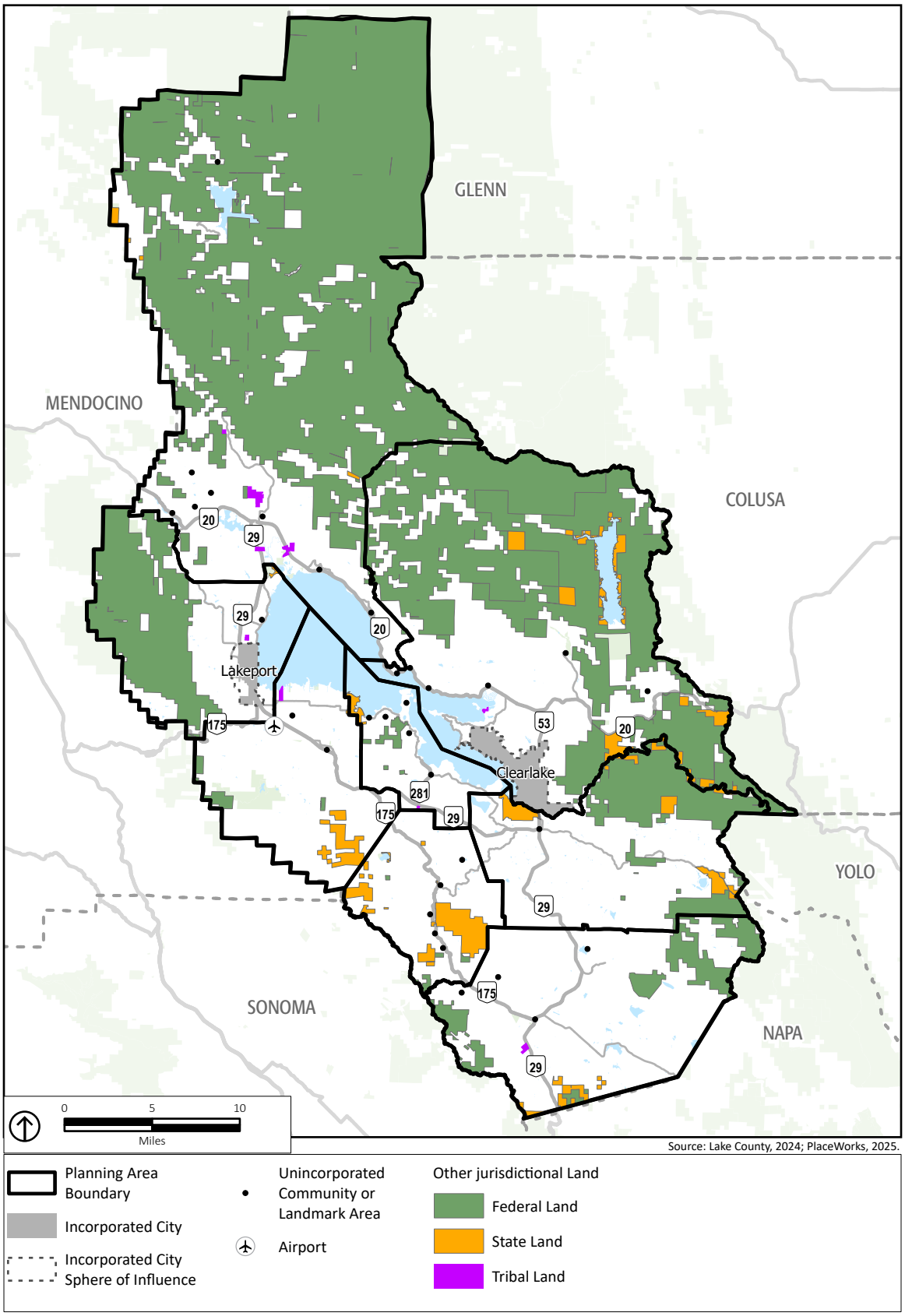


Figure 2.2
Lake County by Jurisdictional Areas

2.4.2 State Lands

There are approximately 18,500 acres of state land within Lake County. The California Department of Parks and Recreation (State Parks) has jurisdiction over Clear Lake State Park on the southwest shore of Clear Lake and Anderson March State Historic Park on the southeast shore of Clear Lake. Boggs Mountain Demonstration State Forest is owned by CAL FIRE and is a nearly 3,500-acre forest located in the southern part of the county directly east of Cobb.

2.4.3 Tribal Lands

The Lake County Pomo Indians have inhabited the Clear Lake area for over 11,000 years. There are currently seven federally recognized Pomo tribes reside in their ancestral territories in the Lake County area: Big Valley Band of Pomo Indians, Elem Indian Colony, Habematolel Pomo of Upper Lake, Koi Nation of Northern California, Middletown Rancheria of Pomo Indians, Robinson Rancheria Pomo Indians, and Scotts Valley Band of Pomo Indians (Lake County 2024). There are approximately 1,100 acres of tribal-owned land within Lake County.

2.4.4 Incorporated Cities

Lake County includes two incorporated cities. A summary of each city is provided as follows:

- **City of Lakeport**. The city of Lakeport is approximately 1,800 acres (3 square miles) along the west shore of Clear Lake (City of Lakeport 2023). In 2024, the population of Lakeport was approximately 5,100. The city of Lakeport includes the 0.8-mile area between Clear Lake and SR-29 along 2.7 miles of shore, as well as 0.25 square miles west of SR-29 and a 0.28-square-mile area, separated from the rest of the city, farther south. The city also contains the county seat of Lake County.
- **City of Clearlake.** Located on the southeastern shore of Clear Lake, the city of Clearlake encompasses approximately 6,700 acres (10.6 square miles). In 2024, the population of Clearlake was approximately 16,500. The city covers an irregular shape that borders the eastern shore of Clear Lake, around Borax Lake, to Cache Creek in the south. SR-53 goes through the middle of the city (City of Clearlake 2023).

2.4.5 Unincorporated Communities by Local Area

Lake County is divided into eight planning areas (previously referred to as Local Area Plans), shown on Figure 2-3, *Planning Area Boundaries,* that encompass the entire county. The eight planning areas have similar boundaries as those planned for by the former Local Area Plans, but some boundaries and names were changed in response to input received through the General Plan outreach process, described in Section 2.5, *Planning Process*. The General Plan 2050 Planning Areas include Cobb Mountain, East Lake Communities (formally Shoreline

Communities), Kelseyville, Lakeport, Lower Lake, Middletown, North Lake Communities (formally Upper Lake-Nice), and Rivieras. Table 2-2, *Lake County Planning Areas,* provides the size and population of each planning area.

Table 2-2 Lake County Planning Areas

Planning Area	Total Size (Acres)	Unincorporated County Size (Acres)	Population (2024)
Cobb Mountain	38,100	32,450	2,900
East Lake Communities	191,300	78,200	4,490
Kelseyville	61,850	58,360	6,780
Lakeport	64,370	31,540	3,220
Lower Lake	76,100	52,100	3,000
Middletown	91,000	78,160	8,000
North Lake Communities	300,880	86,200	8,630
Rivieras	26,390	24,840	7,450

Note: Numbers are rounded from original sources.

Source: ACS 2025.

COBB MOUNTAIN PLANNING AREA

The Cobb Mountain Area encompasses 38,100 total acres and 32,450 acres of unincorporated county land within the mountainous territory in southwestern Lake County. It is bordered by the Kelseyville Planning Area to the north, the Rivieras Planning Area to the east, Middletown Planning Area to the south, and Sonoma and Mendocino Counties to the west. The Cobb Mountain Planning Area includes the following unincorporated communities:

- **Cobb.** Cobb is in a small valley at the foot of Cobb Mountain, northwest of Middletown along SR-175 and Bottle Rock Road with a 2020 population of 1,295 (USCB 2024c, Cobb). It is a predominantly rural community dominated by pine forests. Mountain resorts and hot springs exist throughout the community, as well as geothermal steam fields.
- **Loch Lomond.** Loch Lomond is on SR-175, north of Cobb and is a small mountain resort community. There is typically a summer population of 420 people.
- **Pine Grove.** Pine Grove, 1.5 miles northwest of Whispering Pines, began as a campground in the late 1800s and is now a forest retreat with a spring-fed swimming pool and views of Cobb Mountain.
- **Seigler Springs.** Seigler Springs is a set of springs five miles south of the City of Clearlake and one mile east of Seigler Mountain. A resort developed in the area that later was separated into a residential subdivision and a religious retreat. The community was devastated by the Valley Fire in September 2015.
- **Whispering Pines.** Whispering Pines is 8.5 miles southwest of the Lower Lake Planning Area and was originally established as a family resort.

Figure 2.3
Planning Area Boundaries

EAST LAKE COMMUNITIES PLANNING AREA

The East Lake Communities Planning Area encompasses 191,300 acres of total land and 78,200 acres of unincorporated county land north and east of Clear Lake. The Planning Area is bounded by North Lake Communities Planning Area to the north, Colusa County to the east, Lower Lake Planning Area to the south, and Clear Lake and Rivieras Planning Area to the west. In addition to the City of Clearlake, the East Lake Communities Planning Area includes the following unincorporated communities:

- **Clearlake Oaks.** Clearlake Oaks, which began as a lakefront subdivision in the 1920s, is on the east shore of Clear Lake, adjacent to SR-20. The community has a 2020 population of 2,551 and contains a variety of single-family housing, lodging, restaurants, and retail shops (USCB 2024d, Clearlake Oaks). The community also has two County parks, Clearlake Oaks Beach County Park and Nylander Park, and two campgrounds at nearby Stubbs Island.
- **Double Eagle Ranch.** Double Eagle Ranch is a subdivision located along SR-20 in the eastern part of the county.
- **Glenhaven.** Glenhaven is west of Clearlake Oaks on SR-20 adjacent to Clear Lake. This area was subdivided and developed during and after the 1920s. Prior to the establishment of the Glenhaven Post Office in 1950, the area had been known as Gum Tree Point due to the gum trees (eucalyptus) that were planted in the area by pioneers. The area is primarily residential, with an economic base consisting of summer resorts. No public sewer exists in Glenhaven.
- **Kono Tayee.** Kono Tayee includes Kono Tayee Estates, established in 1965 and Kono Tayee Heights established in 1966. It is on the east shore of Clear Lake, north of Paradise Valley and south of Lucerne.
- **Paradise Valley.** Paradise Valley is on the east shore of Clear Lake, north of Glenhaven and south of Kono Tayee.
- **Spring Valley.** Spring Valley is in a mountain valley (Long Valley) several miles east of the community of Clearlake Oaks. The large residential subdivision in Spring Valley is near three creeks and a small lake named Spring Valley Lake. A convenience store provides limited services to the residents. Road access to Spring Valley is limited to one route, New Long Valley Road.

KELSEYVILLE PLANNING AREA

The Kelseyville Planning Area encompasses 61,850 acres of total land and 58,360 acres of unincorporated county land in western Lake County. It is bordered by the Lakeport Planning Area to the north, the Riveras Planning Area to the east, Cobb Mountain Planning Area to the south, and Mendocino County to the west. The Kelseyville Planning Area includes the following unincorporated communities:

- **Finley.** Finley is 3.5 miles southeast of the City of Lakeport and has a population of 53 (Zip-Codes.com 2024).

- **Kelseyville.** With a population of 6,102, Kelseyville is in Big Valley, a large basin bounded by the Mayacamas Mountains and Mount Konocti, and between SR-29 and Clear Lake, is a key agricultural center in Lake County (USCB 2024e). Once known as the "Pear Capital of the World," the area is also known for walnuts and wine grapes. The community contains numerous retail shops and is near Clear Lake State Park, which includes a visitor's center, camping, boating, hiking, and swimming facilities.

LAKEPORT PLANNING AREA

The Lakeport Planning Area encompasses 64,370 acres of total land and 31,540 acres of unincorporated county land stretching from the city limits of Lakeport to the Mendocino County line. It is bordered by Mendocino County to the north and west, the North Lake Communities Planning Area to the north and east, and the Kelseyville Planning Area to the south. In addition to the City of Lakeport, the Lakeport Planning Area includes the following community:

- **North Lakeport.** This area is north of the City of Lakeport, bordered by SR-29 to the west, Clear Lake to the east, and the Nice – Lucerne Cutoff to the north. The Scotts Valley area is located along the western part of North Lakeport. With a 2020 population of 3,547, development consists primarily of residential subdivisions, several mobile home parks, and scattered commercial development (USCB 2024f). Sutter Lakeside Hospital, along with several medical offices and a pharmacy, are in this community. Several lakefront bed-and-breakfast inns have been developed in the community, and there are a few hotels along Lakeshore Boulevard. Other services include a convenience store with fuel sales and a marina.

LOWER LAKE PLANNING AREA

The Lower Lake Planning Area encompasses 76,100 acres of total land and 52,100 acres of unincorporated county land in southeastern Lake County. This Planning Area is bounded by the East Lake Communities Planning Area to the north, Yolo and Napa Counties to the east, Middletown Planning Area to the south, and Cobb Mountain and Rivieras Planning Areas to the west. The Lower Lake Planning Area includes the following unincorporated community:

- **Lower Lake.** Lower Lake has a 2020 population of 3,433 and is at the intersection of SR-29 and SR-53 near the south shore of Clear Lake (USCB 2024g). This community contains some of the County's prime historic structures along its Main Street and other areas within the community. It is also near the Anderson Marsh State Historic Park, which has historic structures and over 1,000 acres of natural open space. This park serves as a wildlife sanctuary and contains cultural resources.

MIDDLETOWN PLANNING AREA

The Middletown Planning Area includes 91,000 acres of total land and 78,160 acres of unincorporated county land in the southernmost portion of Lake County. The Planning Area is bordered by Lower Lake Planning Area to the north, Napa County to the south and southeast, Sonoma County to the west, and Cobb Mountain Planning Area to the northwest. The Middletown Planning Area includes the following unincorporated communities:

- **Anderson Springs.** Anderson Springs is a set of hot springs and a resort four miles north of Middletown. Approximately 90 percent of the homes in the community were destroyed in the Valley Fire in September 2015.
- **Hidden Valley.** Hidden Valley is just northeast of Middletown on SR-29. Most of the residents in Hidden Valley reside in a master-planned community constructed in 1968. Hidden Valley Lake is in the southern part of Lake County between Middletown and Lower Lake, nestled in the hills of Coyote Valley. The population in 2020 was 6,235 (USCB 2024h). This community is adjacent to a human-made lake (Hidden Valley Lake) that offers boating, fishing, and swimming activities. The Hidden Valley Lake Golf Course is also within the community. The Hidden Valley community is dominated by single-family housing and contains some commercial and light industrial uses.
- **Harbin Hot Springs.** Harbin Hot Springs is a set of three springs that were turned into a resort in the late 1800s. The resort is 3.5 miles northwest of Middletown.
- **Middletown.** Middletown received its name for being located midway between Lower Lake and Calistoga. With a 2020 population of 1,114, Middletown developed during the late 1800s as a destination for Bay Area visitors, primarily due to the presence of mineral springs in the area and mercury mining activities (USCB 2024i). In the early 1900s, a fire destroyed most of the original town. The town is developed with numerous small shops along SR-29. The community is surrounded mostly by livestock ranches and vineyards. The Geysers Geothermal Fields are to the west.

NORTH LAKE COMMUNITIES PLANNING AREA

The North Lake Communities Planning Area covers 300,880 acres of total land and 86,200 acres of unincorporated county land. The North Lake Communities Planning Area is bounded by Glenn and Mendocino Counties to the north, Glenn and Colusa Counties to the east, the East Lake Communities and Lakeport Planning Areas to the south, and Mendocino County to the west. Most of the land area is covered by the Mendocino National Forest. The North Lake Communities Planning Area includes the following communities:

- **Bachelor Valley.** Bachelor Valley is approximately six miles north of Clear Lake along SR-20, is rural and agricultural in character, with orchards, ranch lands, and other farming operations set in a pastoral valley, surrounded by rolling hills.

- **Blue Lakes.** Blue Lakes is composed of two separate lakes, upper and lower along SR-20 in the northwestern part of the county, north of Lakeport. The community consists largely of resorts and lodges.
- **Lake Pillsbury Ranch.** Lake Pillsbury Ranch is a gated community within Mendocino National Forest, north of Lake Pillsbury in the northeastern part of the county. It was formed when Scott Dam was built in 1922 as part of the Potter Valley Project to provide year-round water for the hydroelectric powerhouse.
- **Lucerne.** Lucerne, named after the city in Switzerland with a similar geographic setting, is a planned community dating back to the 1920s and with a 2020 population of 3,266 (USBC 2024n). Due to the depression and financial difficulties, the planned aspects were set aside, and the community developed in a relatively haphazard fashion. The County, and its Redevelopment Agency at the time, took on the challenge of revitalizing the community by bringing it back in line with its original planned concepts, which call for a lakefront promenade, town center on the Strand (13th Avenue), and town park along the creek between 8th and 9th Avenues. Part of the effort includes incorporating a Swiss or Alpine architectural theme, as indicated by its name.
- **Nice.** With a 2020 population of 2,929, Nice is on the north shore of Clear Lake (USCB 2024j). It was originally named Clear Lake Villas after its first subdivision was built in 1922. The community was later named Nice, after the city located on the French Riviera. Today, in addition to its residential development, Nice has retail shops, RV parks, and campgrounds. The community also has three parks, the H.V. Keeling Park, Hinman Park, and the Nice Community Beach.
- **Saratoga Springs.** Saratoga Springs, formerly Bachelor Springs and Pierson Springs, is a set of springs that was turned into a resort in the 1870s. Now a retreat, it is four miles west of Upper Lake, though the town was originally 3.5 miles north of its present location.
- **Upper Lake.** Upper Lake, named for its location along the upper arm of Clear Lake, was established in the 1860s and had a 2020 population of 1,095 (USCB 2024k). In 1924, most of its downtown was destroyed by a fire. A small downtown area was rebuilt after that fire. Today, the downtown area is being revitalized and targeted for community commercial and tourism-oriented commercial uses and contains several historic buildings. Upper Lake is the main access point to the Mendocino National Forest, which starts approximately 3.5 miles north of the community. In addition, the community contains Upper Lake Park, which is approximately five acres in size.
- **Witter Springs.** Witter Springs is approximately three miles north of the community of Upper Lake and adjacent to Bachelor Valley, is a set of springs in the Scotts Creek watershed. Like Bachelor Valley, this area also contains mostly agricultural and ranch properties in a pastoral landscape.

RIVIERAS PLANNING AREA

The Rivieras Planning Area encompasses approximately 26,390 acres of total land and 24,840 acres at the southwestern shore of Clear Lake. The Planning Area is bordered by Clear Lake to the north and east, the Lower Lake and Cobb Mountain Planning Areas to the south, and the Kelseyville Planning Area to the west. The Rivieras Planning Area includes the following unincorporated communities:

- **Buckingham.** Buckingham, formerly Buckingham Peninsula, is on the western shore of Clear Lake, 4.8 miles northeast of Kelseyville. It was established as an "exclusive subdivision" of lakeside properties in 1930.
- **Kelseyville Riviera.** The Kelseyville Riviera (formerly known as Clearlake Riviera) community area has a 2020 population of 6,716 and is east of Kelseyville on SR-281 north of its intersection with SR-29 (USCB 2024l). Originally developed in the 1960s, Kelseyville Riviera is now the fastest-growing subdivision in the Rivieras Planning Area. The community is primarily residential with a commercial portion to provide services including groceries, restaurants, and real estate offices. The community provides limited public lake access through a small restaurant and RV park on Konocti Bay.
- **Riviera Heights.** Riviera Heights was created in the early 1970s on the west shore of Clear Lake, north of Riviera West and south of Soda Bay. The community's marina offers boat launching, fishing, picnicking, and swimming.
- **Riviera West.** Riviera West was created in 1969 and is one of the larger subdivisions in the Rivieras Area, on the west shore of Clear Lake, north of Kelseyville Riviera and south of Buckingham.
- **Soda Bay.** The community of Soda Bay is on the south side of Clear Lake, between Kelseyville and Kelseyville Riviera on Soda Bay Road and has a 2020 population of 1,163 (USCB 2024m). In the late 1800s, Soda Bay's mineral springs were so popular that large resorts were constructed to provide lodging for the hundreds of thousands of visitors that were drawn for their touted healing qualities. Subdivisions were recorded in Soda Bay in the 1920s, as electricity became more widely available and roads throughout the county were improved. The community is now mostly made up of single-family homes. There are also RV parks and campgrounds and the limited commercial development along Soda Bay Road provides restaurants and a general store.

2.4.6 EIR Study Area

The General Plan defines the project area as the land within unincorporated Lake County. The EIR Study Area includes all unincorporated land within the Lake County boundaries, excluding the federal, state, and tribal lands described in Section 2.4, *Lake County Boundaries,* as well as land inside the city limits of incorporated municipalities. Therefore, the EIR Study Area focuses on the analysis of potential impacts due to implementation of the proposed General Plan 2050

on only unincorporated lands within Lake County, as shown on Figure 2-4, *EIR Study Area*, totaling 441,800 acres.

2.5 PLANNING PROCESS

The process to update the existing 2008 General Plan began in 2023 and is scheduled to be completed with the adoption of the proposed General Plan 2050 by the Board of Supervisors in 2026. At the outset of the project, the County created a General Plan website at lakecounty2050.org to enhance and inform the public process. The website provides all project documents, maps, and meeting agendas for public download, as well as project contact options so members of the public can submit comments and questions about the project and subscribe to project update emails. A General Plan Advisory Committee (GPAC) as well as Local Area Plan Advisory Committees (LAPAC) were formed in 2024 to provide direction for the General Plan 2050 and work closely with County staff to guide the public process for updating the 2008 General Plan. The community engagement process included informational emails to share project updates with subscribers, GPAC and LAPAC meetings, community workshops and open house events, stakeholder focus group meetings, community surveys, coordination with Tribal nations, and updates to the Planning Commission and Board of Supervisors. Feedback from engagement activities has been incorporated into the planning process and helped shape the goals, policies, and actions.

2.6 PROJECT OBJECTIVES

The primary purpose of the proposed project is to plan for the growth and conservation of Lake County over an approximately 25-year time horizon. Pursuant to CEQA Guidelines Section 15124, the following objectives correlate to the goals outlined in the proposed General Plan 2050 and support the proposed project's purpose and assist Lake County in developing a reasonable range of alternatives to be evaluated in this EIR.

- Support balanced and orderly growth and conservation that preserve and promote a high quality of life and good health outcomes for everyone, safe community, conservation of resources, including Tribal Cultural Resources, and natural beauty and protect and enhance the natural environment.
- Ensure compliance with changes in State law, including, but not limited to, developing an Environmental Justice Element, and a Safety Element that is correlated with the requirements of the Multi-Jurisdictional Hazard Mitigation Plan.
- Develop a plan that accommodates a level of growth that could reasonably occur over the next 25 years, that plans for both growth and conservation.
- Provide a range of housing types to meet the needs of all Lake County residents that are safe, clean, and healthy.

- Preserve agricultural lands and ensure a diverse, healthy, and competitive agricultural industry.
- Research and optimize the use of geothermal resources to generate sustainable energy that benefits Lake County and includes planning processes that involve collective participation of residents, industries, and public agencies.
- Effectively prepare for and respond to natural and human-caused disasters, avoid the loss of life, minimize health and safety hazards, and increase resilience in Lake County.
- Create cohesive and vibrant communities that preserve and celebrate the communities' historic character and design heritage.
- Create a transportation network that accommodates new development while reducing per-capita vehicle miles traveled (VMT) and greenhouse gas (GHG) emissions, promotes environmental protections and stewardship, and protects human life.
- Provide for continued economic viability of mineral extraction activities while minimizing impacts on the public and the environment.
- Protect the county's diverse biological resources, sensitive significant habitats, and ecosystem health.
- Create a park, recreation, and open space system that serves the recreational needs of the county's residents and visitors.
- Provide resilient and well-maintained public facilities and services that meet the needs of all community members, are adequately funded, and enhance quality of life in Lake County.

2.7 GENERAL PLAN 2050

This section provides a summary of the major components of the proposed project. The proposed project updates the 2008 General Plan goals, policies, and actions, and updates land use designations on a limited number of parcels to reflect current conditions, issues, resources, and community perspectives. An outline of how General Plan 2050 is organized is provided along with general policy direction and land use descriptions.

2.7.1 General Plan Contents and Organization

The proposed General Plan 2050 includes a set of elements organized at both the countywide level and planning area level, together containing the required general plan elements pursuant to California Government Code Section 65302 as well as other topics of particular interest to Lake County. Unlike the 2008 General Plan, there are not overlapping topics in the countywide and planning area elements, and the planning area elements are fully integrated components of the General Plan 2050. Thus, elements that reference resources and information that are not unique to each planning area are addressed at the countywide level and elements that reference land use issues and planning policies specific to a planning area are addressed at the planning area level. This enhances the General Plan 2050 by identifying unique guidance.

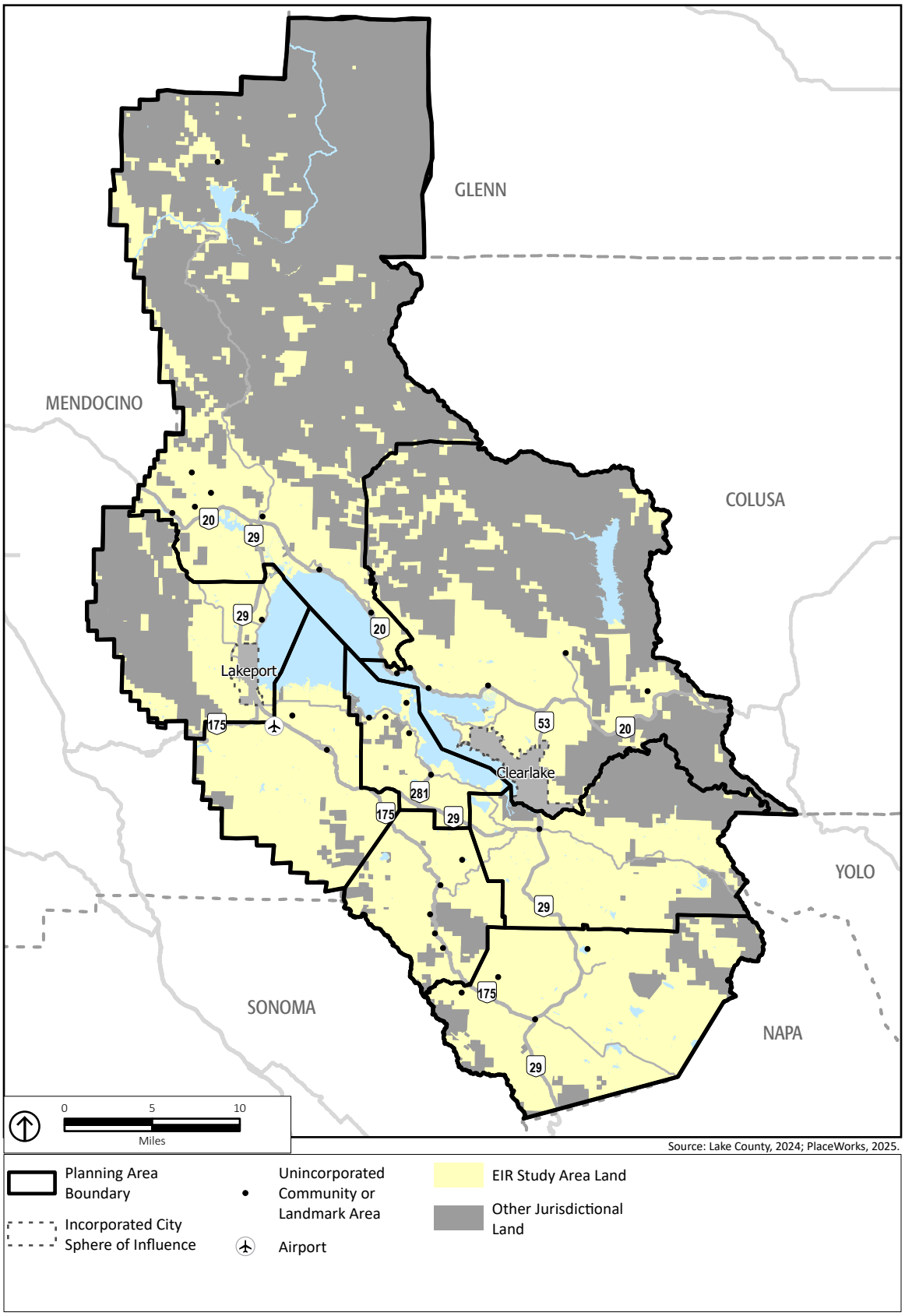


Figure 2.4
EIR Study Area

COUNTYWIDE ELEMENTS

Each countywide element contains background information and a series of goals, policies, and actions related to that topic. The following elements are provided in General Plan 2050 at the countywide level:

- **Aggregate Resources Management Plan.** The Aggregate Resources Management Plan identifies the location of aggregate resources (i.e., sand and gravel), the types of mining operations in the county, and management policies for aggregate mining activities.
- **Agricultural Resources.** The purpose of the Agricultural Resources Element is to protect and enhance this vital component of the county's economy and quality of life. This element contains goals, policies, and actions designed to protect and sustain local agriculture as an economic driver, food source, and core component of Lake County's identity.
- **Geothermal Resources.** Geothermal resources refer to the natural sources of heat energy that come from volcanic activity beneath the Earth's surface. The Geothermal Resources Element establishes the goals, policies, and actions to support the efficient, sustainable, and safe use of the county's geothermal resources.
- **Health and Safety.** The Health and Safety Element contains goals, policies, and actions designed to protect the public health, safety, and welfare of the community. Topics covered in this element include the needs for hazard mitigation, including resilience to climate change hazards, to minimize risks to property, the natural environment, and human life.
- **Housing.** The Housing Element includes a comprehensive assessment of current and future housing needs for all segments of the community and a program for meeting those needs.
- **Noise.** The Noise Element contains goals, policies, and actions that set noise standards and includes policies to protect noise-sensitive uses and citizens from excessive noise. Certain areas of the county can experience noise levels that can be a concern to residents and visitors. The Noise Element contains goals, policies, and actions that set noise standards and includes policies to protect noise-sensitive uses and citizens from excessive noise.
- **Water Resources.** The primary purpose of the Water Resources Element is to ensure that Lake County's surface and groundwater resources are protected and sustained. This element contains goals, policies, and actions designed to preserve and regenerate the ecological integrity and sustainability of the county's watershed, including all groundwater and surface water.

PLANNING AREA ELEMENTS

Each set of planning area elements includes a description of the planning area, and the goals, policies, and actions that set the long-term blueprint for potential future development in that planning area, along with additional policy guidance for identified "Special Study Areas" and "Design Guidelines" for specified geographies and/or types of development within the planning area. The following elements are provided in General Plan 2050 at the planning area level:

- **Circulation.** The Circulation Element identifies the general location and extent of existing and proposed transportation facilities, supporting all modes of travel, including walking, biking, and driving, for a more sustainable and connected Lake County. It includes goals, policies, and actions for roads and highways, public transportation, aviation, bicycle and trails, transmission lines and pipelines, and boating.
- **Economic Development.** The Economic Development Element supports the fiscal health of the Lake County community, prioritizing a local, circular economy made up of complementary commercial and industrial enterprises.
- **Environmental Justice.** The General Plan 2050 includes a new Environmental Justice Element. 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. The Environmental Justice Elements identifies Lake County communities facing acute burdens from environmental factors, such as limited access to resources and services and engagement in community decision-making processes and establishes a framework of policies and programs to address these burdens in impacted communities.
- **Land Use.** The Land Use Element designates the general distribution, intensity, and ranges of appropriate land uses in the county. This element also includes the Land Use Map, which graphically depicts the major land use relationships of the General Plan and designates land uses for the entire Planning Area.
- **Open Space, Conservation, and Recreation.** The Open Space, Conservation, and Recreation Element addresses the integrated planning, management, conservation, and sustainable use and stewardship of open space, natural lands, and cultural resources. This element also provides for public recreation and enjoyment of the county's natural beauty.
- **Public Facilities and Services.** The Public Facilities and Services Element works to maintain and enhance service delivery for water, solid waste, wastewater, electricity and gas, fire protection, and law enforcement. This chapter also supports effective communication systems and the siting of educational and community facilities to meet local needs.
- **Special Study Areas and Design Guidelines.** Special study areas and design guidelines provide detailed policy and design guidance for specific areas within a planning area. The selected areas are places where the community has a more detailed vision for future development; to reflect the community's vision, the General Plan 2050 provides customized policy and design guidance for those areas. Not every planning area includes special study areas or design guidelines. The planning areas with special study areas are as follows:
  - **East Lake Communities Planning Area:** Clearlake Oaks, East Clearlake Oaks Commercial District, and "The Plaza."
  - **Lakeport Planning Area:** North Lakeshore Boulevard, Scotts Valley, and South Main Street/Soda Bay Road.

- **Middletown Planning Area:** Middletown Community Downtown and Coyote Valley Town Center/SR-29 Corridor.
- **North Lake Communities Planning Area:** Blue Lakes, "The Promenade" Lucerne, and "The Strand" Lucerne.

ORGANIZATION

Each of the elements begins with an introduction of the topic and background regarding Lake County, then establishes goals, policies, and actions for implementing General Plan 2050. A brief outline of each General Plan chapter and appendix is provided herein. For a description of each countywide and planning area element, see "Countywide Elements" and "Planning Area Elements" above. Updates to the Aggregate Resources Management Plan and Housing Element updates are not included in the proposed project.

- Chapter 1, *General Plan Overview*
- Chapter 2, *Housing Element*
- Chapter 3, *Water Resources Element*
- Chapter 4, *Agricultural Resources Element*
- Chapter 5, *Health and Safety Element*
- Chapter 6, *Geothermal Element*
- Chapter 7, *Noise Element*
- Chapter 8, *Cobb Mountain Planning Area Elements*
- Chapter 9, *East Lake Communities Planning Area Elements*
- Chapter 10, *Kelseyville Planning Area Elements*
- Chapter 11*, Lakeport Planning Area Elements*
- Chapter 12, *Lower Lake Planning Area Elements*
- Chapter 13, *Middletown Planning Area Elements*
- Chapter 14, *North Lake Communities Planning Area Elements*
- Chapter 15, *Rivieras Planning Area Elements*
- Glossary
- Appendices
  - Aggregate Resources Management Plan
  - Climate Vulnerability Assessment
  - Health and Safety Element Background Report
  - Lake County Evacuation Study

2.7.2 General Plan Goals, Policies, and Actions

Each chapter of General Plan 2050 contains background information and a series of goals supported by policies and actions. CEQA Statute Section 21081.6(b) and CEQA Guidelines Section 15126.4(a)(2) establish that when a project examined in an EIR is a plan (such as a General Plan), policy, regulation, or other public project, mitigation measures may be incorporated into the plan, policy, regulation, or project design. Therefore, as this is a General Plan EIR, some policies and actions in the General Plan 2050 are also required to mitigate environmental impacts under CEQA, as described further in Chapter 3, *Environmental Analysis,* under "General Plan 2050 Goals, Policies, and Actions." The following provides a description of goals, policies, and actions and explains the relationship between them:

- A *goal* describes the general desired result that the County seeks to create through the implementation of its General Plan.
- A *policy* is a specific statement that regulates activities in the county, guides decision making, and directs ongoing efforts as the County works to achieve a goal. A policy is ongoing and requires no further implementation. The General Plan's policies establish the standards that will be used by County staff and the other decision makers in their review of land development projects and in decision making about County actions.
- An *action* is a measure, procedure, or technique intended to help reach a specified goal.

2.7.3 Land Use

The proposed General Plan 2050 land use map is provided on Figure 2-5, *Proposed General Plan 2050 Land Use Map.* The map shows the land use designations and Community Growth Boundaries (CGBs) that establish the uses, density ranges, and development intensities allowed on each parcel of land. In general, standards of building intensity for residential uses are stated as the allowable range of dwelling units per gross acre (DU/acre). Gross acreage includes the entire site (as opposed to net acreage, which excludes unbuildable areas). Nonresidential uses are described with maximum floor-area ratios (FAR) based on net acreage. FAR is a ratio of the 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 net land area, a FAR of 1.0 will allow 10,000 square feet of building floor area to be built. This could take the form of a two-story building with 50 percent lot coverage, or a one-story building with 100 percent lot coverage. The number of residential units permitted and nonresidential FAR are further modified by the zoning district, which, pursuant to California Government Code Section 65860(a), is required to be consistent with the General Plan. In hazard-prone areas, such as areas with slopes exceeding 20 percent, flood hazard zones, High and Very High Fire Hazard Severity Zones, Class VII-X Landslide Susceptibility areas, and Alquist-Priolo Earthquake Fault Zones, reduced residential densities below the minimum density may be allowed.

COMMUNITY GROWTH BOUNDARIES

CGBs are regulatory tools that support both development and conservation goals by preserving open space between communities and maintaining community separation and identity. These boundaries define areas where residential and commercial development may occur by dividing land to be developed at higher densities from land to be protected for conservation or developed at lower densities. Land beyond the boundary of the CGB is typically preserved for uses such as agriculture, forestry, open space, greenbelts, and conservation. CBGs are currently found in all planning areas except Cobb Mountain Planning Area.

LAND USE DESIGNATIONS

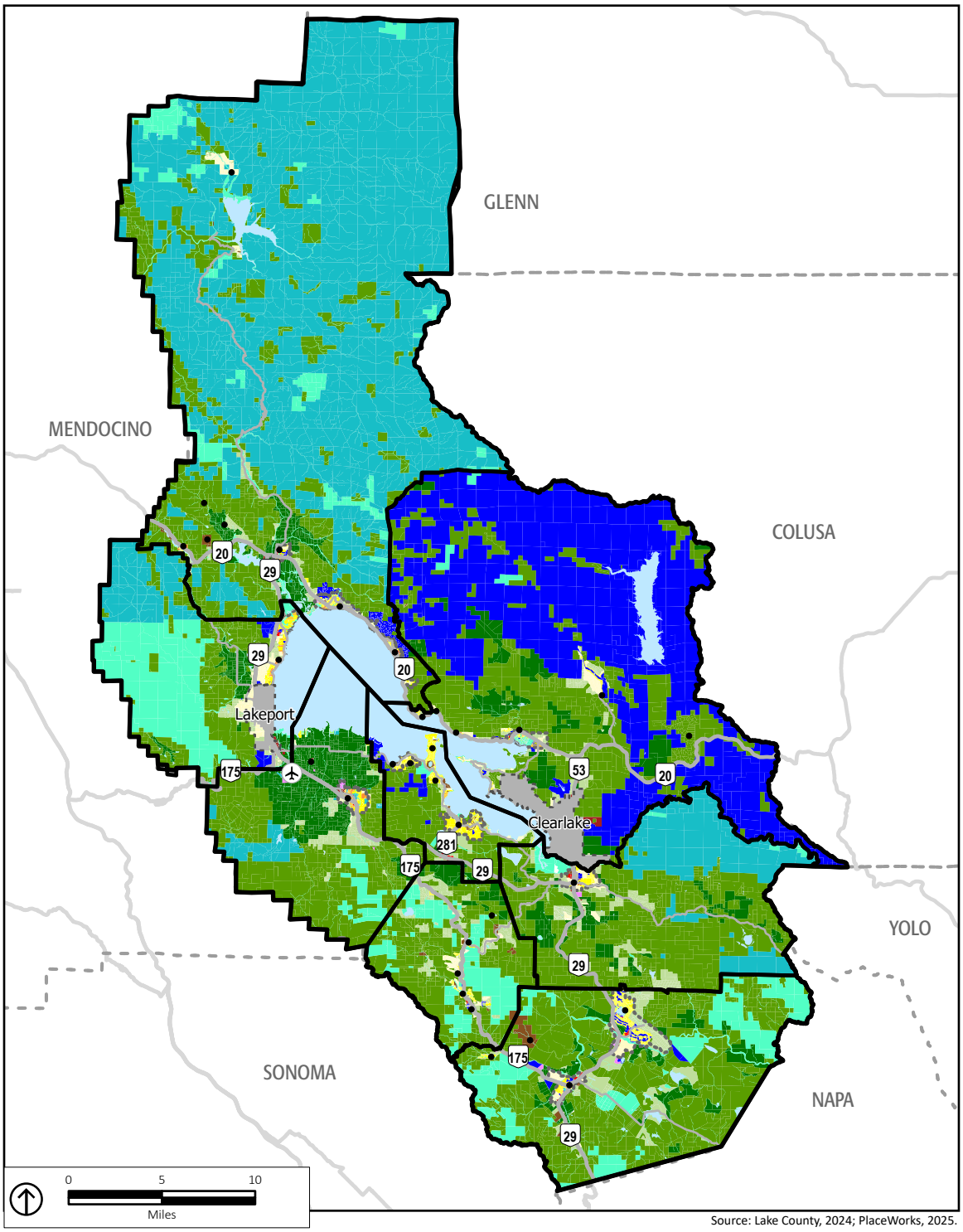
The following sections describe the land use designations for the proposed General Plan 2050. The proposed General Plan 2050 does not introduce any new land use designation types not included in the 2008 General Plan.

Agriculture (A)

A main function of this land use designation is to protect the county's valuable agricultural resources and prevent development that would preclude its future use in agriculture. These lands are actively or potentially engaged in crop production, including horticulture, tree crops, row and field crops, and related activities. Wineries and the processing of local agricultural products, such as pears, cannabis, and walnuts, are encouraged within this designation. These lands also provide important groundwater recharge functions. As watershed lands, they collect precipitation and filter water to improve water quality. They are generally supportive of the management of the natural infrastructure of the watersheds. While there are some existing lands with this designation inside CGBs, future applications of the designation should be limited to areas outside CGBs. This land use designation includes a density/intensity of 1 DU/40 acres.

Rural Lands (RL)

The purpose of this land use designation is to allow rural development in areas that are primarily in their natural state, although agricultural production, including farming, cannabis cultivation, and vineyards, can occur on these lands. The category is appropriate for areas that are remote, or characterized by steep topography, fire hazards, and limited access. Typical uses permitted by right include, but are not limited to, animal raising, crop production, single-family residences, game preserves, and fisheries. Other typical uses permitted conditionally include, but are not limited to, recreational facilities, manufacturing and processing operations, mining, and airfields. These lands also provide important groundwater recharge functions. As watershed lands, they collect precipitation and filter water to improve water quality. These uses generally support the natural infrastructure of the watersheds and are outside of CGBs.



Source: Lake County, 2024; PlaceWorks, 2025.

Planning Area Boundary
Unincorporated Community or Landmark Area
Airport
Incorporated City Sphere of Influence
Incorporated City
Water
Community Growth Boundary
General Plan Land Use Designations
A - Agriculture
RL Rural Lands
RR - Rural Residential
SRe - Suburban Residential Reserve
LDR - Low Density Residential
MDR - Medium Density Residential
HDR - High Density Residential
Cl - Local Commercial
Cc - Community Commercial
Cr - Resort Commercial
Cs - Service Commercial
I - Industrial
RC - Resource Conservation
PL - Public Lands
PF - Public Facilities

Figure 2.5
Proposed General Plan 2050 Land Uses

The RL land use designation includes a density/intensity of 0.4 FAR and 1 DU/20-45+ acres. The maximum density in the Rural Lands designation may be reduced based on factors related to wildland fire/fuel loading, landslide hazards, and distance to the nearest fire station, as enumerated in the Zoning Ordinance.

Rural Residential (RR)

This land use designation is designed to provide single-family residential development in a semi-rural setting. Large-lot residential development with agricultural activities is appropriate. These areas are intended to act as a buffer between urban residential development and agricultural uses. Building intensity should be greater where public services, such as major roads, community water systems, or public sewer are available, although most of the land designated for this land use relies on wells and septic systems. Typical uses permitted by right include single-family residences; crop production (including cannabis); raising poultry, rabbits, and other small animals for domestic use; raising bovine animals, horses, sheep, and goats for domestic use; and sale of crops produced on the premises. Typical uses permitted conditionally include agricultural-related services and recreational facilities. These lands also provide important groundwater recharge functions. As watershed lands, they collect precipitation and filter water to improve water quality. They are generally supportive of the management of the natural infrastructure of the watersheds. This designation is primarily outside of CGBs, but some areas will be appropriate inside these boundaries as well. This land use designation includes a density/intensity of 1 DU/5 to 10 acres.

Suburban Residential Reserve (SRe)

This land use designation serves as a transitional designation between rural residential and urban residential uses, but due to soil and slope characteristics, lots generally larger than one-acre minimum are necessary. Larger lot residential development with small-scale, incidental agriculture is appropriate. Where found in mountain areas, this designation serves to limit densities until the establishment of appropriate infrastructure to support higher densities. However, exceptions have been made for existing subdivisions outside of CGBs, and additional land division may be appropriate on parcels already designated Suburban Residential Reserve when found to be consistent with the existing development pattern already established in the vicinity. Expansion of this land use designation outside of CGBs may be considered to implement Action EL-LU-5.d for appropriate mixed-use resort or business/industrial park developments. This designation has the potential to result in conflict when located on the fringe of CGBs, adjacent to agricultural uses, unless cluster policies are employed and agricultural buffers are provided. This designation is mostly outside of CGBs, but some parcels with this designation are inside CGBs. This land use designation includes a density or intensity of 1 DU/1 to 3 acres.

Low-Density Residential (LDR)

This land use designation is designed to establish areas suitable for single-family residences at relatively low densities. Typical uses permitted by right include single-family homes. This designation is appropriate where the traditional neighborhood character of single-family units prevail, and where the level of services, including roads, shopping, and recreation, does not justify higher densities. While there are some existing lands with this designation outside of CGBs, future applications of the designation should be limited to areas within CGBs. This land use designation includes a density/intensity of 1-7 DU/acre.

Medium-Density Residential (MDR)

This land use designation is designed to provide areas for residential developments such as duplexes, triplexes, and manufactured homes. This designation is appropriate only where the level of development is compatible with the overall character of the surrounding neighborhood and where adequate public facilities, such as potable water and sewer systems, roadways, and other public services are available. While there are some existing lands with this designation outside of CGBs, future applications of the designation should be limited to areas within CGBs. This land use designation includes a density/intensity of 6-9 DU/acre.

High-Density Residential (HDR)

This land use designation is designed to provide for areas of multifamily residential uses that include a wide range of living accommodations, including duplexes, townhouses, and apartments. This designation is appropriate in community areas where a full range of urban services are available, including public water and sewer, adequate circulation facilities, and adequate public services, and where the level of development is compatible with the surrounding neighborhood. This designation is only within CGBs. This land use designation includes a density/intensity of 10-22 DU/acre.

Local Commercial (Cl)

The purpose of this land use designation is to establish areas for small, localized retail, recreational, and service businesses that provide goods and merchandise to the immediate surrounding residents. Convenience facilities may include eating and drinking establishments; food and beverage retail sales; limited personal, medical, professional, and repair services; and other retail sales. Such facilities may range from a single use to a cluster of uses. This designation is primarily within CGBs; it may be allowed outside of a CGB to expand an existing commercial development that is already outside of the boundary. This land use designation includes a density/intensity of 0.5 FAR; where residential uses are allowed the allowed density is 10-22 DU/acre.

Community Commercial (Cc)

The purpose of this land use designation is to provide a full range of commercial retail and service commercial establishments serving multiple neighborhoods or the entire community. These districts should include or enable a variety of convenience and shopping opportunities. Typical uses permitted include gasoline service stations, hardware stores, eating and drinking establishments, food and beverage sales, public buildings, general merchandise stores, professional offices, and finance offices. Residential uses are permitted as secondary uses on upper floors of multistory buildings. Commercial accessory residential uses are also allowed. This designation is primarily within CGBs and may be allowed outside of a CGB to expand existing commercial development that is already outside of the boundary. This land use designation includes a density/intensity of 1.2 FAR; when development includes mixed uses, the maximum FAR is 2.0 and the maximum residential density is 10-22 DU/acre.

Resort Commercial (Cr)

This land use designation provides for a mix of commercial uses oriented toward tourists and other visitors to the county, including agriculturally based tourism. Typical uses permitted include recreation activities (e.g., golf courses); dining; entertainment services; destination resorts; various types of lodging facilities such as, but not limited to, hotels, motels, retreats, fractional ownership lodging units and time-share units; wineries; spas; and on-site residential uses if secondary and subordinate to commercial resort uses. This designation is both inside and outside of CGBs. This land use designation includes a density/intensity of 1.0 FAR.

Service Commercial (Cs)

The purpose of this land use designation is to provide areas suitable for heavier commercial uses in developed areas. Typical uses permitted with appropriate buffer distances include automotive-related or heavy equipment sales and services, building maintenance services, construction sales and services, and warehousing. This designation is both inside and outside of CGBs. This land use designation includes a density/intensity of 1.2 FAR.

Industrial (I)

This land use designation provides for a range of manufacturing, the processing of natural resources, research facilities and high-tech campuses, and heavy commercial activities. The intent is to encourage sound industrial/heavy commercial development by designating appropriate areas for such uses, including geothermal service yards, large construction/contractor yards, warehouses, asphalt batch plants, mills, lumber yards, boat building, welding, and fabrication shops. This designation is both inside and outside of CGBs. This land use designation includes a density/intensity of 1.5 FAR.

Resource Conservation (RC)

The purpose of this land use designation is to ensure the maintenance or sustained generation of natural resources in the county. The highest priority for these lands is to provide for the management of the county's natural resources. This management should include, but is not limited to, functioning as watershed lands, which collect precipitation and filter water to improve water quality. In addition, these lands provide important groundwater recharge capability, which is critical to the maintenance of the natural ecosystem and to providing a sustainable groundwater supply for the county. This category includes significant plant or animal habitats; forest lands in Timberland Preserve Zones; agricultural lands within the Williamson Act; grazing lands; important parts of watersheds, such as waterways and wetlands; outdoor parks and recreation areas; mineral deposits and mining areas that require special attention because of hazardous or special conditions; publicly owned land (e.g., USFS, BLM land, State lands, and County lands); and open space activities. Uses allowed in this designation are those related to resource utilization and resource conservation activities. Resource utilization operations and facilities require a conditional use permit. This designation is both inside and outside of CGBs. This land use designation includes a density of 0 and intensity determined on a case-by-case basis.

Public Facilities (PF)

This land use designation establishes areas for services and facilities that are necessary to maintain the welfare of the community and the natural environment. Typical uses include parks, public marinas, schools, civic centers, hospitals, liquid and solid waste disposal and recycling sites, cemeteries, and public utility facilities, including water and wastewater treatment facilities. This designation does not preclude future facilities from being located outside areas designated Public Facilities. This designation is both inside and outside of CGBs. This land use designation includes a density of 0 and intensity determined on a case-by-case basis.

Public Lands (PL)

This land use designation is used for all public land outside of the County's jurisdiction, as described in Section 2.4, *Lake County Boundaries.*

2.8 BUILDOUT PROJECTIONS

This Draft EIR analyzes the potential for growth to 2050, which represents an approximately 25-year buildout horizon. Under CEQA Guidelines Section 15126.6(3)(A), when a project consists of the revision of a plan or policy, the project's impacts are assessed against existing conditions, and future conditions under the existing plan are treated as the "No Project" alternative.

Under CEQA Guidelines Section 15064(d), "In evaluating the significance of the environmental effect of a project, the lead agency shall consider direct physical changes in the environment which may be caused by the project and reasonably foreseeable indirect physical changes in the

environment which may be caused by the project." The projections represent the County's estimation of all "reasonably foreseeable" development that could occur over the next 25 years. These projections are used as the basis for the EIR's environmental assessment that rely on quantitative analysis. See Chapter 3, *Environmental Analysis*, for a description of environmental analysis scenarios for this EIR. The projections do not presume that every parcel is developed to the maximum level allowed under the proposed General Plan 2050. Rather, they recognize regional demographic and economic forecasts, and the probable share of regional growth that would be captured by Lake County given its policies and land use regulations. Horizon year (2050) projections in the EIR Study Area compared to existing conditions (2024) are shown in Table 2-3, *Proposed 2050 Buildout Projections in the EIR Study Area*.

Table 2-3 Proposed 2050 Buildout Projections in the EIR Study Area

	Existing Conditions (2024)	Projected Growth 2024-2050 (Proposed Project)	Buildout (Existing Conditions + Proposed Project) Estimates (2050)
Occupied Housing Units			
Cobb Mountain Planning Area	*1,210*	*110*	*1,320*
East Lake Communities Planning Area	*1,870*	*310*	*2,180*
Kelseyville Planning Area	*2,830*	*630*	*3,460*
Lakeport Planning Area	*1,340*	*870*	*2,210*
Lower Lake Planning Area	*1,250*	*300*	*1,550*
Middletown Planning Area	*3,330*	*1,100*	*4,430*
North Lake Communities Planning Area	*3,600*	*300*	*3,900*
Rivieras Planning Area	*3,100*	*200*	*3,300*
Occupied Housing Units Total	**19,000**	**3,830**	**22,830**
Population			
Cobb Mountain Planning Area	*2,900*	*270*	*3,170*
East Lake Communities Planning Area	*4,490*	*750*	*5,240*
Kelseyville Planning Area	*6,780*	*1,500*	*8,280*
Lakeport Planning Area	*3,220*	*2,080*	*5,400*
Lower Lake Planning Area	*3,000*	*720*	*3,720*
Middletown Planning Area	*8,000*	*2,650*	*10,650*
North Lake Communities Planning Area	*8,630*	*730*	*9,360*
Rivieras Planning Area	*7,450*	*480*	*7,930*
Population Total	**45,600**	**9,170**	**54,770**
Jobs	**17,410**	**3,190**	**20,600**

Notes: Numbers are rounded from original sources.

Source: ACS 2025.

Through the 2050 buildout horizon, implementation of the proposed project is estimated to result in a total of 1,379,720 nonresidential square feet, including approximately 847,000 square feet of land designated Service Commercial, approximately 320,300 square feet of land designated Community Commercial, approximately 5,200 square feet of land designated Local Commercial, and approximately 207,300 square feet of land designated Industrial.

2.9 INTENDED USES OF THE EIR

This EIR is intended to review potential environmental impacts associated with the adoption and implementation of the proposed project and determine corresponding mitigation measures, as necessary. This EIR is a program-level EIR and does not evaluate the impacts of specific, individual developments that may occur over the buildout horizon. Each specific future project would conduct separate environmental review, as required by CEQA, to secure the necessary discretionary development permits. Therefore, while subsequent environmental review may be tiered off this EIR, as described in Section 2.9.1, *Tiering Process,* this EIR is not intended to address impacts of individual projects.

2.9.1 Tiering Process

CEQA includes several provisions to streamline the environmental review of qualified projects based on several factors. These include where environmental review has already occurred (e.g., a program-level EIR), which could apply to future development in the EIR Study Area.

The CEQA concept of “tiering” refers to the evaluation of general environmental matters in a broad program-level EIR, with subsequent focused environmental documents for individual projects. CEQA and the CEQA Guidelines encourage the use of tiered environmental documents to reduce delays and excessive paperwork in the environmental review process. This is accomplished in tiered documents by eliminating repetitive analyses of issues that were adequately addressed in the program EIR and by incorporating those analyses by reference.

CEQA Guidelines Section 15168(d) provides for simplifying the preparation of environmental documents by incorporating by reference analyses and discussions. Where an EIR has been prepared or certified for a program or plan, the environmental review for a later activity consistent with the program or plan should be limited to effects that were not analyzed as significant in the prior EIR or that are susceptible to substantial reduction or avoidance (CEQA Guidelines Section 15152[d]). Subsequent projects will be reviewed by the County for consistency with the proposed project and this EIR. Projects successive to this EIR include, but are not limited to, the following:

- Approval and funding of major public projects and capital improvements
- Updates to the utility infrastructure master plans, such as the Water, Wastewater, and Stormwater Master Plans

- Updates or amendments to the County's Zoning Code
- Issuance of permits and other approvals necessary for implementation of the proposed project
- Property rezoning consistent with the proposed General Plan 2050
- Development plan approvals, such as tentative maps, variances, conditional use permits, and other land use permits
- Permit issuance and other approvals necessary for public and private development projects
- Development agreement processes and approvals

By tiering from the program EIR, the environmental analysis for a future project would rely on the program EIR for the following:

- A discussion of general background and setting information for environmental topic areas
- Overall growth-related issues
- Issues that were evaluated in sufficient detail in the program EIR for which there is no significant new information or change in circumstances that would require further analysis
- Assessment of cumulative impacts
- Mitigation measures adopted and incorporated into the proposed project

2.9.2 General Plan Implementation and Review of Future Development Projects

As a program EIR, this document and the mitigation measures presented herein will be used as a guide for implementing the proposed General Plan 2050 goals, policies, and actions, as well as adopting changes in County codes, regulations, and practices. This program EIR will also be used as a base resource for reviewing future development projects. This document will assist in guiding the assessment of projects and provide environmental review tiering, where appropriate. Currently, the County completes the following steps in reviewing development projects, which will be carried forward under the proposed General Plan 2050 if adopted.

- **Project Consistency with the General Plan and County Codes.** When a new development project is filed with the County, it would be reviewed for completeness and consistency with the General Plan 2050 goals, policies, and actions, and County codes and practices. Because County policies, actions, and codes presented in this EIR will minimize impacts, development projects will implement these measures to: (a) mitigate environmental impacts and (b) achieve consistency with General Plan 2050 and compliance with County codes.
- **Projects Subject to Environmental Review.** For future development projects subject to environmental review, the resources contained in this EIR and carried forward in the General Plan 2050 would guide the scope of this review. For project-level environmental review, many of the topic areas studied in this program EIR will adequately cover and provide environmental clearance for the project. However, the preparation of site-specific studies

and reports may be necessary based on the location and nature of the development project. The resources presented in this EIR will assist in determining when and where a special, site-specific study is warranted. The County will develop a checklist that will be used as a guide for determining the scope of environmental analysis required for subsequent projects.

- **Projects Exempt from Environmental Review.** CEQA includes a long list of environmental review exemptions. Some of the future development projects may be exempt from environmental review as the project impacts will be adequately covered by this program EIR. However, many of the CEQA exemptions require compliance with specific criteria for the development project to qualify for the exemption. The resources contained in this EIR and carried forward in General Plan 2050 will be used to determine if the CEQA-prescribed criteria have been met to qualify for the exemption.

2.10 REQUIRED PERMITS AND APPROVALS

The proposed project would require adoption by the Lake County Board of Supervisors. The Planning Commission will review the proposed project and make recommendations to the Board of Supervisors. While other agencies or tribal entities may be consulted during the General Plan update process, their approval is not required for the adoption of the proposed General Plan 2050. However, subsequent development under the proposed General Plan 2050 may require approval of State, federal, responsible, and trustee agencies that may rely on the programmatic EIR for decisions in their areas of permitting.

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3. ENVIRONMENTAL ANALYSIS

This chapter examines the environmental setting of the proposed project, analyzes the effects of the proposed project and the significance of its impacts, and recommends mitigation measures to reduce or avoid impacts. This chapter has a separate section for each environmental topic.

The proposed project is analyzed for potential significant impacts in accordance with Appendix F, *Energy Conservation*, and Appendix G, *Environmental Checklist Form*, of the California Environmental Quality Act (CEQA) Guidelines. Environmental topics and their corresponding sections and abbreviations are:

3.1	Aesthetics (AES)	3.11	Land Use and Planning (LUP)
3.2	Agriculture and Forestry Resources (AGF)	3.12	Mineral Resources (MIN)
3.3	Air Quality (AIR)	3.13	Noise (NOI)
3.4	Biological Resources (BIO)	3.14	Population and Housing (POP)
3.5	Cultural Resources (CUL)	3.15	Public Services (PUB)
3.6	Energy (ENE)	3.16	Recreation (REC)
3.7	Geology and Soils (GEO)	3.17	Transportation (TRA)
3.8	Greenhouse Gas Emissions (GHG)	3.18	Tribal Cultural Resources (TCR)
3.9	Hazards and Hazardous Materials (HAZ)	3.19	Utilities and Service Systems (USS)
3.10	Hydrology and Water Quality (HYD)	3.20	Wildfire (WIL)

ORGANIZATION OF ENVIRONMENTAL ANALYSIS

To assist the reader with comparing information between environmental issues, each section is organized under these major headings:

- **Regulatory Framework** offers an overview of applicable laws, regulations, plans, and policies relevant to each environmental topic.
- **Existing Conditions** offers a description of the existing environmental conditions, providing a baseline against which the impacts of the proposed project can be compared.
- **Standards for Analysis** refer to the quantitative or qualitative standards, performance levels, thresholds, or criteria used to evaluate whether an impact is significant. These standards are based primarily on the CEQA Guidelines unless otherwise noted. This section also provides an overview of key methods, assumptions, and considerations that inform the impact analysis.
- **Project Impact Discussion** provides a detailed discussion of the potential direct and indirect impacts of the proposed project. Mitigation measures are included as necessary.

- **Cumulative Impact Discussion** provides an overview of the geographic setting and cumulative projects considered in the cumulative impact assessment. Significant cumulative impacts are identified and mitigation measures are included as necessary.
- **References** are provided for all information relied upon in the development of the discussion.

Levels of Significance

The level of significance is identified for each impact in this Draft EIR. Although the criteria for determining significance are different for each topic area, the environmental analysis applies a uniform classification of the impacts based on definitions consistent with CEQA and the CEQA Guidelines:

- **No impact.** The project would result in no adverse effect on the environment.
- **Less than significant.** The project would not exceed the established significance criteria.
- **Significant.** The project would exceed the established significance criteria. For each significant impact, the EIR identifies mitigation measures to reduce, eliminate, or avoid the adverse effect. If one or more mitigation measures would reduce the impact to a less-than-significant level successfully, this is stated in the EIR.
- **Significant and unavoidable.** The project would exceed the established significance criteria, and no feasible mitigation measures are available to reduce the impact to a less-than-significant level.

SCOPING COMMENTS RECEIVED

The 30-day Notice of Preparation (NOP) review period for the proposed project EIR opened on January 9, 2024, and closed on February 7, 2024. Within that period, the County received 15 written comments and 10 people spoke at the NOP Scoping Meeting on January 24, 2024. The comments received cover a wide range of CEQA Guidelines Appendix G topics, with Biological Resources, Hazardous Materials, Hydrology and Water Quality, Land Use, and Transportation being most frequent among the comments.

The following comments may relate to the scope of this Draft EIR:

- Ensure appropriate conservation of Clear Lake hitch (*Lavinia exilicauda chi*);
- Protect oak woodlands;
- Provide appropriate mitigation for projects that could impact Cache Creek and Putah Creek watersheds;
- Identify ways that the community can restore and regenerate what has been lost and positively improve the area's living systems;
- Identify strategies to promote ecological restoration and improvement;

- Establish a Biological Resource Assessment standard for tiered projects;
- Evaluate the impacts of electronic smoking devices;
- Consider habitat conservation when establishing evacuation routes;
- Evaluate how changes in the climate will impact groundwater, surface water, and ecological systems;
- Assess subdivided lands;
- Analyze and provide options for preserving and enhancing wildlife corridors;
- Evaluate cumulative impacts as they relate to watershed activities in Clear Lake, activities that exacerbate wildfires, cannabis cultivation, groundwater impacts, and climate resilience.

EVALUATION METHODOLOGY

Under CEQA, the decision as to whether an environmental effect should be considered significant is reserved to the discretion of the lead agency, based on substantial evidence in the record as a whole, including views held by members of the public. An ironclad definition of significant effect is not always possible because the significance of an activity may vary based on the setting. Pursuant to CEQA Guidelines Section 15064(b), the analysis in this Draft EIR is based on scientific and factual data that has been reviewed by the lead agency and represents the lead agency's independent judgment and conclusions.

This section describes the methodology for the program-level evaluation in Sections 3.1 through 3.20 with respect to the horizon year; pipeline projects; the baseline; the application of the proposed General Plan 2050 goals, policies, and actions; effects of the environment on the project; and cumulative impacts.

2050 Horizon Development Potential

The proposed project is a long-range policy document that does not directly result in development without additional approvals. Before any development can occur in the EIR Study Area, it must be analyzed for consistency with the adopted General Plan, zoning requirements, and other applicable local and State requirements; comply with the requirements of CEQA for discretionary projects as applicable; and obtain all necessary clearances and permits from regulatory agencies. The environmental analysis in this EIR discusses the potential for adverse impacts to occur from extending the buildout potential in the EIR Study Area to horizon year 2050; increasing the buildout potential in the EIR Study Area; and adopting new and modified General Plan 2050 goals, policies, and actions.

The 2050 horizon development potential under the proposed project includes an increase of development potential in the county, as described in Section 2.8, *Buildout Projections.* Buildout was determined by developing a Buildout Model that requires an estimate of how many

additional housing units and nonresidential square feet are needed to support expected population and job growth in the county by the year 2050. Pipeline projects, as described further in "Pipeline Projects" below, were accounted for as contributing to future development. To distribute the remaining expected development, buildout methodology focused on vacant parcels with developable General Plan land use designations (i.e., excluding Agriculture, Public Facilities, and Resource Conservation) using the maximum residential and nonresidential development capacity on each vacant parcel based on the parcel acreage, land use designation density, and floor-area ratio (FAR) limits. This resulted in more development capacity than needed for the proposed project. Thus, only vacant, developable parcels within Community Growth Boundaries (CGBs) and served by either County water and sewer service areas or independent providers were selected.

Based on evacuation route access and infrastructure availability in the Rivieras Planning Area, forecasted development was removed from the Soda Bay CGB and instead more development was added in the Kelseyville Rivieras CGB. Additionally, based on community needs and economic demand, nonresidential development capacity was removed from the North Lakeport CGB and instead allocated to the Service Commercial/Industrial area south of the city of Lakeport.

The final selection of vacant developable parcels resulted in a reasonable distribution of development capacity across the planning areas, as shown in Table 2-3, *Proposed 2050 Buildout Projections in the EIR Study Area*, in Chapter 2, *Project Description,* of this Draft EIR.

Pipeline Projects

Pipeline projects are projects that are planned, but not yet constructed and pending applications for new development. These projects were considered when determining buildout for the 2050 horizon. There are two pipeline development projects currently in the county: Guenoc Valley Mixed-Use Planned Development Project and Valley Oaks Mixed-Use Planned Development Project.

The Guenoc Valley Mixed-Use Planned Development Project is a master-planned, mixed-use resort and residential community located mostly within a portion of the 16,000-acre Guenoc Valley Ranch property in the southeast part of the Middletown Planning Area. It also includes an off-site 12.75-acre workforce housing site in the Middletown community and an off-site water supply well and pipeline adjacent to and within Butts Canyon Road. The planned Phase 1 development of the Guenoc Valley project would result in 288 hotel units and 470 residential units in the Middletown Planning Area.

The Valley Oaks Mixed-Use Planned Development Project is in the Hidden Valley CGB within the Middletown Planning Area. This project involves the construction of 488 residential units, 661,241 square feet of commercial and office space, and open space/park uses on

approximately 150 acres of land. It is assumed that no additional development would occur due to implementation of the proposed project in the Hidden Valley CGB beyond this pipeline project.

Baseline

This EIR evaluates the impacts of the proposed project relative to existing conditions of the EIR Study Area, as required by CEQA Guidelines Section 15126.2. Unless otherwise noted, the baseline represents the existing conditions on the ground (i.e., physical conditions) at the time that the NOP was issued (January 9, 2024). As provided in Chapter 2, *Project Description*, the baseline for the EIR Study Area includes the following existing conditions:

- Housing Units: 19,000
- Population: 45,600
- Jobs: 17,410

General Plan 2050 Goals, Policies, and Actions

As described in Chapter 2, *Project Description*, the proposed General Plan 2050 goals, policies, and actions aim to promote balanced and orderly growth, while reducing greenhouse gas (GHG) emissions, air and water pollutants, and wasteful energy consumption. The proposed General Plan 2050 goals, policies, and actions also aim to avoid hazardous conditions and facilitate a healthy and safe environment for residents and visitors to Lake County. Further, they aim to conserve and protect natural resources, biological diversity, and ecosystem health. While the proposed General Plan 2050 policies and actions aim to reduce environmental impact, the EIR process provides an additional opportunity to modify the policies and actions to ensure they adequately reduce impacts from potential future projects in Lake County.

Appendix F, *Proposed General Plan 2050 Policies and Actions,* of this Draft EIR, lists the goals, policies, and actions included in the proposed General Plan 2050. Proposed policies and actions that will reduce environmental impacts are denoted with the abbreviation of the environmental topic their implementation will support. Some policies and actions have multiple environmental topics associated with them. Where this is the case, all applicable topics are listed with the associated policy or action number. The mitigating policies and actions, as described further below, are denoted with an asterisk (*).

For each significant impact, the EIR must identify one or more feasible mitigation measures or explain why no feasible mitigation measures are available. CEQA Guidelines Section 15370 defines “mitigation” as including: (1) avoiding the impact altogether by not taking a certain action or parts of an action; (2) minimizing impacts by limiting the degree or magnitude of an action and its implementation; (3) rectifying the impact by repairing, rehabilitating, or restoring

the impacted environment; (4) reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; or (5) compensating for the impact by replacing or providing substitute resources or environments. An EIR should focus on mitigation measures that are feasible, practical, and effective. Pursuant to CEQA Guidelines Section 12156.4(a)(1)(B), it is ordinarily not appropriate to defer the formulation of mitigation measures until some future time. The CEQA Guidelines acknowledge an exception, explaining that mitigation measures may specify performance standards for mitigating a significant impact that might be accomplished in various ways. Therefore, when it is known that mitigation is feasible, but it is impractical to devise specific measures during the planning process, the agency can commit itself to devising measures that satisfy performance criteria.

Public Resources Code (PRC) Section 21081.6(b) (CEQA Statute) and CEQA Guidelines Section 15126.4(a)(2) establish that when a project examined in an EIR is a plan (such as a General Plan), policy, regulation, or other public project, mitigation measures may be incorporated into the plan, policy, regulation, or project design. Therefore, as this is a General Plan EIR, some policies and actions in the proposed General Plan are also required as means to mitigate environmental impacts under CEQA. These policies and actions are fully enforceable at the discretion of the decision maker and use the imperative "shall," and in all cases are mandatory. The mitigating policies and actions described in the EIR that are fully enforceable through permit conditions, agreements, or other legally binding instruments and include performance criteria are thus denoted with an asterisk (*) in the following chapters and Appendix F, *Proposed General Plan 2050 Policies and Actions,* of this Draft EIR, to illustrate where the proposed policies and actions would reduce impacts from future development in Lake County.

Additionally, the EIR considers the potential for environmental impacts from the implementation of General Plan policies and actions. Amended and new policies collectively reflect the changes to the 2008 General Plan. Substantive General Plan policy and action changes include the addition, removal, or functional revisions (i.e., not purely semantic) to the text in ways that have the potential to result in a physical impact on the environment. Non-substantive changes include the renumbering of policies and actions or minor text revisions, which do not have the potential to result in a physical change to the environment. The content of the proposed General Plan 2050 policies and actions is directly integrated with and reflective of the proposed project as a whole. Therefore, impact discussions for the effects of the proposed project necessarily encompass an analysis of the effects of the substantive policy changes, and those with relevance to CEQA topics are discussed in the appropriate chapters.

Potential Effects of the Project on the Environment

The California Supreme Court concluded in *California Building Industry Association vs. Bay Area Air Quality Management District* (2015) 62 Cal.4th 369 that "CEQA generally does not require an analysis of how existing environmental conditions will impact a project's future users or

residents." The *CBIA vs. BAAQMD* ruling provided for several exceptions to the general rule where an analysis of the project on the environment is warranted:

1. If the project would exacerbate existing environmental hazards (such as exposing hazardous waste that is currently buried).
2. If the project qualifies for certain specified exemptions (certain housing projects and transportation priority projects pursuant to PRC Sections 21159.21 (f),(h); 21159.22 (a),(b)(3); 21159.23 (a)(2)(A); 21159.24 (a)(1),(3); or 21155.1 (a)(4),(6)).
3. If the project is exposed to potential noise and safety impacts on projects due to proximity to an airport (pursuant to PRC Section 21096).
4. School projects require specific assessment of certain environmental hazards (pursuant to PRC Section 21151.8).

Therefore, the evaluation of the significance of project impacts under CEQA focuses on the potential impacts of the proposed project on the environment, including whether the proposed project may exacerbate any existing environmental hazards. Existing environmental hazards in the EIR Study Area include, but are not limited to, seismic hazards, flooding, and wildfire. Therefore, while the effects of these hazards on the proposed project are generally not subject to CEQA review following the *CBIA vs. BAAQMD* case, a discussion of the project's potential to exacerbate these hazardous conditions is provided in Section 3.7, *Geology and Soils*; Section 3.10, *Hydrology and Water Quality;* and Section 3.20, *Wildfire*, of this Draft EIR.

CUMULATIVE METHODOLOGY

Although the environmental effects of an individual project may not be significant when that project is considered separately, the combined effects of several projects may be significant when considered collectively, or in other words, cumulatively. A cumulative impact consists of an impact created from the combination of the project evaluated in the EIR, together with other reasonably foreseeable projects causing related impacts. CEQA Guidelines Section 15130 requires an EIR to discuss cumulative impacts of a project when the project's incremental effect is "cumulatively considerable." Cumulative effects could occur when future development under the project is combined with development in the surrounding area or, in some instances, in the entire region.

Pursuant to CEQA Guidelines Section 15130(a)(3), where a cumulative impact is significant when compared to baseline conditions, the analysis must address whether the project's contribution to the significant cumulative impact is "considerable." If the contribution of the project is considerable, then the EIR must identify potentially feasible measures that could avoid or reduce the magnitude of the project's contribution to a less-than-considerable level. If the project's contribution is not considerable, it is considered less than significant and no mitigation

for the project's contribution is required. Cumulative impact analysis may be less detailed than the analysis of the project's individual effects (CEQA Guidelines Section 15130[b]).

CEQA Guidelines Section 15130(b)(1) states that the information used in the analysis of cumulative impacts should come from one or two sources:

A. A list of past, present, and probable future projects producing related cumulative impacts, including, if necessary, those projects outside the control of the agency; or

B. A summary of projections contained in an adopted local, regional, or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect. Such plans may include: a general plan, regional transportation plan, or plans for the reduction of greenhouse gas emissions. A summary of projections may also be contained in an adopted or certified prior environmental document for such a plan. Such projections may be supplemented with additional information such as a regional modeling program. Any such document shall be referenced and made available to the public at a location specified by the lead agency.

Because of the programmatic nature of the proposed project, this Draft EIR uses the projections approach for the cumulative analysis and considers the environmental effects of the development buildout as described in Table 2-3, *Proposed 2050 Buildout Projections in the EIR Study Area*, as they pertain to the cumulative setting (e.g., immediate project vicinity, regional growth projections, county, watershed, air basin), which depends on the environmental topic being analyzed. Because the proposed project is a long-range plan that considers the environmental effects of the buildout projections of the proposed project through 2050, the impact discussions in Sections 3.1 through 3.20 are by their very nature presented as a countywide cumulative analysis. Cumulative impacts for most issue areas are not quantifiable and are therefore discussed in general qualitative terms as they pertain to development patterns in the surrounding region. The following provides a summary of the cumulative impact setting for each impact area listed by section number and topic:

3.1 **Aesthetics**: The cumulative setting for visual impacts includes potential future development under the proposed project combined with effects of development on lands adjacent to unincorporated Lake County.

3.2 **Agriculture and Forestry Resources:** The geographic scope of the cumulative analysis for agriculture and forestry resources considers those agricultural and forestry resources deemed to be resources of statewide importance in the surrounding incorporated and unincorporated lands, the region, and the state.

3.3 **Air Quality:** Cumulative air quality impacts could occur from a combination of the proposed project with regional growth in the Lake County Air Basin.

3.4 **Biological Resources:** The geographic scope of the cumulative analysis for biological resources considers the surrounding incorporated and unincorporated lands and the region.

3.5 **Cultural Resources:** Cumulative impacts to cultural resources could occur from projected growth in the surrounding region.

3.6 **Energy:** Cumulative impacts to energy resources could occur from the estimated growth in the service area for the county's energy provider, Pacific Gas and Electric Company.

3.7 **Geology and Soils:** Potential cumulative geological impacts could arise from future growth in the immediate vicinity of Lake County.

3.8 **Greenhouse Gas Emissions:** The cumulative impact analyses for GHG emissions are related to the entire region. Because GHG emissions are not confined to a particular air basin but are dispersed worldwide, the cumulative impact analysis focuses on the global impacts and thus, is by its nature cumulative.

3.9 **Hazards and Hazardous Materials:** The cumulative analysis for hazards and hazardous materials considers the effects of growth in incorporated Lake County and the surrounding region.

3.10 **Hydrology and Water Quality:** The geographic context used for the cumulative assessment of hydrology and water quality impacts, including the potential to exacerbate the potential for flooding, considers the watersheds that encompass Lake County and within the Central Valley Regional Water Quality Control Board.

3.11 **Land Use and Planning:** The geographic context for cumulative land use and planning effects considers impacts from projected growth in the rest of Lake County and the surrounding region, based on applicable jurisdictional boundaries and related plans, including the general plans of incorporated cities within the county and regional land use plans.

3.12 **Mineral Resources:** The geographic scope of cumulative impacts to mineral resources includes all regionally significant mineral resource areas and recovery sites countywide.

3.13 **Noise:** The cumulative setting for noise includes potential future development under the proposed project combined with effects of development on lands adjacent to unincorporated Lake County. The traffic noise levels are based on cumulative traffic conditions that take into account cumulative development in the Lake County region.

3.14 **Population and Housing:** Impacts from cumulative growth are considered in the context of their consistency with regional planning efforts in the Lake County region.

3.15 **Public Services:** Cumulative impacts are considered in the context of projected growth in Lake County and the surrounding region and contiguous with the service area boundaries of the service providers evaluated in this section.

3.16 **Recreation:** Cumulative impacts are considered in the context of projected growth in Lake County and the surrounding region.

3.17 **Transportation:** The analysis of the proposed project addresses cumulative impacts to the transportation network in the surrounding area.

3.18 **Tribal Cultural Resources:** Cumulative impacts to tribal cultural resources could occur from projected growth in the surrounding region.

3.19 **Utilities and Service Systems:** Cumulative impacts are considered in the context of the estimated growth in each utility's service area.

3.20 **Wildfire:** The analysis of the proposed project includes a discussion of how cumulative development in the region may exacerbate wildfire risk in Lake County and the surrounding area.

3.1 AESTHETICS

This section of the Draft EIR describes the potential impacts to aesthetics associated with the adoption and implementation of the proposed project. This section describes the regulatory framework and existing conditions, identifies criteria used to determine impact significance, and provides an analysis of the potential impacts to aesthetic resources. The proposed General Plan 2050 policies and actions that would minimize any potentially significant impacts are shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, and denoted with the abbreviation AES. Where policies and actions are required for mitigation, those policies and actions are described in this section and denoted with an asterisk (*).

3.1.1 Regulatory Framework

STATE

California State Scenic Highways 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 Highways Program are found in the Streets and Highways Code, Sections 260 through 263. Section 263 states the State Scenic Highway System shall be composed of the highways listed in Sections 263.1 to 263.8 and includes those identified as either "eligible" for designation as state scenic highway or "officially designated" as a state scenic highway.

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 is comprised 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.

California Building Code

The State of California provides a minimum standard for building design through Title 24 of the California Code of Regulations, commonly referred to as the California Building Code (CBC). The CBC is in Part 2 of Title 24. 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. The CBC includes standards for outdoor lighting that are intended to reduce light pollution and glare by regulating light power and brightness, shielding, and sensor controls.

CALGreen

The California Building Standards Commission adopted the California Green Building Standards Code (CALGreen). As part of the CBC, CALGreen is in Part 11 of Title 24. CALGreen establishes building standards aimed at enhancing the design and construction of buildings using building concepts that reduce negative impacts and increase positive environmental impacts by encouraging sustainable construction practices. Specifically, Section 5.106.8, *Light Pollution Reduction*, establishes backlight, uplight, and glare ratings to minimize the effects of light pollution for nonresidential development. The local building permit process enforces the mandatory provisions of CALGreen.

LOCAL

Code of Ordinances

The Lake County Code of Ordinances (LCCO) includes various directives pertaining to visual resources. The LCCO is organized by chapter, article, and section. Most provisions related to visual resources are included in Chapter 5, *Building Regulations*; Chapter 19, *Transportation*; and Chapter 21, *Zoning*, as follows:

- **Chapter 5, *Building Regulations*.** Section 5-4G, *Adoption of California Green Building Code*, provides upplight and glare ratings as well as prohibits how much light can be angled in an upward direction.
- **Chapter 19, *Transportation*.** Section 19-38, *General*, outlines the definitions, prohibitions, and infraction penalties when parking vehicles on a state highway. This section ensures safe access to County parks and facilities and minimizes parking obstructions to scenic and panoramic views along scenic corridors.
- **Chapter 21, *Zoning*.**
    - Article 33, *Residential Design Combining District*, ensures the external appearance of residential units are compatible with surrounding properties. Some of the ways this is enforced is through the establishment of Residential Design-Construction Standards and local architectural review committees who conduct Courtesy Reviews of proposed residential units, and certain accessory structures.

- Article 34, *Scenic Combining District*, this district protects and enhances views of scenic areas from the County's scenic highways and roadways. This combining district shall apply when views possess two or more of the following characteristics:
  - Varied topographic features, including uniquely shaped rocks, dominant hills, mountains or canyons.
  - Vegetative features, including significant stands of trees, colorful variety of wildflowers or plants.
  - Water features, including views of Clear Lake, creeks or streams, waterfalls.
  - Pastoral features such as farms, pasture, vineyards or orchards.
  - Historical buildings or districts which characterize period architecture or are indicative of past lifestyles.
  - Provide convenient visual access from a state highway, county roadway, bikeway or trail.
  - Allow features to remain in view of the traveling public for a reasonable length of time for lasting views or impressions.
- Article 38, *Historic Preservation Combining Districts*, is relevant to the protection, enhancement, perpetuation, and use of places that have special character or special historical value. This designation may be used on sites, structures, or districts which have been officially designated as significant by local, state, or federal agencies; or other sites, buildings, or structures having a special character or special historic value. The alteration of a structure on a landmark site or in a historic district may require a major use permit or be reviewed by the Heritage Commission.
- Article 41, *Performance Standards*, this article outlines performance standards to encourage compatibility among various uses of land. Within this article glare is regulated through having all exterior lighting either be hooded, shielded, or opaque. It is also stated that no unobstructed beam of light shall be directed beyond any exterior lot line.
- Article 45, *Signs and Billboards*, this article outlines regulations for signs to protect the aesthetic appearance of the physical community. The regulations within the article apply to all districts and uses unless otherwise specified.
- Article 54, *Design Review Permit*, these permits ensure aesthetic compatibility between uses in community business districts and along designated scenic corridors where the Design Review combining district is applied.

Design Review Committee

The Design Review Committee consists of five members representing the County's Environmental Health Division, Department of Public Works, and the Building & Safety and Planning Divisions of Development Department. The Community Development Director or their designee chairs the Committee.

Design review is required in all commercial, industrial, and multifamily residential zoning districts for the following:

- New buildings for businesses or industries
- New apartment buildings
- Substantial additions to existing commercial buildings

However, design review may be waived by the Community Development Director in specific circumstances.

The County Zoning Ordinance provides that a design review permit may be granted when the Design Review Committee finds that:

- The proposed use is permitted in the district.
- The site is adequate in size, shape, location and physical characteristics to accommodate the proposed development.
- There are adequate services, including fire protection, water supply and sewage disposal.
- The proposal is consistent with all applicable zoning and land use plans.
- The placement and design of structures are compatible with existing development.

3.1.2 Existing Conditions

COUNTYWIDE AREA

Key elements that contribute to the visual character of the EIR Study Area include ridgelines, hillsides, and the numerous lakes within the county. Lake County encompasses Clear Lake, one of the largest fresh bodies of water in California, in addition to 26 other lakes around the county. Throughout the county are views of Mount Konocti and panoramic views of mountains, lakes, streams, agriculture, and other natural areas. The region's scenic landscapes and viewsheds also hold deep ancestral and spiritual significance to tribes. Protection of tribal cultural resources within these visual corridors is essential to maintaining both the physical beauty and each Planning Area's cultural heritage. See Section 3.18, *Tribal Cultural Resources*, of this Draft EIR for further discussion. Lake County does not have any Caltrans officially designated State Scenic Highways; however, State Route (SR) 20, SR 29, and SR 53, are all eligible to be designated as State scenic highways (Caltrans 2025). Furthermore, Lake County's star-filled night skies are visible throughout most of the EIR Study Area.

PLANNING AREAS

Cobb Mountain Planning Area

Located in the southwest portion of Lake County, Cobb Mountain offers mountainous, wetland, and meadow viewsheds as well as multiple scenic corridors. Some of the mountain viewsheds in the area include Boggs and Cobb Mountains, Mount Hannah, and Seigler Mountain. Meadow and wetland viewsheds can be seen from the Salmina and lower Cobb Valley communities. The Cobb Mountain Planning Area's historic character, forested ridges, grasslands and hills, agricultural and pastoral settings, and riparian and natural resource areas are also valued scenic resources. The Planning Area has several routes that are considered as open space corridors of significance. These include:

- SR 175 through the entire Cobb Mountain Planning Area
- Bottle Rock Road from the north planning area boundary to the junction with SR 175
- Big Canyon Road through the entire Cobb Mountain Planning Area
- Red Hills Road from the junction with SR 175 to the Planning Area boundary
- Salmina Road on the east side of Salmina's Basin
- Loch Lomond Road from one mile east of SR 175 to Seigler Springs North Road

East Lake Communities Planning Area

The East Lake Communities Planning Area is in the eastern portion of Lake County. Within the East Lake Communities Planning Area some scenic points of interest include mountain and hillside vistas, forested ridgelines, and lake viewsheds. In 2005, the State of California designated 31 miles of Cache Creek, which spans both Lake and Yolo Counties, as a Wild and Scenic River System. The two primary highways in the East Lake Communities Planning Area, SR 20 and SR 53, are both eligible to be designated as State Scenic Highways (Caltrans 2025). This is true for the entire lengths of both highways through Lake County. They offer a variety of vistas, from rolling hills and small valleys to the Clear Lake shoreline and Mount Konocti. In addition to the routes in the Planning Area that are eligible as State Scenic Highways, several county roads have scenic and aesthetic value and are considered open space corridors of significance, including:

- High Valley Road between Bartlett Springs Road to Clearlake Oaks, including the High Valley Road extension to SR 20
- Bartlett Springs Road from SR 20 to the Colusa County line
- Walker Ridge Road from Bartlett Springs Road to SR 20
- Sulphur Bank Drive from SR 20 to the Clearlake city limit
- New Long Valley Road from SR 20 to its terminus

Kelseyville Planning Area

The Kelseyville Planning Area is in the western portion of Lake County, north of the Cobb Mountain Planning Area and south of the Lakeport Planning Area. This area offers mountain and hillside viewsheds, as well as agricultural and pastoral settings. Within this Planning Area, very few signs are visible from the main roadways. Some of the mountain viewsheds in the area include Mount Konocti, Mount Hannah, and the Mayacamas Mountains. SR 29 in the Kelseyville Planning Area is eligible to be designated as a State Scenic Highway (Caltrans 2025). This roadway's viewshed offers vistas of the surrounding mountains, rolling hills, and water features, including Mount Konocti, the Mayacamas, the Clear Lake basin, and creeks and waterways traversing the Planning Area. In addition to natural features, the landscape includes picturesque rural and agricultural lands. The Planning Area also has several open space corridors of significance. These include:

- SR 175 through the entire Planning Area
- Gaddy Lane from Soda Bay Road to the Planning Area boundary
- Highland Springs Road through the entire Planning Area
- Kelsey Creek Drive from Adobe Creek Road to Highland Springs

Lakeport Planning Area

The Lakeport Planning Area is in the western portion of Lake County, north of Kelseyville and south of North Lake Communities Planning Area. The Planning Area's historic, small-town character; forested ridges; grasslands and hills; and views of Mount Konocti, the Mayacamas Mountains, Scotts Valley, and Clear Lake are all valued scenic resources. SR 29, which crosses the Lakeport Planning Area, is eligible to be designated as a State Scenic Highway (Caltrans 2025). The roadway offers views of Clear Lake and the Mayacamas Mountains and is the primary entrance route to the Planning Area from both the north and south. The following are also significant open space corridors in the Planning Area:

- Nice-Lucerne Cutoff between SR 29 and SR 20. This roadway is bisected by the Planning Area boundary and connects the Lakeport Planning Area with the North Lake Communities Planning Area.
- Scotts Valley Road from the Planning Area boundary to SR 20. This roadway defines the southwestern boundary between the Lakeport Planning Area and the North Lake Communities Planning Area.
- Hill Road and Hill Road East
- Lakeshore Boulevard
- Soda Bay Road

Lower Lake Planning Area

The Lower Lake Planning Area is in the eastern portion of Lake County and is north of the East Lake Communities Planning Area and south of the Middletown Planning Area. The Planning Area's historic character, mountainous and hillside landscapes, agricultural and pastoral settings, and riparian and wetland areas are all valued scenic resources that also attract visitors and promote a sense of place and pride in the community. SR 29 and SR 53 in the Lower Lake Planning Area are eligible to be designated as State Scenic Highways (Caltrans 2025). These roadways offer vistas of visible ridgelines, unique riparian and wetland wildlife habitat, and pastoral or canyon settings. The Planning Area also has open space corridors of significance, including:

- Point Lakeview Road
- Big Canyon Road
- Morgan Valley Road

Middletown Planning Area

The Middletown Planning Area is in the most southern portion of Lake County, south of Lower Lake Planning Area and Cobb Mountain Planning Area. Some of the scenic resources in the area include forested ridges, grasslands, rolling hills, agricultural landscapes, mountain, and valley views. Specific features that stand out in this Planning Area include views of Mount St. Helana, the Callayomi and Coyote Valleys, star-filled night sky, and the riparian vegetation associated with St. Helena Creek. SR 29 in the Middletown Planning Area is eligible to be designated as a State Scenic Highway (Caltrans 2025). This roadway's viewshed offers vistas of the surrounding mountains and rolling hills including Mt. St. Helena, the Callayomi and Coyote Valleys, and the riparian vegetation associated with St. Helena Creek. In addition to natural features, the landscape includes grazing lands, walnut orchards, and vineyards that provide scenic vistas for the traveling public, including those using SR 29 as a gateway between Lake County and the Bay Area. The Planning Area also has the following scenic roadways:

- SR 29 from the Napa County line to the intersection of Calistoga Road and Young Street
- SR 29 from Butts Canyon Road to Spruce Grove Road, excluding commercial and industrial zones
- SR 175 from the South Lake County Fire District headquarters to Anderson Springs Road
- Butts Canyon Road from the Middletown Cemetery to the county line

These roadways are also scenic open space corridors of significance:

- SR 29 from the Napa County line to the intersection of Calistoga Road and Young Street
- SR 29 from the "mansion" (20650 S. SR 29) to Spruce Grove Road, excluding commercial and industrial zones

- SR 175 from the South Lake County Fire District headquarters to Anderson Springs Road
- Butts Canyon Road from the Middletown Cemetery to the county line

North Lake Communities Planning Area

The North Lake Communities Planning Area is in the northernmost part of Lake County. To the southeast is the East Lake Communities Planning Area, to the south is the Rivieras Planning Area, and to the southwest is the Lakeport Planning Area. The Planning Area's historic character; forested ridges; grasslands and hills; agricultural landscapes; star-filled night sky; and views of Mt. St. Helena, the Callayomi and Coyote Valleys, and St. Helena Creek are all valued scenic resources. SR 29 and SR 20, both of which cross the North Lake Communities Planning Area, are eligible to be designated as State Scenic Highways (Caltrans 2025). These roadways offer vistas of Elk Mountain and Hogback Ridge to the north of the Planning Area, the Mayacamas Mountains to the west, and Mount Konocti in the distance. Views of Blue Lakes and Clear Lake are visible along SR 20, which runs along the Clear Lake shoreline in the southeast portion of the Planning Area. There are several significant open space corridors in the Planning Area, including:

- Nice-Lucerne Cutoff between SR 29 and SR 20. This roadway connects the North Lake Communities Planning Area with the Lakeport Planning Area.
- Scotts Valley Road from the southwestern Planning Area boundary to SR 20, connecting the North Lake Communities and Lakeport Planning Areas.
- Elk Mountain Road from Upper Lake to the Mendocino National Forest.
- Bachelor Valley Road throughout its entire length.
- Witter Springs Road throughout its entire length.
- Clover Valley Road from the Upper Lake Community Growth Boundary to the end of Clover Valley.

Rivieras Planning Area

The Rivieras Planning Area is in the center of Lake County to the north and east of the Rivieras Planning Area is the East Lake Communities Planning Area, to the southeast is the Lower Lake Planning Area, to the southwest is the Cobb Mountain Planning Area, and to the west is the Kelseyville Planning Area. Within the Rivieras Planning Area some scenic points of interest include the historic character, forested ridges, grasslands and hills, agricultural landscapes, star-filled night sky, views of Clear Lake from Soda Bay Road, SR 281, Point Lakeview Road, and Mount Konocti. SR 29 in the Rivieras Planning Area is eligible to be designated as a State Scenic Highway (Caltrans 2025). This roadway's viewshed offers vistas of the surrounding mountains and rolling hills, including Mount Konocti, Buckingham Peak, Clear Lake, and the tall riparian grass vegetation along Thurston Creek. In addition to dramatic views of these natural features, SR 29 is lined with picturesque grasslands and vineyards that also provide scenic settings for the

traveling public. The Planning Area also has several areas that have been designated as open space corridors of significance, including:

- Soda Bay Road from SR 281 to the west entrance of State Park Road.
- Point Lakeview Road from SR 281 to Thurston Lake beyond the Planning Area to the east.

3.1.3 Standards for Analysis

SIGNIFICANCE CRITERIA

Appendix G, *Environmental Checklist Form*, of the California Environmental Quality Act (CEQA) Guidelines states that, "except as provided in Public Resources Code Section 21099," the proposed project would result in a significant aesthetic impact if it would:

a) Have a substantial adverse effect on a scenic vista.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

c) In nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality.

d) Expose people on- or off-site to substantial light or glare, which would adversely affect day or nighttime views in the area.

THRESHOLD GUIDANCE

With respect to threshold question (c), CEQA Statute Section 21071, *Urbanized Area Definition*, has several metrics by which a city or county can be defined as an urban area. CEQA Section 21071(b) states that an unincorporated area is urbanized if it is completely surrounded by one or more incorporated cities or within an urban growth boundary and has an existing residential population of at least 5,000 persons per square mile and the board of supervisors with jurisdiction over the unincorporated area has issued a finding that the general plan, zoning ordinance, and related policies and programs applicable to the unincorporated area are consistent with principles that encourage compact development. Lake County does not meet the criteria to be considered an urbanized area as defined by CEQA Guidelines Section 21071; therefore, the first part of the question is used in Section 3.1.4, *Project Impact Discussion,* under impact discussion (c).

METHODOLOGY

This section analyzes the proposed project's potential impacts on aesthetics. The evaluation of aesthetics and associated impacts is highly subjective. It requires the application of a process that objectively identifies the visual features of the environment and their importance. The aesthetic description involves identifying existing visual character, including visual resources and scenic vistas unique to Lake County (see Section 3.1.2, *Existing Conditions*). Changes to aesthetic resources due to implementation of the proposed project are identified and qualitatively evaluated based on the proposed modifications to the existing setting and the viewer's sensitivity. Project-related aesthetic impacts are determined using the threshold criteria discussed in Section 3.1.3, *Standards for Analysis*, under *Significance Criteria*.

3.1.4 Project Impact Discussion

a) Would the project have a substantial adverse effect on a scenic vista?

Future development under the proposed project would have the potential to affect scenic vistas/corridors if new or intensified development obstructed views of areas that provide or contribute to such visual resources. Potential effects could include blocking views of a scenic vista from specific, publicly accessible vantage points or the alteration of the overall scenic vista/corridor itself. Such alterations could be positive or negative, depending on the characteristics of individual future developments and the subjective perception of observers.

As described in Section 3.1.2, *Existing Conditions,* there are many scenic vistas and resources that contribute to Lake County's scenic setting. Most notable are the views of Clear Lake and other riparian areas, Mount Konocti, forested ridges, grasslands and hills, open space corridors, and agricultural landscapes. Because the EIR Study Area is rich in scenic landscapes, views of these resources are visible from many highways and corridors found throughout Lake County, including SR 20, SR 29, and SR 53, which traverse the EIR Study Area. Long-range views of the scenic vistas and corridors are generally seen from all Planning Areas, and the scenic vistas would be affected if views of these resources were blocked by potential future development.

As described in Chapter 2, *Project Description*, of this Draft EIR, potential future development from implementation of the proposed project is expected to occur throughout the EIR Study Area but would be concentrated in the form of infill/intensification on sites either already developed and/or underutilized, and/or in close proximity to existing development, where future development would have a lesser impact on scenic vistas and corridors. General Plan 2050 would reinforce existing uses, heights, and densities, with allowances for greater intensity at locations to support the goal of more sustainable, infill growth. Section 2.7.3, *Land Use,* of Chapter 2, *Project Description,* outlines the land uses under the proposed project. Land use designations that could generate denser and potentially taller buildings from existing conditions

are primarily limited to the existing built environment where buildings of a variety of heights partially obstruct views from the public viewing locations that are at the pedestrian level (see Figure 2-5, *Proposed General Plan 2050 Land Use Map)*. Therefore, similar views would continue to be visible between elements of the built environment.

Additionally, all potential future development in Lake County would be required to comply with LCCO regulations as described in Section 3.1.1, *Regulatory Framework*, specifically Chapter 21, *Zoning,* which ensures that new development is compatible with the surrounding properties and establishes Residential Design-Construction Standards; ensures the protection and enhancement of views scenic areas from the County's scenic highways and roadways; protects the county's historic character; outlines performance standards to encourage compatibility among various uses of land; and requires Design Review Permits. Furthermore, the proposed General Plan 2050 contains policies and actions that require local planning and development decisions to consider aesthetic impacts to scenic resources and vistas based on individual Planning Area. These policies and actions, shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, are denoted with the abbreviation AES. In particular, the following key policies and actions would serve to minimize the effects on scenic vistas:

- Policies CM-LU-1.1, EL-LU-1.1, K-LU-1.1, L-LU-1.1, LL-LU-1.1, M-LU-1.1, NL-LU-1.1, and R-LU-1.1 require the preservation of natural open space resources by concentrating development in existing communities, clustering development, maintaining large lot sizes in agricultural areas, avoiding conversion of lands currently used for agricultural production, and limiting development in areas constrained by natural hazards.
- Policies CM-LU-1.3, EL-LU-1.3, K-LU-1.3, L-LU-1.3, LL-LU-1.3, M-LU-1.3, NL-LU-1.3, and R-LU-1.3 require the maintenance of distinct urban edges for all unincorporated communities, while creating a gradual transition between urban uses and open space.
- Policies CM-OS-8.1*, EL-OS-9.1*, K-OS-9.1*, L-OS-9.1*, LL-OS-8.1*, M-OS-8.1*, NL-OS-9.1*, and R-OS-9.1* require structures built in the immediate foreground view of a scenic route to be sited a sufficient distance from the roadway edge to minimize intrusion on the natural features and backdrops as viewed from the roadway or adjacent residences. In rural and urbanized areas, require structures built in the immediate foreground of a scenic route to minimize obstruction of views of significant natural features. Require development on hillsides to blend in with the surroundings through exterior color choices and maximum height restrictions.
- Policies CM-OS-8.4, EL-OS-9.4, K-OS-9.4, L-OS-9.4, LL-OS-8.4, M-OS-8.4, NL-OS-9.4, and R-OS-9.4 require utility companies and service providers to choose the least conspicuous locations for distribution lines, towers, and fuel breaks to avoid impacts to viewsheds where possible.
- Actions CM-OS-8.a*, K-OS-9.a*, L-OS-9.a*, LL-OS-8.a*, M-OS-8.a*, NL-OS-9.a*, and R-OS-9.a* develop an ordinance that regulates development on or near ridgelines and hilltops to minimize impacts to scenic viewsheds.

- Action EL-OS-9.a* develops an ordinance that regulates development on or near ridgelines, hilltops, and along the shoreline of Clear Lake to minimize impacts on scenic viewsheds.
- Policies CM-OS-9.2, EL-OS-10.2, K-OS-10.2, L-OS-10.2, LL-OS-9.2, M-OS-9.2, NL-OS-10.2, and R-OS-10.2 require appropriate visual screening and roadway setbacks for industrial and service commercial uses, including through the use of native vegetation for screening.

Although the locations where more intense development could occur would be limited to where existing development occurs, and future development would be required to comply with applicable LCCO regulations, design standards, and applicable General Plan policies and actions, because precise details for potential future development under the proposed General Plan 2050 are not known at this time, new development could result in a substantial adverse effects on a scenic vista. Therefore, impacts are considered **potentially significant.**

Impact AES-1: Impacts from potential future development under the proposed General Plan 2050 could create a substantial adverse effect on a scenic viewshed.

Significance with Mitigation: Implementation of the proposed General Plan 2050 policies and actions, as well as compliance with federal, State, and local regulations pertaining to protecting scenic vistas would ensure that potential future development under the proposed project would not create an adverse effect on a scenic vista. Specifically, proposed General Plan 2050 Policies CM-OS-8.1*, EL-OS-9.1*, K-OS-9.1*, L-OS-9.1*, LL-OS-8.1*, M-OS-8.1*, NL-OS-9.1*, and R-OS-9.1* require structures built in the immediate foreground view of a scenic route to be sited a sufficient distance from the roadway edge to minimize intrusion on the natural features and development on hillsides to blend in with the surroundings through exterior color choices and maximum height restrictions and proposed Actions CM-OS-8.a*, EL-OS-9.a*, K-OS-9.a*, L-OS-9.a*, LL-OS-8.a*, M-OS-8.a*, NL-OS-9.a*, and R-OS-9.a* require the County to develop an ordinance that regulates development on or near ridgelines and hilltops to minimize impacts to scenic viewsheds. Accordingly, implementation of the proposed mitigating General Plan 2050 policies and actions, together with compliance with the County's regulations that govern scenic resources, would ensure that impacts to scenic vistas and/or corridors from implementation of the proposed project would be **less than significant.**

b) Would the project substantially degrade the view from a scenic highway, including, but not limited to, trees, rock outcroppings, and historic buildings?

As described in Section 3.1.2, *Existing Conditions*, there is not an "officially designated" State scenic highway in the EIR Study Area; however, Caltrans has assigned the entire sections of SR 20, SR 29, and SR 53 that spans the EIR Study Area as being "eligible" to be designated as a State scenic highway. Pursuant to Streets and Highways Code Section 263, the State Scenic Highway System shall be composed of areas that are either "eligible" for designation as State scenic highway or "officially designated" as a State scenic highway. Therefore, impacts to views from

both officially designated areas and areas eligible for designation are evaluated herein and collectively referred to as "scenic highways." Implementation of the proposed project would damage scenic resources along these highways if views of the scenic resources were blocked by development from the proposed project.

Impacts on views in the EIR Study Area from SR 20, SR 29, and SR 53 are described under impact discussion (a). Because scenic highways, including SR 20, SR 29, and SR 53, carry vehicles through areas of notable beauty with natural resources, landmarks, historic features, or cultural interest points, the County has regulations in place to protect and enhance the aesthetic values of scenic routes by governing the development of property and placement of outdoor advertising. As described under impact discussion (a), all future development subject to discretionary approval within the County's jurisdiction would be required to comply with the County's regulations that govern scenic quality. The County's regulations would apply to all projects that require design review, including new buildings, infill development, and public improvements along SR 20, SR 29, and SR 53. The environmental and design review process for project-specific development serves to preserve and enhance views from other buildings and public property, thereby reducing the risk of potential future development damaging views of significant visual resources along SR 20, SR 29, and SR 53. Additionally, the proposed General Plan 2050 contains policies and actions that require local planning and development decisions to consider aesthetic impacts to scenic routes, as shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with abbreviation AES. As described in impact discussion (a), proposed General Plan 2050 Policies CM-OS-8.1*, EL-OS-9.1*, K-OS-9.1*, L-OS-9.1*, LL-OS-8.1*, M-OS-8.1*, NL-OS-9.1*, and R-OS-9.1 would ensure views from SR 20, SR 29, and SR 53 would be protected. Compliance with LCCO regulations and design standards that govern scenic resources along with implementation of the proposed General Plan 2050 policies and actions would ensure any impacts to views from State-eligible scenic highways would be **less than significant.**

Significance without Mitigation: Less than significant.

c) In nonurbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point.)

Lake County's existing visual character is a result of the area's historic character; rural and agricultural landscapes; forested ridges; grasslands and hills; and the proximity to and views of Clear Lake, Mount Konocti, and other impressive natural features. Implementation of the proposed project would affect the county's visual character if it added a significant amount of development where there currently is not much or if the new development was incompatible with the form and appearance of existing neighborhoods, communities, and infrastructure.

As described in Chapter 2, *Project Description*, of this Draft EIR, potential future development from implementation of the proposed project is expected to occur throughout the EIR Study Area but it would be concentrated in the form of infill/intensification on sites either already developed and/or underutilized, and/or near existing development. This would ensure that a significant amount of new development is not added to a part of the county that does not currently have a similar level of development. Additionally, all potential future development in Lake County would be required to comply with LCCO regulations as described in Section 3.1.1, *Regulatory Framework,* and summarized in impact discussion (a). Specifically, Chapter 21, *Zoning,* includes articles that ensure future development is compatible with surrounding properties, protect places with special character or special historical value, and encourage aesthetic compatibility among various land uses. Furthermore, as described in Chapter 2, *Project Description,* the proposed General Plan 2050 would also include Special Study Areas and Design Guidelines in four Planning Area Elements to ensure future development in these areas are consistent with the existing visual character of the county. The Special Study Areas and Design Guidelines provide detailed policy and design guidance for specific areas within a planning area. Specifically, the Design Guidelines serve to ensure new development and redevelopment complement the existing built and natural environments and foster attractive buildings and landscaping that maintain each community's uniqueness, enhance its visual character, and support business attraction efforts. The guidelines address such topics as historic preservation, design compatibility, neighborhood distinctiveness, streetscape continuity, pedestrian and bicycle-friendly streets, screening, and parking. The Planning Areas with Special Study Areas and Design Guidelines are:

- **East Lake Communities Planning Area:** Clearlake Oaks, East Clearlake Oaks Commercial District, and "The Plaza"
- **Lakeport Planning Area:** North Lakeshore Boulevard, Scotts Valley, and South Main Street/Soda Bay Road
- **Middletown Planning Area:** Middletown Community Downtown and Coyote Valley Town Center/SR 29 Corridor
- **North Lake Communities Planning Area:** Blue Lakes, "The Promenade" Lucerne, and "The Strand" Lucerne

Furthermore, the proposed General Plan 2050 contains policies and actions that require local planning and development decisions to consider impacts to visual character, as shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation AES. In particular, the following key policies would serve to minimize impacts to the existing visual character or quality of public views of the site:

- Policies CM-LU-1.1, EL-LU-1.1, K-LU-1.1, L-LU-1.1, LL-LU-1.1, M-LU-1.1, NL-LU-1.1, and R-LU-1.1 require the preservation of natural open space resources by concentrating development in existing communities, clustering development, maintaining large lot sizes in agricultural

areas, avoiding conversion of lands currently used for agricultural production, and limiting development in areas constrained by natural hazards.

- Policies CM-LU-1.2, EL-LU-1.2, K-LU-1.2, L-LU-1.2, LL-LU-1.2, M-LU-1.2, NL-LU-1.2, and R-LU-1.2 require the encouragement of clustering of allowable densities to reduce development footprints; protect sensitive habitats, scenic resources, natural features, and open spaces; and avoid hazardous areas.
- Policies CM-LU-1.3, EL-LU-1.3, K-LU-1.3, L-LU-1.3, LL-LU-1.3, M-LU-1.3, NL-LU-1.3, and R-LU-1.3 require the maintenance of distinct urban edges for all unincorporated communities, while creating a gradual transition between urban uses and open space.
- Policies CM-LU-3.1, EL-LU-3.1, K-LU-3.1, L-LU-3.1, LL-LU-3.1, M-LU-3.1, NL-LU-3.1, and R-LU-3.1 recognize the unique character and assets of each community in the Planning Area and support efforts to strengthen and revitalize all communities.
- Policies CM-LU-3.2, EL-LU-3.2, K-LU-3.2, M-LU-3.2, NL-LU-3.2, and R-LU-3.2 support efforts to enhance gateways and transitional zones between communities in the Planning Area to make each community more distinct and inviting for residents and visitors.
- Policy L-LU-3.2 supports efforts to enhance gateways and transitional zones around North Lakeport to make it distinct and inviting for residents and visitors.
- Policy LL-LU-3.2 support efforts to enhance gateways and transitional zones around the Lower Lake community, including the installation of gateway features, to make the community distinct and inviting for residents and visitors.
- Policies CM-LU-3.7, EL-LU-3.7, K-LU-3.7, L-LU-3.7, LL-LU-3.7, M-LU-3.7, NL-LU-3.7, and R-LU-3.7 encourage the preservation of open areas in any future Community Growth Boundaries to retain a rural character and promote low intensities of development in areas separating communities to retain distinct communities.
- Policies CM-LU-3.9, EL-LU-3.9, K-LU-3.9, L-LU-3.9, LL-LU-3.9, M-LU-3.9, NL-LU-3.9, and R-LU-3.9 require the County to maintain the character of established neighborhoods by preserving buildings and areas with special and recognized historic, architectural, or aesthetic value. Ensure the design of new development and remodels of existing structures are compatible with the character of surrounding and adjacent buildings, public spaces, and cultural and historic resources and require new development to complement architecturally and historically significant buildings to protect the overall historic integrity of the area.
- Policies CM-LU-3.12, L-LU-3.13, NL-LU-3.12, and R-LU-3.12 require the County to encourage and support efforts to promote greater public awareness of the county's architectural, urban design, and Tribal cultural heritage.
- Policies CM-OS-8.1*, EL-OS-9.1*, K-OS-9.1*, L-OS-9.1*, LL-OS-8.1*, M-OS-8.1*, NL-OS-9.1*, R-OS-9.1* require structures built in the immediate foreground view of a scenic route to be sited a sufficient distance from the roadway edge to minimize intrusion on the natural features and backdrops as viewed from the roadway or adjacent residences. In rural and urbanized areas, require structures built in the immediate foreground of a scenic route to

minimize obstruction of views of significant natural features. Require development on hillsides to blend in with the surroundings through exterior color choices and maximum height restrictions.

- Policies CM-OS-9.2, EL-OS-10.2, K-OS-10.2, L-OS-10.2, LL-OS-9.2, M-OS-9.2, NL-OS-10.2, R-OS-10.2 require appropriate visual screening and roadway setbacks for industrial and service commercial uses, including through the use of native vegetation for screening.

Though future development under implementation of the proposed General Plan 2050 would be required to comply with LCCO regulations and design standards, potential future development has the potential to substantially degrade the existing visual character or quality of public views of the site and its surroundings. Therefore, impacts are considered **less than significant.**

Significance without Mitigation: Less than significant.

d) Would the project expose people on- or off-site to substantial light or glare, which would adversely affect day or nighttime views in the area?

Nighttime illumination and glare impacts are the effects of a development's exterior lighting on adjoining uses and areas. Nighttime uses associated with potential future development may increase light intensity levels and may have the potential to affect existing and future nearby sensitive receptors. If lighting in new development is not designed to reduce upwardly directed light, nighttime lighting could obscure views of the night sky or intrude into neighboring properties. Potential future development would also incrementally increase glare due to exterior glazing (e.g., windows and doors) of new building surfaces, parked cars, and solar photovoltaic panels and site planning (i.e., landscaping and solar photovoltaic panel placement) are not carefully considered. Light and glare impacts are determined through a comparison of the existing light sources with the lighting plans or policies incorporated in development proposals.

As described in Section 3.1.2, *Existing Conditions*, the EIR Study Area's visual quality is very much represented by the views of the star-filled night sky. The EIR Study Area also contains many existing sources of nighttime illumination. These include street and parking area lights, building-mounted lights, illuminated signage, security lighting, and interior and exterior lighting on existing residential, commercial, and institutional buildings. Glare is primarily from building materials, solar photovoltaic panels, and parked cars. Additional on-site light and glare are caused by traffic on SR 20, SR 29, and SR 53, and ambient lighting from incorporated areas and other surrounding communities.

Future development and activities under the proposed project could increase light sources and nighttime light and glare throughout the EIR Study Area, including in areas that are currently undeveloped. Future lighting would involve uses similar to the existing land uses in the EIR Study Area and sources of light and glare associated with these uses would be similar in intensity and nature to the existing source of light and glare. Nighttime uses associated with potential future development may increase light intensity levels in development areas and may have the potential to affect existing and future nearby sensitive receptors. If lighting from new development is not designed to reduce upwardly directed light, nighttime lighting could obscure views of the night sky or intrude into neighboring properties. Potential future development would also incrementally increase glare from new building surfaces, parked cars, and solar panels if exterior glazing (i.e., windows and doors), and site planning (i.e., landscaping and solar panel placement) are not carefully considered.

As described in Section 3.1.1, *Regulatory Framework,* potential future development would be required to comply with CALGreen's general best management practices that require lighting that is similar in style and intensity to existing conditions, as described in Chapter 5, *Building Regulations,* of LCCO. Furthermore, the proposed General Plan 2050 recognizes that the location and design of lighting can determine whether stars are visible and contains policies and actions that require local planning and development decisions to consider impacts to light and glare and protect the County's night sky, as shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation AES. In particular, the following key policies and actions would serve to minimize the effects impacts due to light and glare:

- Policies CM-OS-1.23*, EL-OS-1.23*, K-OS-1.23*, L-OS-1.23*, LL-OS-1.23*, M-OS-1.23*, NL-OS-1.23*, and R-OS-1.23* require lighting in residential areas, along roadways, and adjacent to sensitive habitat areas to prevent artificial lighting from spilling and/or reflecting into adjacent properties, including natural or open space areas by incorporating design features, such as shielded lighting and landscaping.
- Policies CM-OS-9.3*, EL-OS-10.3*, K-OS-10.3*, L-OS-10.3*, LL-OS-9.3*, M-OS-9.3*, NL-OS-10.3*, and R-OS-10.3* require lighting that enhances visibility, convenience, and public safety without creating glare or light pollution.
- Policies CM-OS-9.4*, EL-OS-10.4*, K-OS-10.5*, L-OS-10.4*, LL-OS-9.4*, M-OS-9.4*, NL-OS-10.4*, and R-OS-10.4* require the use of low-glare building materials for new buildings constructed in the Planning Area.
- Actions CM-OS-9.a*, EL-OS-10.a*, K-OS-10.a*, L-OS-10.a*, LL-OS-9.a*, M-OS-9.a*, NL-OS-10.a*, and R-OS-10.a* require an amendment to the Zoning Ordinance to regulate outdoor lighting in a way that minimizes light pollution that disrupts dark skies while providing for safety and reasonable use.

Compliance with LCCO regulations regarding light spill and glare would minimize light and glare; however, potential future development under the proposed General Plan 2050 has the potential to create significant light and glare in the EIR Study Area or its surroundings. Therefore, impacts are considered **potentially significant.**

Impact AES-2: Impacts from potential future development under the proposed General Plan 2050 could create substantial light or glare that would adversely affect day or nighttime views in the EIR Study Area.

Significance with Mitigation: Implementation of the proposed General Plan 2050 policies and actions, as well as compliance with federal, State, and local regulations pertaining to light and glare would ensure that potential future development under the proposed project would not create substantial light or glare that would adversely affect day or nighttime views in the area. Specifically, proposed Policies CM-OS-1.23*, EL-OS-1.23*, K-OS-1.23*, L-OS-1.23*, LL-OS-1.23*, M-OS-1.23*, NL-OS-1.23*, and R-OS-1.23* require lighting in residential areas, along roadways, and adjacent to sensitive habitat areas to prevent artificial lighting from spilling and/or reflecting into adjacent properties, including natural or open space areas by incorporating design features, such as shielded lighting and landscaping; proposed Policies CM-OS-9.3*, EL-OS-10.3*, K-OS-10.3*, L-OS-10.3*, LL-OS-9.3*, M-OS-9.3*, NL-OS-10.3*, R-OS-10.3* require lighting that enhances visibility, convenience, and public safety without creating glare or light pollution; proposed Policies CM-OS-9.4*, EL-OS-10.4*, K-OS-10.5*, L-OS-10.4*, LL-OS-9.4*, M-OS-9.4*, NL-OS-10.4*, R-OS-10.4* require use of low-glare building materials; and proposed Actions CM-OS-9.a*, EL-OS-10.a*, K-OS-10.a*, L-OS-10.a*, LL-OS-9.a*, M-OS-9.a*, NL-OS-10.a*, and R-OS-10.a* amend the Zoning Ordinance to regulate outdoor lighting. Implementation of the proposed General Plan 2050 policies and actions, together with the County and State regulations that govern light and glare, would ensure that lighting and glare from implementation of the proposed project would not substantially increase within the EIR Study Area or its surroundings. Therefore, impacts would be **less than significant.**

3.1.5 Cumulative Impact Discussion

As discussed in Chapter 3, *Environmental Analysis,* of this Draft EIR, the cumulative setting includes growth within the EIR Study Area in combination with projected overall growth trends within Lake County and adjacent counties. The cumulative setting for visual impacts includes potential future development under the proposed project, combined with effects of development on lands adjacent to the EIR Study Area.

Would the project have a cumulative effect related to aesthetics?

Significant impacts, including those associated with scenic resources, visual character, and increased light and glare, would generally be site specific and would not contribute to cumulative impacts after implementation of the General Plan 2050 policies and actions. Compliance with LCCO regulations would ensure impacts to scenic vistas and corridors would be less than significant. The proposed project could result in changes to the visual character and quality of Lake County through the development of undeveloped areas and/or changes to the character of existing communities. However, proposed General Plan 2050 policies and actions are intended to avoid urbanization of open space and preserve agricultural lands. Light and glare from potential future development under the proposed project would also be regulated through CALGreen and LCCO. These, combined with other State and local regulations, would reduce project-level aesthetic impacts to a less-than-significant level.

With adherence to existing local and regional regulations, potential future development under the proposed project would not create substantial impacts to visual resources in Lake County or the surrounding communities. Therefore, the proposed project would not result in a cumulatively considerable impact to aesthetic resources and cumulative impacts would be **less than significant.**

Significance without Mitigation: Less than significant.

3.1.6 References

Caltrans (California Department of Transportation). 2024. California State Scenic Highway System Map. Accessed January 2025. https://experience.arcgis.com/experience/47e2009986264718a5a13a2c81382774.

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3.2 AGRICULTURE AND FORESTRY RESOURCES

This section of the Draft EIR describes the potential impacts to agriculture and forestry resources associated with the adoption and implementation of the proposed project. This section describes the regulatory framework and existing conditions, identifies criteria used to determine impact significance, and provides an analysis of the potential impacts to agriculture and forestry resources. The proposed General Plan 2050 policies and actions that would minimize any potentially significant impacts are shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, and are denoted with the abbreviation AGF.

3.2.1 Regulatory Framework

FEDERAL

Mendocino National Forest Land and Resources Management Plan

The *Mendocino National Forest Land and Resource Management Plan* (Mendocino Forest Plan) was prepared in 1995 by the United States Forest Service (USFS) and amended in 2007 to direct the management of the Mendocino National Forest (Mendocino Forest) by providing a management program directing a mix of activities for the use and protection of the forest (USFS 1995). The Mendocino Forest Plan establishes the management direction and associated long-range goals and objectives for the forest; specifies the standards, approximate timing, and vicinity of the practices necessary to implement that direction; and establishes the monitoring and evaluation requirements to ensure the direction is being carried out, and to determine if outputs and effects have been reasonably estimated. The 2007 amendment added new wilderness areas and designations of wild and scenic rivers (USFS 1995).

STATE

Farmland Mapping and Monitoring Program

Within the California Natural Resources Agency, the California Department of Conservation (DOC) provides technical services and information to promote informed land use decisions and sound management of the state's natural resources. As part of this duty, the DOC manages the Farmland Mapping and Monitoring Program (FMMP), which supports agriculture throughout California by developing maps and statistical data for analyzing land use impacts on farmland. The FMMP publishes a field report for each county about every two years. The FMMP categorizes land by agricultural production potential according to the following classifications (DOC 2022).

- **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 to produce 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.
- **Farmland of Local Importance** consists of all farmable land not meeting the definitions of Prime Farmland, Farmland of Statewide Importance, and Unique Farmland. This includes land that is or has been used for irrigated pasture, dryland farming, confined livestock or dairy facilities, aquaculture, poultry facilities, and dry grazing. It also includes soils previously designated by soil characteristics as prime farmland, farmland of statewide importance, and unique farmland that has since become idle.
- **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. This land is used for residential, industrial, commercial, institutional, and other developed purposes.
- **Other Land** consists of land not included in any other mapping categories. Common examples include low-density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry, or aquaculture facilities; strip mines and borrow pits; and water bodies smaller than 40 acres. Vacant and non-agricultural land greater than 40 acres and surrounded by urban development is mapped as Other Land.

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.

Public Resources Code

Section 4526

Public Resources Code (PRC) Section 4526 defines "timberland" as land, other than land owned by the federal government and land designated as experimental forest land, which is available for, and capable of, growing a crop of trees of a commercial species used to produce lumber and other forest products, including Christmas trees.

Section 4621 through 4628

PRC Sections 4621 through 4628 regulate the conversion of timberland to non-timberland uses. These sections establish a graduated timberland conversion application and permit system for applying to rezone timberlands. Applicants must specify proposed alternate uses, and any additional information requested by the board. Conversions can be approved if it is approved to be in the public interest, would not cause a substantial and unmitigated adverse effect upon timberland or open space areas, if the soils, slopes, and watershed would be suitable for the proposed uses, if there is no alternate suitable land for the proposed development to occur, and if the existing use is uneconomic in character. Applications may be denied for various reasons including, but not limited to, failure or refusal of the applicant to comply with the rules and regulations of the provisions of the PRC, and if the proposed alternate use in the application does not meet the findings needed for approval of the application. If an application is approved, the applicant is authorized to cut and remove all trees located on the subject property.

Section 12220 (g)

PRC Section 12220(g) defines "forest land" for the purposes of the California Environmental Quality Act (CEQA) 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.

California Forest Practice Act

The Forest Protection Act was enacted by the California Department of Forestry and Fire Protection (CAL FIRE) in 1973 to ensure that logging is done in a manner that will preserve and protect fish, wildlife, forests, and streams. Compliance with the Forest Practice Act rules apply to all commercial harvesting operations for landowners of small parcels, to ranchers owning hundreds of acres, and large timber companies with thousands of acres. For projects that are proposing the conversion of timberland to non-timberland uses, a Timberland Conversion Permit is required.

California Timberland Productivity Act

The California Timberland Productivity Act of 1982 (Government Code Section 51100 et seq.) was established to maintain the optimum amount of the limited supply of timberland to ensure its current and continued availability for the growing and harvesting of timber and compatible uses, discourage premature or unnecessary conversion of timberland to urban and other uses, discourage expansion of urban services into timberland, and encourage investment in timberlands based on reasonable expectation of harvest. Section 51104 of the act 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, as follows:

- 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 can grow an average annual volume of wood fiber of at least 15 cubic feet per acre.
- Timberland Production Zone or TPZ means an area which has been zoned pursuant to Section 51112 or Section 51113 of the Act and is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses. With respect to the general plans of cities and counties, Timberland Preserve Zone means Timberland Production Zone.

Boggs Mountain Demonstration State Forest Management Plan

Prepared in 2018, the long-term objective of the *Boggs Mountain Demonstration State Forest Management Plan* (Boggs Mountain Forest Plan) is to establish a dynamic mosaic of diverse forest structures in Boggs Mountain Demonstration State Forest (Boggs Forest) with high productive capacity (CAL FIRE 2018). This management approach is expected to produce a sustainable harvest of high-quality timber products, support biological diversity, and ensure opportunities for future forestry-related research. The Boggs Mountain Forest Plan provides information on current conditions in the forest and serves as a guide for the integrated use and protection of the forest's resources.

LOCAL

Code of Ordinances

The Lake County Code of Ordinances (LCCO) includes various directives pertaining to agriculture and forestry resources. The LCCO is organized by chapter, article, and section. Most provisions related to agriculture and forestry resources are included in Chapter 3, *Agriculture and Plant Protection*, and Chapter 21, *Zoning*, as follows:

- **Chapter 3, *Agriculture and Plant Protection***
  - Article 4, *Right to Farm Ordinance*, declares it a policy of Lake County to preserve, protect, and encourage the development and improvement of its agricultural land for the production of food, fiber, and other agricultural products, and to reduce the occurrence of conflicts between agricultural and non-agricultural land uses and to protect the public health. The purpose of this article is to reduce the loss to the County of its agricultural resources by limiting the circumstances under which agricultural operations or activities may be deemed to constitute a nuisance. This article promotes a good neighbor policy by requiring notification to owners, purchasers, residents, and users of property adjacent to or near agricultural operations of the inherent potential nuisance related problems associated with such purchase or residence. Such concerns may include, but are not limited to, the noises, odors, insects, dust, chemicals, smoke, and hours of operation that may accompany agricultural operations.
  - Article 6, *Grazing Area*, designates all parcels contiguous to Old Witter Springs Road, County Road No. 304A, from its beginning at Witter Springs Road to its terminus at Post Mile Marker 1.66, and all parcels that lie within the Mendocino Forest boundary, except all those parcels that are contiguous to Elk Mountain Road, County Road No. 301, from Post Mile Marker 3.00 to Post Mile Marker 8.5, as areas devoted chiefly to grazing pursuant to Food and Agriculture Code Section 17124.
  - Article 7, *Agricultural Regulations and Standards for the Cultivation of Industrial Hemp in the Unincorporated Areas of the County of Lake*, requires all commercials growers of industrial hemp to obtain a Lake County Industrial Hemp Permit from the County Agriculture Department prior to receiving a State Industrial Hemp Registration. All applicants are required to adhere to all applicable requirements described in this article.
- **Chapter 21, *Zoning***
  - Article 4, *Agricultural Preserve Zone or APZ District*, provides zoning for lands in agricultural preserve and for the conservation and protection of land capable of producing agricultural products. The uses permitted in this district have been determined to be compatible uses consistent with the Williamson Act and further parcelization of lands under the contract is discouraged. Permitted uses include:
    - Agricultural uses, including crop and tree farming, livestock grazing, animal husbandry, apiaries, aviaries
    - One single-family dwelling or mobile home to be constructed according to the County's single-family residential (R-1) construction standards
    - One produce stand for the display and sale of agricultural products
    - Agricultural processing such as fruit dehydrators and packing sheds
    - Greenhouses, hothouses and incidental structures
    - Agricultural and residential accessory uses and accessory structures

- Agricultural family dwellings and farm labor quarters as accessory uses to the agricultural use of the property
- Prospecting, claiming, and preliminary geophysical investigations for natural resources including oil, gas, geothermal, or other mineral resources
- Game preserves

Other uses, including wineries, wholesale nurseries, private fishing and hunting clubs, large and commercial kennels, cattle and hog feed yards, commercial dairies, and farm labor camps are also permitted with the appropriate minor or major use permit. The APZ district also requires that where a building designed for residential occupancy is to be located on property within this district, prior to issuance of a zoning clearance, the owner(s) of the property shall be required to sign a statement of acknowledgement on a form approved by the Planning Department.

- Article 5, *Agriculture or "A" District*, was established to protect the county's agricultural soils, provide areas suitable for agriculture, and prevent development that would preclude their future use in agriculture. Uses permitted in this district are similar to those permitted in the APZ district, as listed above. Like the APZ district, the A district also requires the execution of notice of farming practices for all single-family dwellings and farm labor quarters.
- Article 6, *Timberland Preserve Zone or "TPZ" District*, provides for timberland preserve zoning and the conservation and protection of land capable of producing timber and forest products. The uses permitted in this district have been determined to be compatible uses consistent with the Timberland Productivity Act. Parcels proposed for the TPZ district shall be in ownership of one person, as defined in Section 38106 of the Revenue and Taxation Code, shall be comprised of single or contiguous parcels totaling 80 acres, or 40 acres for Class I or II timberland soils, and shall be site quality Class V or higher under Section 434 of the Revenue and Taxation Code. Permitted uses include:
  - Management of lands and forests for the primary use of commercial production and harvest of trees
  - Removal of timber, including uses integrally related to growing, harvesting and on-site processing of forest products including, but not limited to, roads, log landings, log storage areas, and incidental logging camps during harvest
  - One single-family dwelling or mobile home to be constructed according to the County's single-family residential (R-1) construction standards
  - Agricultural and residential accessory uses and accessory structures; small kennels
  - Crop and livestock farming, apiaries, aviaries
  - Prospecting, claiming, and preliminary geophysical investigations for natural resources including oil, gas, geothermal, or other mineral resources
  - Game preserves

- Management of watershed
- Management of fish and wildlife habitat

Other uses, including equipment storage yards incidental to the growing and harvesting of forest products, private fishing and hunting clubs, commercial wood yards, commercial dairies, large and commercial kennels, commercial stables or riding academies, saw mills, planer mills, pulp mills, particle board plants, log ponds, retreats, public and private campgrounds, and recreational vehicle parks, cattle and hog feed yards, veal calf feeders, and animal sales yards are also permitted with the appropriate minor or major use permit. Like the APZ district, the TPZ district also requires the execution of notice of farming practices for all single-family dwellings and farm labor quarters.

- Article 28, *Agricultural Industry or "AI" Combining District*, was established to protect the county's intensive agricultural activities and soils by reducing the potential for conflicts between residential uses and intensive agricultural uses. Within the AI combining district, all uses of land shall comply with the regulations of the base zoning district and with the additional regulations of the AI combining district. This district is intended to be applied to properties that are intensively farmed such as, but not limited to, vineyards, orchards, nurseries, field and row crops; and this district may be applied to areas of prime soils Classes I through IV, capable of intensive cultivation; and this district should be applied where restricted agricultural chemicals, Classes I or II as defined in Title 3, Section 24.50 of the California Administrative Code are commonly used. The AI combining district requires application for an agricultural clearance report prior to the application for a zoning clearance permit for any dwelling units. The Agricultural Commissioner shall review the application and report the findings of the agricultural viability of the parcel, extent to which the dwelling is necessary to support the farming operation, and the extent to which the swelling will adversely affect existing agricultural operations on abutting properties to the Planning Commission. The Planning Director shall then approve the permits upon the determination that the dwelling meets the purposes of the AI combining district, is necessary to support the farming operation, and will not adversely affect existing agricultural operations on abutting properties. Like the APZ district, the AI combining district also requires the execution of notice of farming practices for all single-family dwellings and farm labor quarters.

3.2.2 Existing Conditions

COUNTYWIDE AREA

Agricultural Production

Lake County has long been known as a farming community. The county's agricultural potential is largely determined by the availability of soils with few natural limitations on their use, but also

depends on topography, availability of water, climate market conditions, and the technical know-how of the grower. Lake County's estimated total gross production value for 2021 was $83 million, an 11 percent increase in comparison to 2020. This included increases in gross production values for nurseries, vegetable crops, field and seed crops, and livestock and poultry productions, and decreases for timber and livestock production. Wine grapes and pears were the top performing crop in 2021 (Lake County 2021).

Agricultural Lands

Within the Lake County boundary, approximately 34,620 acres are zoned Agriculture (A) and approximately 47,520 acres are zoned Agricultural Preserve District (APZ), for a total of 82,140 acres for agricultural uses, including lands in incorporated cities. The DOC has classified the lands in Lake County by agricultural potential. Farmland classifications and areas zoned for agricultural use are shown on Figure 3.2-1, *Important Farmland and Agricultural Zoning*, and farmland classification acreages by are shown in Table 3.2-1, *Lake County Farmland Classifications.* It should be noted that the DOC data reflects conditions as of 2018. Since the time the DOC published the data, some limited pieces of land may have been developed or may now be under development review. Nevertheless, the data provides a broad picture of the agricultural resources within and surrounding Lake County today.

Table 3.2-1 Lake County Farmland Classifications

	Acres						
Planning Area	**Prime Farmland**	**Unique Farmland**	**Farmland of Statewide Importance**	**Farmland of Local Importance**	**Grazing Land**	**Urban and Built-up Land**	**Other Land**
Cobb Mountain	45	2,175	-	626	8,849	1,139	25,240
East Lake Communities	221	2,015	3	3,945	55,788	4,396	112,908
Kelseyville	4,472	2,909	882	3,842	15,759	1,038	25,515
Lakeport	1,122	460	76	2,629	12,986	2,182	38,042
Lower Lake	89	1,828	-	2,688	20,245	6,41	49,859
Middletown	1,022	1,092	-	4,980	20,442	2,165	60,646
North Lake Communities	3,195	636	1	3,950	101,061	1,677	179,742
Rivieras	14	1,387	-	482	4,508	2,386	8,742
Lake County Total*	**10,181**	**903**	**12,506**	**23,143**	**239,851**	**15,624**	**501,764**

Source: DOC 2023a.

Note: *Totals may not add up due to rounding.

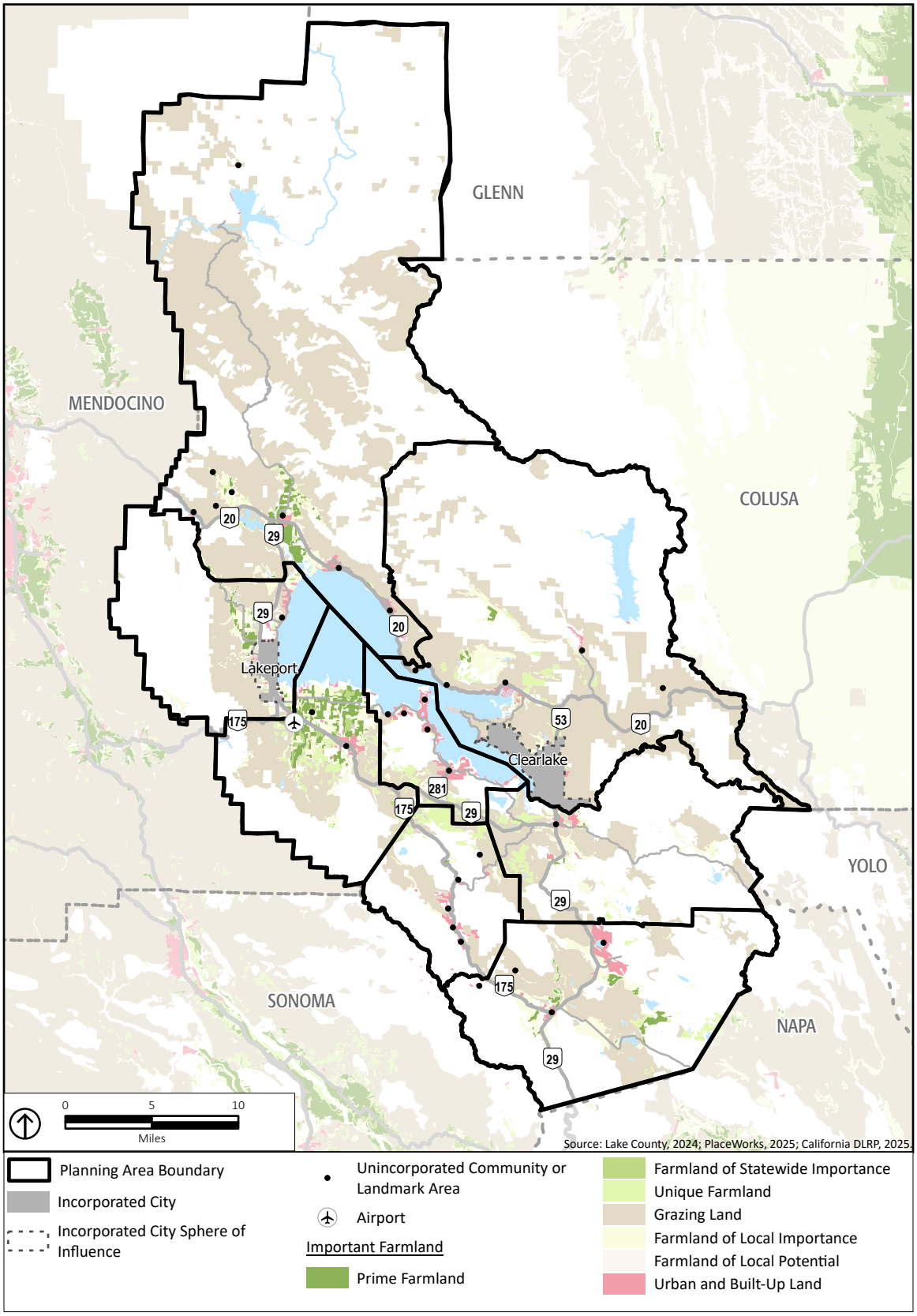

Figure 3.2-1
Important Farmland and Agricultural Zones

The population in Lake County has increased the rate of agricultural land conversion since the late 1990s. As indicated in Table 3.2-2, *Lake County Agricultural Land Conversion 1996 to 2018,* there has been a decrease in acreages of Prime Farmland, Farmland of Statewide Importance, and Grazing Land and an increase in Unique Farmland and Farmland of Local Importance.

Table 3.2-2 Lake County Agricultural Land Conversion 1996 to 2018

Land Use Category	1996 Acreage	2018 Acreage	1996 to 2018 Net Acreage Changed	Percentage Change
Prime Farmland	17,121	10,181	-6,940	-41%
Farmland of Statewide Importance	1,415	903	-512	-36%
Unique Farmland	8,068	12,506	4,438	55%
Farmland of Local Importance	18,812	23,143	4,331	23%
Grazing Land	245,263	239,853	-5,410	-2%

Source: DOC 2023b.

A continuing concern with viability of agriculture in Lake County is the conflict with residential uses. To reduce conflict, buffer areas have been implemented, with size dependent on factors such as topography, prevailing winds, and existing vegetation, but this type of mitigation can only be used on proposals for new developments.

Williamson Act Contracts

Table 3.2-3, *Williamson Act Lands*, breaks down the acreage of Williamson Act lands by planning area. There are 46,359 acres of land in Lake County that are under Williamson Act contracts.

Table 3.2-3 Williamson Act Lands

Planning Area	Williamson Act Lands (acres)
Cobb Mountain	529
East Lake Communities	10,312
Kelseyville	6,953
Lakeport	5,893
Lower Lake	6,207
Middletown	3,511
North Lake Communities	12,951
Rivieras	-
Lake County Total*	**46,359**

Source: Lake County 2023.

*Totals may not add up due to rounding.

Figure 3.2-2, *Williamson Act Contract Lands*, shows the active Williamson Act contracts within Lake County.

Forest Lands

Figure 3.2-3, *Forest Lands and TPZ Zoning*, shows the locations of the total 14,882 acres of Lake County zoned as Timberland Preserve Zones (TPZs) and Table 3.2-4, *Timberland Preserve Zones*, provides a breakdown of acreages by planning area.

Table 3.2-4 Timberland Preserve Zones

Planning Area	Timberland Preserve Zones (acres)
Cobb Mountain	308
East Lake Communities	1,233
Kelseyville	-
Lakeport	-
Lower Lake	-
Middletown	2,821
North Lake Communities	10,521
Rivieras	-
Lake County Total*	**14,882**

Source: DOC 2023a.

*Totals may not add up due to rounding.

Mendocino National Forest

The Mendocino Forest is in the North Coastal Mountain Range and comprises of 913,3055 acres across Colusa, Lake, Glen, Mendocino, Tehama, and Trinity Counties. Approximately 305,095 acres (33 percent) of the forest is within Lake County boundaries, occupying 36 percent of the county. The USFS owns the land that makes up the Mendocino Forest, except for select parcels that are privately owned or owned by other public agencies.

The Mendocino Forest includes 471,916 acres capable of producing commercial timber crops at acceptable growth rates; however, only 61,000 of these acres are capable, available, and suitable for regulated timber management due to concerns with uses such as recreation, visual resources, wildlife dispersible habitat, and riparian reserves. Three major forest types occurring on suitable lands are mixed conifer, conifer-hardwood, and red fir. Locally, the annual volume offered for sale each year by Mendocino Forest is purchased by mills in northern California but timber volume under contract has declined significantly. The decline reflects the reduction in the forest timber sale program caused by spotted owl concerns rather than lack of demand. Generally, the amount of timber purchased reflects only the amount Mendocino Forest was able to offer for sale under prevailing resource and budget constraints, rather than the total amount demanded (USFS 1995).

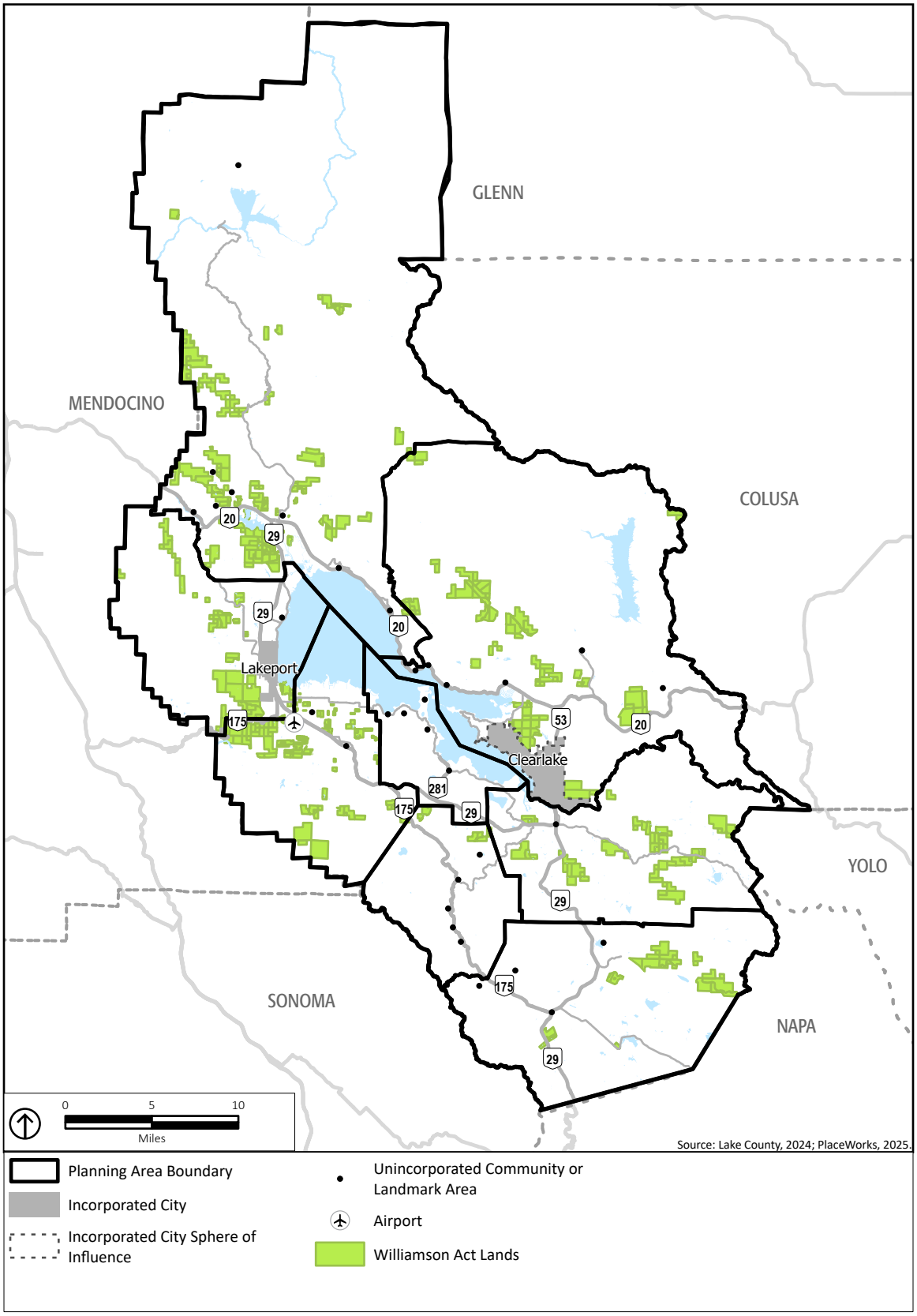

Figure 3.2-2
Williamson Act Contract Lands

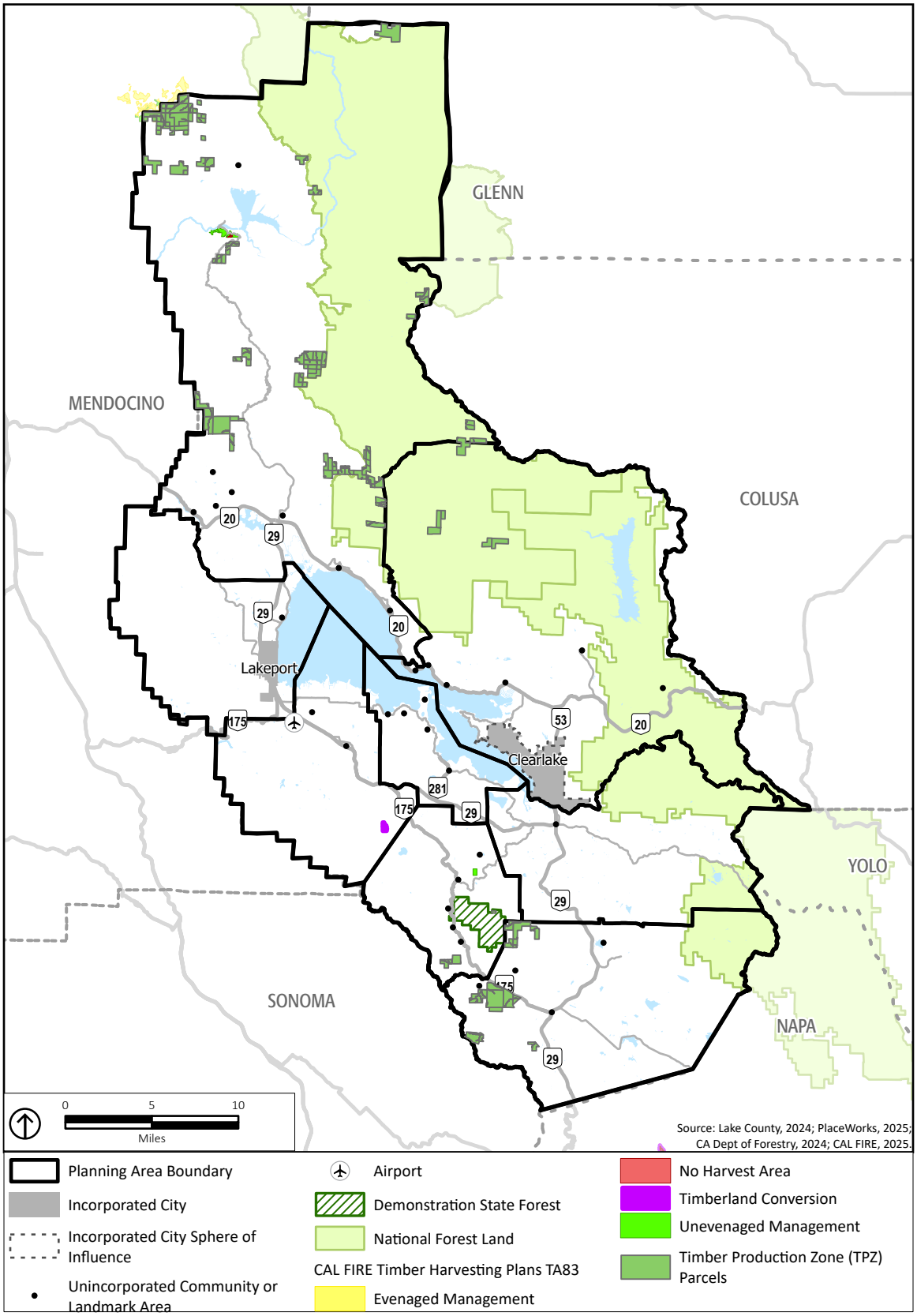

Figure 3.2-3
Forest Lands and TPZ Zoning

Mendocino Forest also has the potential to provide wood biomass for energy generation should the need arise. The biomass potential would come from three general sources: woody residues for timber harvests and precommercial thinning, harvest of hardwoods and non-commercial conifers, and woody brush species found mainly in the chaparral type (USFS 1995).

Figure 3.2-3, *Forest Lands and TPZ Zoning*, shows the boundary of Mendocino Forest within Lake County, as well as the portions of the forest zoned by Lake County as TPZ.

Boggs Mountain Demonstration State Forest

The 3,493-acre Boggs Forest is in southern Lake County between Clear Lake and Calistoga. CAL FIRE acquired the forest in 1940 after most of the merchantable timber had already been harvested. CAL FIRE's Demonstration State Forest system was established to meet the local, regional, and statewide needs for research, demonstration, and education related to forest management.

As shown on Figure 3.2-3, *Forest Lands and TPZ Zoning*, the entirety of Boggs Forest is zoned by Lake County as a TPZ. Approximately 3,313 acres of Boggs Forest are classified as commercial timberland and 180 acres as non-timberland. Prior to the 2015 Valley Fire, nearly all the forest land was well-stocked with predominately conifer species. The three timber types that dominated the forest included ponderosa pine, ponderosa pine/Douglas fir, and Douglas fir. There is no current inventory estimate of timber resources in Bogg Forest due to the ongoing salvage operations from the Valley Fire, but inventory efforts over the next few years will focus on completing a high-intensity temporary plot system to assess the areas that have residual green timber and to get an initial estimate of the stocking and species composition of the young plantations. Prior to the fire, CAL FIRE offered public and private commercial interests the opportunity to purchase minor forest products, subject to specific rules and constraints. However, the salvage timber sales put out to bid in the aftermath of the Valley Fire fell through as bidders became concerned about the viability of the forest product (CAL FIRE 2018).

Biomass has been considered as an option for the un-merchantable woody material left after the initial salvage logging entries. However, the closest biomass facility is in Anderson, which is approximately 145 miles north of Boggs Forest. Due to the low value of the product and the long trucking distance from the Forest to the energy plant, this option is uneconomical. Biomass fuel production may become a more viable option in the future if either a new plant opens closer to Boggs Forest, there is an increase in value of the product, or the government begins to subsidize the transport costs (CAL FIRE 2018).

PLANNING AREAS

Cobb Mountain Planning Area

As shown on Figure 3.2-1, *Important Farmland and Agricultural Zoning*, 1,881 acres of the Cobb Mountain Area are zoned as A and 536 acres as APZ, making up 5 percent of the area. As shown in Table 3.2-1, *Lake County Farmland Classifications,* the Cobb Mountain Planning Area includes 45 acres of Prime Farmland and 2,175 acres of Unique Farmland but does not include any Farmland of Statewide Importance. There are 529 acres of land under Williamson Act contracts in the Cobb Mountain Planning Area (see Figure 3.2-2, *Williamson Act Contract Lands*). Most commercial agricultural activities in the Cobb Mountain Planning Area are in the northeastern portions in the vicinity of Red Hills Road and Seigler Springs North Road and most agricultural preserves are found in the vicinity of the Red Hills walnut district. Approximately 1,200 acres of walnuts are in production in in the Cobb Mountain Planning Area, with English walnuts as the dominant crop. Most of this acreage is dry farmed on the soils formed from volcanic and ash deposits found in the Red Hills district. Other areas of agriculture include livestock ranching, Christmas tree farms, and vineyards (Lake County 1989).

As shown on Figure 3.2-3, *Forest Lands and TPZ Zoning,* Boggs Forest is entirely within the Cobb Mountain Planning Area. The Cobb Mountain Planning Area includes 308 acres that are zoned TPZ by Lake County. Ponderosa pine and mixed conifer softwoods dominate the area's timber harvest (Lake County 1989).

East Lake Communities Planning Area

There are 1,595 acres of the East Lake Communities Planning Area zoned as A and 9,606 acres as APZ, making up 6 percent of the area. As shown in Table 3.2-1, *Lake County Farmland Classifications,* the East Lake Communities Planning Area includes 221 acres of Prime Farmland, 3 acres of Farmland of Statewide Importance, and 2,015 acres of Unique Farmland. There are 10,312 acres of land under Williamson Act contracts in the East Lake Communities Area (see Figure 3.2-2, *Williamson Act Contract Lands*). The East Lake Communities Planning Area includes the 14,000-acre High Valley viticultural area, a federally recognized appellation, in the mountains north of Clearlake Oaks. Viticultural areas are distinct, grape-growing regions that have defined boundaries distinguishable by geographic features. Vineyards are mostly planted between 1,800 and 2,200 feet in elevation. Other crops in the East Lake Communities Planning Area include walnuts, prunes, and green beans (Lake County 2009). There are 57,837 acres of the Mendocino Forest within the East Lake Communities Area, making up 31 percent of the area. As shown on Figure 3.2-3, *Forest Lands and TPZ Zoning,* portions of Mendocino Forest are zoned by Lake County as TPZ, totaling 1,233 acres.

Kelseyville Planning Area

As shown on Figure 3.2-1, *Important Farmland and Agricultural Zoning,* 13,209 acres of the Kelseyville Planning Area are zoned as A and 7,396 acres as APZ, making up 50 percent of the area. As shown in Table 3.2-1, *Lake County Farmland Classifications,* the Kelseyville Planning Area includes 4,472 acres of Prime Farmland, 2,909 acres of Unique Farmland, and 882 acres of Farmland of Statewide Importance. There are 6,953 acres of land under Williamson Act contracts in the Kelseyville Planning Area (see Figure 3.2-2, *Williamson Act Contract Lands*). The predominant crops in the Kelseyville Planning Area are pears, walnuts, and wine grapes. Minor crops include prunes, table grapes, kiwi, peaches, and apples. Other areas of agriculture include livestock ranching and vineyards (Lake County 1995). There are no lands zoned TPZ by Lake County within the Kelseyville Planning Area.

Lakeport Planning Area

There are 2,909 acres of the Lakeport Planning Area zoned as A and 5,381 acres as APZ, making up 18 percent of the area. As shown in Table 3.2-1, *Lake County Farmland Classifications,* the Lakeport Planning Area includes 1,122 acres of Prime Farmland, 76 acres of Farmland of Statewide Importance, and 460 acres of Unique Farmland. There are 5,893 acres of land under Williamson Act contracts in the Lakeport Planning Area (see Figure 3.2-2, *Williamson Act Contract Lands*). There is no land zoned TPZ by Lake County within the Lakeport Planning Area.

Lower Lake Planning Area

There are 4,496 acres of the Lower Lake Planning Area zoned as A and 6,958 acres as APZ, making up 15 percent of the area. As shown in Table 3.2-1, *Lake County Farmland Classifications,* the Lower Lake Planning Area includes 89 acres of Prime Farmland and 1,828 acres of Unique Farmland but does not include any Farmland of Statewide Importance. There are 61 parcels totaling 6,268 acres under Williamson Act contracts in the Lakeport Planning Area (see Figure 3.2-2, *Williamson Act Contract Lands*). Orchard crops, most of which are English walnuts, are the dominant crop in the Lower Lake Planning Area. Smaller acreages of black walnuts, vineyards, apples, and kiwis are also grown in the area. Nearly all the orchards and vineyards are in the northwestern portion of the Lower Lake Planning Area and the remaining agricultural lands are largely devoted to grazing (Lake County 1988). There are no lands zoned by Lake County as TPZ within the Lower Lake Planning Area.

Middletown Planning Area

There are 4,512 acres of the Middletown Planning Area zoned as A and 3,525 acres as APZ, making up 9 percent of the area. As shown in Table 3.2-1, *Lake County Farmland Classifications,* the Middletown Planning Area includes 1,022 acres of Prime Farmland and 1,092 acres of Unique Farmland but does not include any Farmland of Statewide Importance. There are 3,511 acres of land under Williamson Act contracts in the Middletown Planning Area (see Figure 3.2-2, *Williamson Act Contract Lands*). English and black walnuts were traditionally the dominant

orchard crop in the Middletown Planning Area, but acreages are declining as owners are abandoning their orchards or converting to vineyards. Much of the hillier terrain of the Planning Area is devoted to livestock grazing and remaining agricultural lands are dedicated to pasture and light grazing (Lake County 2010). There are 2,821 acres of the Middletown Planning Area zoned TPZ by Lake County, making up approximately 3 percent of the area (see Figure 3.2-3, *Forest Lands and TPZ Zoning*).

North Lake Communities Planning Area

There are 5,675 acres of the North Lake Communities Planning Area zoned as A and 14,111 acres as APZ, making up 7 percent of the area. As shown in Table 3.2-1, *Lake County Farmland Classifications,* the North Lake Communities Planning Area includes 3,195 acres of Prime Farmland, 636 acres of Unique Farmland, and 1 acre of Farmland of Statewide Importance. There are 12,951 acres of land under Williamson Act contracts in the North Lake Communities Planning Area (see Figure 3.2-2, *Williamson Act Contract Lands*). There are 246,814 acres of the Mendocino Forest within the North Lake Communities Planning Area, making up approximately 80 percent of the area. As shown on Figure 3.2-3, *Forest Lands and TPZ Zoning,* portions of Mendocino Forest, totaling 10,521 acres, are zoned TPZ by Lake County.

Rivieras Planning Area

There are 340 acres of the Rivieras Planning Area zoned as A, making up 2 percent of the area. As shown in Table 3.2-1, *Lake County Farmland Classifications,* the Rivieras Planning Area includes 14 acres of Prime Farmland and 1,387 acres of Unique Farmland but does not include any Farmland of Statewide Importance. There are no lands under Williamson Act contracts in the Rivieras Planning Area. Most of the agricultural lands in the Rivieras Planning Area are developed with vineyards. Many areas in the Rivieras Planning Area are also suitable for growing olives (Lake County 2007). There are no lands zoned TPZ by Lake County within the Rivieras Planning Area.

3.2.3 Standards for Analysis

Appendix G, *Environmental Checklist Form*, of the CEQA Guidelines, states that the proposed project would result in a significant impact to agricultural and forestry resources if it would:

a) 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.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract

c) 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)).

d) Result in the loss of forest land or conversion of forest land to non-forest use.

e) 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.

3.2.4 Project Impact Discussion

a) Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (qualifying Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency to non-agricultural use?

As shown in Table 3.2-5, *Qualifying Farmland Acreages in the EIR Study Area at Buildout*, the EIR Study Area currently contains approximately 10,075 acres of Prime Farmland, 11,985 acres of Unique Farmland, and 965 acres of Farmland of Statewide Importance. The proposed project would retain approximately 52,560 acres of land designated for agriculture, 67,990 acres designated for resource conservation, and 280,460 acres designated for rural lands within the EIR Study Area. Approximately 21,180 of those designated acres are classified as qualifying Farmland (Prime Farmland, Unique Farmland, or Farmland of Statewide Importance). As shown in Table 3.2-5, with buildout of the proposed project, there could be a reduction of up to approximately 420 acres of Prime Farmland, 1,310 acres of Unique Farmland, and 55 acres Farmland of Statewide Importance to non-agricultural uses. Therefore, for the purposes of this analysis, it is assumed that approximately 1,780 acres of qualifying Farmland within the EIR Study Area could be converted to non-agricultural uses throughout the buildout horizon. It's important to note that this is a conservative approach, and that, in reality, agricultural land in the EIR Study Area may or may not be converted.

Table 3.2-5 Qualifying Farmland Acreages in the EIR Study Area at Buildout

Planning Area	Prime Farmland	Unique Farmland	Farmland of Statewide Importance
Existing			
Cobb Mountain	45	2,175	-
East Lake Communities	221	1,680	2
Kelseyville	4,472	2,909	882
Lakeport	1,107	315	76
Lower Lake	89	1,828	-
Middletown	1,022	1,092	-
North Lake Communities	3,105	629	1
Rivieras	14	1,354	-
EIR Study Area Total*	***10,075***	***11,985***	***965***
Remaining at Buildout			
Cobb Mountain	44	2,148	-
East Lake Communities	221	1,377	1
Kelseyville	4,376	2,653	822
Lakeport	1,078	198	24
Lower Lake	78	1,542	-
Middletown	904	1,030	-
North Lake Communities	2,943	592	1
Rivieras	14	1,135	-
EIR Study Area Total*	***9,660***	***10,675***	***850***
Loss			
Cobb Mountain	1	27	-
East Lake Communities	0	303	1
Kelseyville	96	256	60
Lakeport	29	117	52
Lower Lake	11	286	-
Middletown	118	62	-
North Lake Communities	162	37	-
Rivieras	0	219	-
EIR Study Area Total*	***420***	***1,310***	***55***

Source: DOC 2023a.

Note: *Totals may not add up due to rounding.

Potential future development on lands within the EIR Study Area zoned as A and APZ would be subject to the development regulations contained in the LCCO. Furthermore, the proposed General Plan 2050 contains policies and actions that require local planning and development decisions to consider impacts on agricultural resources, as shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation AGF. In particular, the following key policies and action would serve to minimize impacts on qualifying farmland in the EIR Study Area:

- Policy AR-1.1 requires the preservation and protection of productive agricultural lands from conversion to urban uses, especially land designated as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland by the California Department of Conservation and land containing Classes I to IV agricultural soils for agricultural production.
- Policy AR-1.2 requires the preservation of large, contiguous areas of the county for agricultural production. It discourages applications for projects that would lead to fragmentation of agricultural areas.
- Action AR-1.a requires consideration of options for policies and procedures for the use of agricultural and conservation easements to preserve agricultural land.
- Policy AR-1.9 considers redesignation of Agriculture-designated lands adjacent to community growth boundaries (CGBs) to urban designations only when substantial infill development has occurred within the CGB, resulting in a minimum of 85 percent of vacant and underutilized parcels developed at their allowed densities within the CGB.
- Policy AR-3.1 requires continued support for a variety of agricultural activities on Agriculture-designated land, with an emphasis on food crops to support local food production.
- Policy AR-3.2 requires collaboration with the Lake County Department of Agriculture, University of California Cooperative Extension, Lake County Resource Conservation District, Farm Bureau, and industry organizations in the county to promote and expand agricultural opportunities in Lake County.
- Policy AR-3.5 encourages the development of agricultural support industries and services in the county, including agricultural tourism industries.

While these proposed General Plan 2050 policies and action, as well as compliance with the LCCO, would protect and preserve farmland and therefore reduce potential impacts related to the conversion of State-designated Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, they would not reduce the amount of acreage that could potentially be converted to non-agricultural uses from implementation of the proposed project since the EIR Study Area includes designation of 1,780 acres of qualifying farmland (Prime Farmland, Unique Farmland, or Farmland of Statewide Importance) for non-agricultural uses. Because the threshold of significance for purposes of analysis under CEQA is the loss of any qualifying farmland, the potential conversion of 1,780 acres of Farmland to non-agricultural lands would constitute a **potentially significant** impact.

Impact AGF-1: Implementation of the proposed project could result in the conversion of Prime Farmland, Farmland of Statewide Importance, or Unique Farmland (together referred to as "qualifying Farmland") to non-agricultural land uses.

Mitigation Measures Considered: In compliance with CEQA, "each public agency shall mitigate or avoid the significant effects on the environment of the project it carries out or approves whenever it is feasible to do so." 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." CEQA Guidelines Section 15370 defines "mitigation" as: (1) avoiding the impact altogether by not taking a certain action or parts of an action; (2) minimizing impacts by limiting the degree or magnitude of an action and its implementation; (3) rectifying the impact by repairing, rehabilitating, or restoring the impacted environment; (4) reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and (5) compensating for the impact by replacing or providing substitute resources or environments. The following is a brief discussion of the mitigation measures considered for mitigating or avoiding the impact of the conversion of agricultural lands to other uses and their infeasibility. However, as shown, no feasible mitigation measures are available that would reduce the agricultural resource impact to less-than-significant levels.

- **Replacement of Agricultural Resources.** This measure would replace the existing agricultural use with the same use on other property that is not currently used for agriculture. From a statewide perspective, the replacement of farmland means that there will be no net loss of farmland in the state. However, qualifying Farmland would still be developed. There is limited undeveloped land within the EIR Study Area that is not currently designated as agricultural, restricting the amount of agricultural land that would be able to be replaced elsewhere in the area, and thus conversion of these lands would be insufficient to achieve no net loss. Moreover, even if adequate land could be identified to achieve no net loss, the challenges of creating the soil, irrigation, climatic, and economic conditions that are required for productive farmland (i.e., that achieves the same Important Farmland, Farmland of Statewide Importance, or Unique Farmland status) are significant and there would be no guarantee that replacement land could be successfully farmed. In addition, replacing existing undeveloped areas with active agriculture could trigger a range of negative environmental impacts, including increased groundwater consumption, habitat destruction, erosion, air quality impacts, and herbicide and pesticide application. As such, the replacement of the existing agricultural uses on other properties within the EIR Study Area is infeasible.

- **Transfer of Development Rights.** Transferring development rights would allow a property owner to purchase the right to build on one parcel of land (typically undeveloped) and apply those rights to another parcel, such as farmland within the EIR Study Area. This option is also infeasible because there would still be a net loss of farmland (i.e., the farmland preserved would still likely be preserved anyhow). Even if farmland would be preserved elsewhere in the EIR Study Area, the qualifying Farmland in the EIR Study Area would be developed, resulting in a net loss of Farmland. Therefore, for the reasons outlined previously, and in this paragraph, it would not prevent significant impacts from occurring in the EIR Study Area and it would not be an effective CEQA mitigation measure.
- **Relocation of Prime Farmland Topsoil.** This measure would remove the top 12 to 18 inches of topsoil from affected areas and haul this soil to a farm site or several farm sites that have lower-quality soils. The Prime Farmland, Farmland of Statewide Importance, or Unique Farmland soils may assist in increasing crop yield at the relocated site. This measure would have its own environmental impacts, including increased truck traffic on local roadways from both hauling soil off-site and replacement of soil on-site, increased diesel truck emissions, construction noise, and increased duration of construction. The relocation of prime farmland soils on another active farm would thus increase other environmental impacts. Therefore, the relocation of Prime Farmland topsoil is infeasible.

As described, these measures were considered and found to be infeasible for mitigating or avoiding the impact of the conversion of agricultural lands to other uses pursuant to the definition of CEQA in that there is no guarantee that measures would result in successfully establishing Important Farmland, Farmland of Statewide Importance, or Unique Farmland, if doing so could happen within a reasonable period of time, that their implementation would not potentially cause greater environmental impacts, and that acquiring additional lands to be established as Important Farmland, Farmland of Statewide Importance, or Unique Farmland would be economically viable.

Significance with Mitigation: As discussed previously, implementation of the proposed General Plan 2050 land use map would designate qualifying Farmland as non-agricultural land uses. Through the proposed General Plan 2050 policies and actions, impacts related to the conversion of qualifying Farmland would be reduced, but not to a less-than-significant level. The proposed General Plan 2050 contains policies and actions to mitigate and reduce the conversion of qualifying agricultural lands. Specifically, proposed policies AR-1.1, AR-2.2, and action AR-1.a protect designated agricultural land. These proposed policies and action would not reduce the amount of acreage converted under buildout of the proposed project; however, they would forestall development of the best agricultural land within the EIR Study Area. While these

efforts and other mitigation measures were considered, such as preserving agricultural uses in the EIR Study Area, replacement of agricultural resources by replacing lost agricultural uses to other areas of the county, and relocation of Prime Farmland topsoil to other areas, these mitigations are not feasible. While these efforts work to mitigate impacts, the only way to fully avoid impacts to agricultural resources from implementation of the proposed project is to not allow the conversion of State-designated Prime Farmland, Farmland of Statewide Importance, or Unique Farmland to non-agricultural land uses, thereby eliminating the agricultural 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 jobs available in Lake County and to reduce the need for residents to commute to high-quality jobs. These measures are critical to reduce single-occupant vehicle travel to and from Lake County and meet State targets for greenhouse gas reduction. The County needs to promote both economic development and corresponding residential development, as required by State housing law, within its county limits. While possible forms of mitigation for, or avoidance of, conservation of agricultural lands in the EIR Study Area would be implemented by the County through proposed General Plan 2050 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. Therefore, impacts would remain **significant and unavoidable.**

b) Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

ZONING

As shown in Table 3.2-6, *EIR Study Area Agricultural Zoning Acreages at Buildout*, the EIR Study Area currently contains 81,320 acres of lands zoned as A and APZ. As described in impact discussion (a), the proposed project would retain approximately 52,560 acres of land designated for agriculture, 67,990 acres for resource conservation, and 280,460 acres for rural lands within the EIR Study Area, approximately 80,658 of which are zoned as A and APZ. Land uses proposed under the proposed project could result 662 acres of land zoned as A and APZ to be converted to non-agricultural uses.

Table 3.2-6 EIR Study Area Agricultural Zoning Acreages at Buildout

Planning Area	Acres		
	Existing	Remaining at Buildout	Potential Loss
Cobb Mountain	2,417	2,399	18
East Lake Communities	11,201	11,199	2
Kelseyville	20,523	20,420	103
Lakeport	8,290	8,270	20
Lower Lake	11,454	11,451	3
Middletown	7,876	7,635	241
North Lake Communities	19,216	18,941	275
Rivieras	340	340	0
EIR Study Area Total*	***81,320***	***80,658***	***662***

Source: DOC 2023a.

Note: *Totals may not add up due to rounding.

The proposed General Plan 2050 is the primary planning document for Lake County. The proposed project is intended to ensure consistency between the General Plan, Zoning Ordinance, and federal and State laws. Because the proposed General Plan 2050 is the overriding planning document for the County, and because the proposed project involves amending the current General Plan and Zoning Ordinance, the proposed project would not conflict with zoning.

WILLIAMSON ACT

As shown in Table 3.2-7, *EIR Study Area Williamson Act Land Acreages at Buildout*, the EIR Study Area currently contains 46,360 acres of land under Williamson Act contracts. As stated, the proposed project would retain approximately 52,560 acres of land designated for agriculture, 67,990 acres for resource conservation, and 280,460 acres for rural lands within the EIR Study Area, 45,800 of which are under Williamson Act contracts. With buildout of the proposed project, there could be a reduction of up to approximately 190 acres of land under Williamson Act contract to non-agricultural uses. Therefore, for the purposes of this analysis, it is assumed that the 186 acres of land under Williamson Act contract within the EIR Study Area could be converted to non-agricultural uses throughout the buildout horizon.

Table 3.2-7 EIR Study Area Williamson Act Land Acreages at Buildout

Planning Area	Acres		
	Existing	Remaining at Buildout	Potential Loss
Cobb Mountain	529	512	17
East Lake Communities	10,312	10,305	7
Kelseyville	6,953	6,947	2
Lakeport	5,893	5,893	-
Lower Lake	6,207	6,165	42
Middletown	3,511	3,291	59
North Lake Communities	12,951	12,585	155
Rivieras	-	-	-
EIR Study Area Total*	***46,360***	***45,800***	***190***

Source: Lake County 2023.

Note: *Totals may not add up due to rounding.

As described under impact discussion (a), potential future development on lands within the EIR Study Area zoned as A and APZ would be subject to the development regulations contained in the LCCO.

The same proposed General Plan 2050 contains policies and actions that require local planning and development decisions to consider impacts to agricultural resources shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation AGF, would also reduce potential impacts related to the conversion of land under the Williamson Act. In particular, the following key policies would serve to minimize conflicts with agricultural zoning in the EIR Study Area:

- Policy AR-1.1 requires the preservation and protection of productive agricultural lands from conversion to urban uses, especially land designated as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland by the California Department of Conservation and land containing Classes I to IV agricultural soils for agricultural production.
- Policy AR-1.2 requires the preservation of large, contiguous areas of the county for agricultural production. It discourages applications for projects that would lead to fragmentation of agricultural areas.
- Policy AR-1.8 requires collaboration with the Cities of Clearlake and Lakeport and the Lake County Local Agency Formation Commission to avoid expansion of city spheres of influence into areas designated Agriculture in the proposed General Plan 2050.
- Policy AR-1.9 considers redesignation of Agriculture-designated lands adjacent to CGBs to urban designations only when substantial infill development has occurred within the CGB resulting in a minimum of 85 percent of vacant and underutilized parcels developed at their allowed densities within the CGB.

- Policies CM-LU-1.1, EL-LU-1.1, K-LU-1.1, L-LU-1.1, LL-LU-1.1, M-LU-1.1, NL-LU-1.1, and R-LU-1.1 preserves natural open space resources by concentrating development in existing communities, clustering development, maintaining large lot sizes in agricultural areas, avoiding conversion of lands currently used for agricultural production, and limiting development in areas constrained by natural hazards.

However, since the proposed General Plan 2050 land use map would designate 190 acres of land under Williamson Act contract to non-agricultural uses, the impact related to conflict with Williamson Act contracts is **potentially significant**.

Impact AGF-2: Implementation of the proposed project could result in the loss of agricultural land under the Williamson Act.

> **Mitigation Measures Considered:** As described under Impact AGF-1, pursuant to CEQA, the County has considered mitigation to reduce impacts from implementation of the proposed project that could conflict with agricultural lands under a Williamson Act contract. However, as described, there are no feasible mitigation measures that would reduce the loss of agricultural land under the Williamson Act contracts to less-than-significant levels. Specifically, the County considered a measure that would result in the replacement of Williamson Act contract farmland that would place other farmland under Williamson Act contract. Even if feasible, the placing of alternative farmland under Williamson Act contract would establish a commitment to retain that alternative farmland for agricultural use. The length of time that the alternative land will remain in agricultural use would depend on the terms of the Williamson Act contract. However, the Williamson Act contract will only reduce the potential that the alternative land will convert to non-agricultural use. The individual and cumulative loss of agricultural land caused by the proposed project would still occur. Therefore, this mitigation measure will not reduce the proposed project's impacts on agricultural land under Williamson Act contracts to below the level of significance. For these reasons, placing alternative privately held land under permanent restriction through Williamson Act contracts is considered infeasible.

Significance without Mitigation: As described under impact discussion (a), the proposed General Plan 2050 includes policies and actions to minimize impacts to agricultural lands. The same proposed General Plan 2050 policies and action would also minimize impacts from conflicts with Williamson Act lands and reduce the likelihood of premature contract cancellations by the property owners of the Williamson Act parcels in the EIR Study Area. Mitigation for this impact was considered, including the placement of other farmland under Williamson Act contract. However, the individual and cumulative loss of agricultural land under the Williamson Act caused by the proposed project would still occur. Given that CEQA does not require that the project be changed to avoid an impact, and no additional mitigation is available, this would result in a **significant and unavoidable** impact.

c) Would the project 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))?

As shown in Table 3.2-8, *EIR Study Area Timberland Preserve Zone Acreages at Buildout*, the EIR Study Area currently contains approximately 14,880 acres of lands zoned as TPZ. All the lands zoned as TPZ would have a resource conservation land use designation under the proposed project, which would ensure the maintenance or sustained generation of natural resources in the county. Therefore, for the purposes of this analysis, it is assumed that the approximately 14,880 acres of land zoned as TPZ within the EIR Study Area would not be converted to non-forestry uses throughout the buildout horizon.

Table 3.2-8 EIR Study Area Timberland Preserve Zone Acreages at Buildout

Planning Area	Acres		
	Existing	Remaining at Buildout	Potential Loss
Cobb Mountain	308	308	0
East Lake Communities	1,233	1,233	0
Kelseyville	-	-	-
Lakeport	-	-	-
Lower Lake	-	-	-
Middletown	2,821	2,821	-
North Lake Communities	10,521	10,521	0
Rivieras	-	-	-
EIR Study Area Total*	***14,880***	***14,880***	***0***

Source: DOC 2023a.

Note: *Totals may not add up due to rounding.

Potential future development on land within the EIR Study Area zoned as TPZ would be subject to the development regulations contained in the LCCO, as well as PRC Sections 4621 through 4628, California Forest Practice Act, and California Timberland Productivity Act. In particular, the following key policies and action would serve to minimize conflicts with TPZ zoning in the EIR Study Area:

- Policy AR-6.1 requires coordination with land managers on timber management practices to promote healthy, sustainable forests and local economic benefit.
- Policy AR-6.2 requires coordination with federal, State, Tribal, and regional partners exercising responsibilities for timber management in the county to ensure their operations are consistent with this General Plan, promoting management that balances timber

production with fuel management, pest management, cultural resources, and the protection of recreational resources and viewsheds.

- Action HS-4.c requires coordination with CAL FIRE to ensure enforcement of the Forest Practice Act and associated rules, including regulations governing Less Than Three-Acre Conversion Exemptions.
- Policies CM-LU-1.1, EL-LU-1.1, K-LU-1.1, L-LU-1.1, LL-LU-1.1, M-LU-1.1, NL-LU-1.1, and R-LU-1.1 preserves natural open space resources by concentrating development in existing communities, clustering development, maintaining large lot sizes in agricultural areas, avoiding conversion of lands currently used for agricultural production, and limiting development in areas constrained by natural hazards.
- Policies CM-LU-1.7, EL-LU-1.7, M-LU-1.8, and NL-LU-1.7 prohibit uses not related to timber production on lands designated Resource Conservation in Timberland Preserve Zones unless the use:
  - Is consistent with the Aggregate Resources Management Plan for mining operations;
  - Is consistent with the Geothermal Resources Element for geothermal activities;
  - Supports a biomass utilization business that helps reduce threat of wildfire from dead and dying trees;
  - Preserves unique natural landmarks;
  - Is compatible with sustainable forest practices and uses;
  - Is managed to avoid interfering with forest practices;
  - Is managed to minimize impacts on viewsheds;
  - Minimizes forest site productivity losses; and
  - Meets General Plan and Zoning Ordinance standards relating to the availability of fire protection, water supply, water quality, groundwater recharge and extraction, watershed management or restoration programs, and waste disposal.

Furthermore, the proposed General Plan 2050 is the primary planning document for Lake County. The proposed project is intended to ensure consistency between the General Plan, Zoning Ordinance, and federal and State laws. Because the proposed General Plan 2050 is the overriding planning document for the County, and because the proposed project involves amending the current General Plan and the Zoning Ordinance, the proposed project would not conflict with zoning; therefore, impacts related to conflict with existing zoning for forestry uses would be **less than significant**.

Significance without Mitigation: Less than significant.

d) Would the project result in the loss of forest land or conversion of forest land to non-forest use?

While the Mendocino Forest and Boggs Forest are in Lake County, most of the lands are owned by USFS and CAL FIRE, respectively. The rest of the lands in this area are zoned TPZ. As described under impact discussion (c), the 14,880 acres of lands zoned as TPZ would have a resource conservation land use designation under the proposed project and would not be converted to non-forestry uses. Potential future development on lands within the EIR Study Area zoned TPZ would be subject to the development regulations contained in the LCCO, as well as PRC Sections 4621 through 4628, California Forest Practice Act, and California Timberland Productivity Act. Furthermore, the proposed General Plan 2050 contains policies and actions that require local planning and development decisions to consider impacts to timberland, as shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation AGF. In particular, the following key policies would serve to minimize potential loss or conversion of forestland in the EIR Study Area:

- Policy AR-6.1 requires coordination with land managers on timber management practices to promote healthy, sustainable forests and local economic benefit.
- Policy AR-6.3 supports and promotes sustainable timber production, including by promoting selective, rather than clear cutting, particularly for old-growth stands of timber, wherever possible.

Through land use compatibility with existing zoning and compliance with the LCCO, PRC Sections 4621 through 4628, California Forest Practice Act, California Timberland Productivity Act, and proposed General Plan 2050 policies and actions, implementation of the proposed project would not result in the loss or conversion of forest land. Therefore, this impact is **less than significant**.

Significance without Mitigation: Less than significant.

e) Would the project 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?

The proposed project would allow development that could result in potentially incompatible urban uses next to farms or timber harvest areas, creating circumstances that impair the productivity and profitability of agricultural or forestry operations, and could eventually lead farmers or harvesters to take their land out of production. For example, this could manifest as complaints from new residents about noise, dust, and chemical use from agricultural or forestry operations. Concerns of farmers and harvesters about increased vandalism, traffic, access difficulties, and the introduction of domestic animals can lower productivity. Adjacent urban

development may also increase land values, increasing the property tax burden for farmland not protected by Williamson Act contracts or permanent agricultural or forestry conservation easements. The proposed project recognizes that the agricultural and forestry history of Lake County contributes to its sense of place and seeks to preserve agricultural and forest lands. As such, the proposed General Plan 2050 contains policies and actions that require local planning and development decisions to consider agricultural and forestry impacts as shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation AGF. In particular, the following key policies and actions would serve to minimize the loss or conversion of farmland and forestland in the EIR Study Area:

- Action AR-3.a amends the Zoning Ordinance to expand opportunities for value-added agricultural uses.
- Action AR-4.a lobbies the U.S. Department of Agriculture to include highly erodible hillside walnut orchards among agricultural land eligible for its federal erosion-control and conservation reserve program.
- Policies CM-PF-2.2, EL-PF-2.2, K-PF-2.2, L-PF-2.2, LL-PF-2.2, M-PF-2.2, NL-PF-2.2, and R-PF-2.2 require that when infrastructure, such as sewer, water, and transmission lines, must cross agricultural lands, it should be located in the public right-of-way or along lot lines whenever possible.
- Policies CM-ED-2.2 and EL-ED-2.2, K-ED-2.2, L-ED-2.2, LL-ED-2.2, M-ED-2.2, NL-ED-2.2, and R-ED-2.2 encourages and supports development of wineries, microbreweries, distilleries, farm stands, U-pick operations, and other agritourism-related uses, provided those uses do not negatively impact ongoing agricultural operations and they avoid disturbance of known or potential Tribal Cultural Resources.

Therefore, this impact is **less than significant**.

Significance without Mitigation: Less than significant.

3.2.5 Cumulative Impact Discussion

As discussed in Chapter 3, *Environmental Analysis,* of this Draft EIR, the cumulative setting includes growth within the EIR Study Area in combination with projected overall growth trends within Lake County and adjacent counties. The geographic scope of cumulative impacts to agriculture and forestry resources is all agricultural and forestry resources deemed to be resources of statewide importance in the surrounding incorporated and unincorporated lands, the region, and the state.

Would the project have a cumulative effect related to agriculture and forestry resources?

As described in Chapter 2, *Project Description*, and throughout this Draft EIR, the proposed General Plan 2050 includes a buildout projection and population growth that would increase the urbanization of lands under the jurisdiction of the County. While all forest lands would be conserved under the proposed project, to accommodate anticipated growth and achieve County goals, the proposed project plans for the conversion of agricultural lands to various types of residential and job-generating development. With implementation of the proposed project, in combination with agricultural impacts identified throughout surrounding incorporated and unincorporated lands, the region, and the state, the proposed project would contribute to cumulative impacts to agricultural resources.

As described under impact discussions (c) and (d), implementation of the proposed project would not result in the rezoning, loss, or conversion of forest lands. All lands zoned as a TPZ would have a resource conservation land use designation under the proposed project and would not be converted to non-forestry uses.

However, as described under impact discussions (a) and (b), implementation of the proposed project would result in significant impacts related to the conversion of qualifying Farmland and farmland under Williamson Act contracts. As such, the proposed project would contribute to the cumulative impacts of overall conversion of these lands in the surrounding incorporated and unincorporated lands, the region, and the state. Although the policies and actions in the proposed General Plan 2050 would reduce and partially offset regional agricultural impacts, the proposed project would contribute to cumulatively significant agricultural impacts in the region. Therefore, this impact is cumulatively **significant**.

Impact AGF-3: The proposed project, in combination with past, present, and reasonably foreseeable projects, could result in a significant cumulative impact with respect to the conversion of Prime Farmland, Farmland of Statewide Importance, or Unique Farmland land (together referred to as "qualifying Farmland") and Williamson Act properties to non-agricultural uses.

Significance without Mitigation: As described previously, implementation of the proposed project would result in significant and unavoidable impacts related to the conversion of qualifying Farmland and farmlands under Williamson Act contracts to non-agricultural uses. Although the proposed General Plan 2050 policies and actions would reduce and partially offset regional agricultural impacts, as well as consideration of mitigation measures to preserve agricultural lands, the only way to fully avoid the agricultural impact of the proposed project is to not allow development on State-designated qualifying Farmland, thereby eliminating the agricultural impact. However, this would be infeasible and inconsistent with County planning goals and objectives. Further, the amount of growth foreseen in the region and the decisions of the surrounding counties regarding conversion of agricultural land are outside the control of Lake County. Therefore, this cumulative impact would remain **significant and unavoidable.**

3.2.6 References

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3.3 AIR QUALITY

This section of the Draft EIR describes the potential impacts to air quality associated with the adoption and implementation of the proposed project. This section describes the regulatory framework and existing conditions, identifies criteria used to determine impact significance, provides an analysis of the potential impacts to air quality. The proposed General Plan 2050 policies and actions that would minimize any potentially significant impacts are shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, and denoted with the abbreviation AIR. Where policies and actions are required for mitigation, those policies and actions are described in this section and denoted with an asterisk (*).

The following are definitions for terms used throughout this section:

- **AAQS**: Ambient Air Quality Standards
- **Concentrations**: 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**: 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**: Actual quantity of pollutant, measured in tons per year
- **Sensitive receptor**: Land uses that are more sensitive to air pollution than others due to the types of population groups or activities involved (e.g., residential, retirement facilities, hospitals, and schools)
- **TAC**: Toxic air contaminant
- **VMT**: Vehicle-miles traveled

3.3.1 Regulatory Framework

Federal, State, and local air districts have passed laws and regulations intended to control and enhance air quality. Land use in the city is subject to the rules and regulations imposed by the Lake County Air Quality Management District (LCAQMD), California Air Resources Board (CARB), and United States Environmental Protection Agency (USEPA). The regulatory framework that is potentially applicable to the proposed project is also summarized below.

FEDERAL

AAQS have been adopted at federal and state levels for criteria air pollutants. In addition, both the federal and State governments regulate the release of TACs. Lake County is in the Lake County Air Basin (LCAB) and is subject to the rules and regulations imposed by the LCAQMD, the

National AAQS adopted by the USEPA, and the California AAQS adopted by CARB. Federal, State, regional, and local laws, regulations, plans, or guidelines that are potentially applicable to the proposed project are summarized below.

Ambient Air Quality Standards for Criteria Air Pollutants

The Clean Air Act (CAA) was passed in 1963 by the United States Congress and has been amended several times. The 1970 CAA 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 CAA allows states to adopt more stringent standards or to include other pollutants. The California CAA, signed into law 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 people 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, as shown in Table 3.3-1, *Ambient Air Quality Standards for Criteria 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). Additionally, the State has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety.

Table 3.3-1 Ambient Air Quality Standards for Criteria Pollutants

Pollutant	Averaging Time	California Standard [a]	Federal Primary Standard [b]	Major Pollutant Sources
Ozone (O_3) [c]	1 hour	0.09 ppm	*	Motor vehicles, paints, coatings, and solvents.
	8 hours	0.070 ppm	0.070 ppm	
Carbon Monoxide (CO)	1 hour	20.0 ppm	35.0 ppm	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8 hours	9.0 ppm	9.0 ppm	
Nitrogen Dioxide (NO_2)	Annual Average	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	*	0.010 ppm	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
	1 hour	0.25 ppm	0.075 ppm	
	24 hours	0.04 ppm	*	
Respirable Coarse Particulate Matter (PM_{10})	Annual Arithmetic Mean	20.0 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	50.0 µg/m^3	150.0 µg/m^3	
Respirable Fine Particulate Matter ($PM_{2.5}$) [d,e]	Annual Arithmetic Mean	12.0 µg/m^3	12.0 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	*	35.0 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 Quarterly	*	1.5 µg/m^3	
	Rolling 3-Month Average	*	0.15 µg/m^3	
Sulfates (SO4) [f]	24 hours	25 µg/m^3	*	Industrial processes.
Visibility Reducing Particles	8 hours	ExCo [f] =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.

Table 3.3-1 Ambient Air Quality Standards for Criteria Pollutants

Pollutant	Averaging Time	California Standard [a]	Federal Primary Standard [b]	Major Pollutant Sources
Hydrogen Sulfide	1 hour	0.03 ppm	No Federal Standard	Hydrogen sulfide (H_2S) 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 hour	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 2024a; EPA 2025

Notes: ppm: parts per million; µg/m^3: micrograms per cubic meter

* Standard has not been established for this pollutant/duration by this entity.

a. 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.

b. 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 3 years, are equal to or less than the standard.

c. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

d. 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.

e. On February 7, 2024, the national annual $PM_{2.5}$ standard was lowered from 12 µg/m^3 to 9 µg/m^3. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary), secondary annual $PM_{2.5}$ standard, and PM_{10} standards (primary and secondary) were retained.

f. 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.

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

Public exposure to TACs is an environmental health issue in California. In 1983, the Legislature enacted a program to identify the health effects of TACs and to reduce exposure to these contaminants to protect the public health. The 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." A substance that is listed as a hazardous air pollutant pursuant to Section 112(b) of the federal CAA (42 US Code Section 7412[b]) is a TAC. Under State law, the California Environmental Protection Agency (CalEPA), 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 AB 1807 (Tanner Air Toxics Act) and AB 2588 (Air Toxics "Hot Spot" Information and Assessment Act of 1987). The Tanner Air Toxics Act sets 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 designated TACs. 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.** This 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.** This 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.

LOCAL

Code of Ordinances

The Lake County Code of Ordinances (LCCO) includes various directives pertaining to air quality. The LCCO is organized by chapter, article, and section. The following provisions are related to air quality:

- **Chapter 3, *Agriculture and Plant Protection*.**
  - Article 4, *Right to Farm Ordinance*, outlines the County's policy to protect agricultural lands in potential conflicts with non-agricultural uses. Section 3-42, *Nuisance*, notes that no commercial agricultural facilities can be considered a nuisance, within reason. Section 3-43, *Real Estate Transfer Disclosure Statement*, requires properties adjacent to agricultural operations to acknowledge the presence and potential exposure to odors, fumes, noise, and other nuisances associated with agricultural facilities. The County maintains an Agricultural Grievance Committee to resolve disputes related to agricultural nuisances.
  - Article 7, *Agricultural Regulations and Standards for the Cultivation of Industrial Hemp in the Unincorporated Areas of the County of Lake*, establishes the County's policy for hemp/cannabis cultivation in the county. Air quality-specific requirements for cannabis cultivation are included in the County's Zoning Ordinance, discussed below.
- **Chapter 13, *Nuisances*.** This chapter regulates public nuisances in the county which are defined among other things as noxious odors which offend the peace and quiet of persons of ordinary sensibilities. Section 13-10, *Prohibited Conduct and Required Removal*, places restrictions on the storage of garbage and refuse. The zoning standards adopted in the County's Zoning Ordinance also help to reduce odor nuisances, obnoxious dust or fumes to adjacent properties on sensitive development by ensuring that incompatible uses are separated.
- **Chapter 21, *Zoning.*** Article 27, *Uses Generally Permitted*, of the Lake County Zoning Ordinance includes requirements for permittees of cannabis operations. This includes a prohibition of cannabis odors and requires cannabis permittees to prepare a Property Management Plan. The intent of the plan is to demonstrate how the operation of the commercial cannabis cultivation site will not harm the public health, safety, and welfare or the natural environment of Lake County. A required section of this plan is related to air quality and includes the following provisions:
  - Permittees shall identify any equipment or activity that may cause, or potentially cause the issuance of air contaminates including odor and shall identify measures to be taken to reduce, control or eliminate the issuance of air contaminants, including odors.

- All cannabis permittees shall obtain an Authority to Construct permit, if necessary, pursuant to LCAQMD Rules and Regulations, prior to the construction of the facility and to operate any article, machine, equipment or other contrivance which causes or may cause the issuance of an air contaminant. Permittees are required to maintain this permit for the life of the project, until the operation is closed and equipment is removed.
- The applicant shall prepare an odor response program that includes (but is not limited to):
  - Designating an individual(s) who is/are responsible for responding to odor complaints 24 hours per day/seven (7) days a week, including holidays.
  - Providing property owners and residents of property within a 1,000 foot radius of the cannabis facility, with the contact information of the individual responsible for responding to odor complaints.
  - Policies and procedures describing the actions to be taken when an odor complaint is received, including the training provided to the responsible party on how to respond to an odor complaint.
  - The description of potential mitigation methods to be implemented for reducing odors, including add- on air pollution control equipment.
  - Contingency measures to mitigate/curtail odor and other emissions in the event the methods described above are inadequate to fully prevent offsite nuisance conditions.

Also noted in Article 27, is that cannabis cultivation in an accessory structure on a residentially zoned lot must be equipped with an odor-control filtration and ventilation system(s) adequate to prevent cannabis plant odors from exiting the interior of the accessory structure.

- **Chapter 22, *Burning Regulations*.** This chapter is intended to implement State requirements for fire hazard protection and LCAQMD's Rules and Regulations for the protection of air quality in the county. Under Section 22-3, *Burning Limitations*, it is prohibited to burn any brush, stumps, logs, fallen timber, fallows, slash or grass, brush or forest covered lands, or any other flammable material in the county without a burning permit starting in May until otherwise directed by the director or the California Department of Forestry and Fire Protection. Burning activities most also comply with LCAQMD's designated permissive burn days and hours of permitted burning.
- **Chapter 30, *Grading Ordinance*.** This chapter sets forth rules and regulations to control activities involving excavation, grading and earthwork construction, including protecting air quality from fugitive dust and the release of asbestos from earth disturbance activities. Under Section 30-12, *Cuts and Fills*, any use of serpentine in fill materials shall require an Asbestos Dust Mitigation Plan which must be submitted to LCAQMD for approval. Section 30-16, *Dust Control*, outlines the County's requirements for dust control at construction sites.

Air Quality Management District

The LCAQMD is the agency responsible for improving air quality in the LCAB and ensuring that the National and California AAQS are attained and maintained. LCAQMD applies air pollution regulations to all major stationary pollution sources and monitors air quality. Since LCAB is in attainment of both state and federal air quality standards, LCAQMD has not adopted an Air Quality Management Plan, and instead uses its rules and regulations to address air quality standards. These regulate various sources of emissions in the county and provide specific standards for large industries in the county including geothermal energy extraction and non-ferrous metal melting. The rules and regulations also outline standards to reduce exposure to asbestos emissions during grading due to the presence of naturally occurring asbestos in several portions of the county.

LCAQMD Rules and Regulations includes rules and regulations required and recommended for all projects (LCAQMD 2006). Project proponents are responsible for compliance with the adopted LCAQMD rules and regulations. The following is a general summary of the key LCAQMD rules and regulations:

- **Chapter II, *Prohibitions and Standards.***
  - Article 1, *Visible Emissions,* notes that a person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant 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 number 1 on the Ringelmann Chart, as published by the United States Bureau of Mines.
  - Article 2, *Particulate Matter Emissions,* notes that a person shall not discharge from any source whatsoever 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 to have a natural tendency to cause injury or damage to business or property. The provisions of Rule 205 do not apply to odors emanating from agriculture operations necessary for the growing of crops or raising of fowl or animals.
  - Article 4, *Other Emissions or Contaminants*, Section 239 notes that all new sources of air contaminants or modifications to existing sources shall comply with the rules, standards, criteria and requirements of Part 60, Chapter 1, Title 40, Code of Federal Regulations (40 CFR 60). Section 431 notes that no person shall ignite or cause to be ignited or suffer, allow or maintain any open outdoor fires for the purpose of disposal or burning of petroleum wastes, demolition debris, tires, trees, wood waste, or other combustible or flammable solid or liquid waste; or for metal salvage or burning of motor vehicle bodies or portions thereof. Additional provisions in Section 431 describe LCAQMD's restrictions on agricultural burning.
- **Chapter IV, *Permits.***

- Article 1, *Authority to Construct,* notes that a written Authority to Construct shall be required to construct, erect, alter or replace any equipment which may cause, potentially cause, reduce, control or eliminate the issuance of air contaminants. An Authority to Construct may be denied if emissions from the new source or modification is not expected to result in the violation or measurable contribution to the continued violation of any local, state or national ambient air quality standard and provided that the best-available control technology as defined, if applicable, will be used on the contaminant emitting equipment. New and modified sources are subject to the following requirements:
  - All criteria air pollutants for which there is an AAQS (except CO and lead): 120 pounds (lbs) per hour or 150 lbs per day
  - CO: 150 lbs per hour or 1,500 lbs per day
  - Lead: 27 lbs per day

- **Asbestos Emissions Control Measure.**
  - Section 467, *Part V-Roadways and Surfacing Standards, B-Asbestos Emissions Control Measure,* states that all construction projects located on a serpentine outcrop or alluvial material from an outcrop, which contains greater than one percent (1%) asbestos having the potential to create a wearing surface, shall notify the District of intended operations 30 days prior to construction activity. A representative from each project shall file and receive approval of an asbestos-dust-hazard mitigation plan prior to any construction activity at the site. The plan shall address and include mitigation for: excavation, roads, yards, driveways, parking areas, hauling and tracking of material onto adjacent roadways. All material shall be transported in a manner minimizing dust emissions. In no instance shall the dust from such operations exceed five percent (5%) opacity twenty (20) feet from the traveled surface. Employees working on such projects shall be informed of the potential health risk of air borne asbestos, and the requirements of the asbestos-dust-hazard mitigation plan by the owner of the project.

LCAQMD has not adopted CEQA thresholds of significance for criteria air pollutants and instead recommends use of the Bay Area Air District's guidance and methodology for determining CEQA impacts of development in the county (LCAQMD 2017).

Regional Transportation Plan

The Regional Transportation Plan (RTP) is a long-range planning document developed by the Lake Area Planning Council (LAPC), which functions as the Regional Transportation Planning Agency (RTPA) for the Lake County region. It is updated every four years, most recently in May 2022. The RTP covers a 20-year horizon with an overall goal of promoting the safe and efficient management, operation and development of a multi-modal transportation system. This includes policies and strategies that aim to improve air quality such as Policy OI-4.2, which directs the

LAPC to work with local jurisdictions to develop project specific mitigation measures as a means of reducing VMT resulting from land use development.

3.3.2 Existing Conditions

COUNTYWIDE AREA

Air Basin Characteristics

California is divided geographically into air basins for the purpose of managing the air resources of the state on a regional basis. An air basin generally has similar meteorological and geographic conditions throughout. The state is divided into 15 air basins. As previously stated, Lake County is in the LCAB, which is contiguous with the borders of the county. The following discussion identifies the natural factors in the LCAB that affect air pollution. Air pollutants of concern are criteria air pollutants and TACs. Federal, State, and local air districts have adopted laws and regulations intended to control and improve air quality. Air quality in this area is determined by such natural factors as topography, meteorology, and climate, in addition to the presence of existing air pollution sources and ambient conditions:

- **Topography.** The LCAB is approximately 80 miles north of San Francisco and is within the northern Coast Ranges of California, which topographically consists of long, parallel ridges that trend from the southwest to the northwest. The barrier of the mountains tends to distort normal wind flow patterns. Natural hot springs and geothermal power generating plants occur within the LCAB. The most prominent feature of the LCAB is Clear Lake, which is located at an elevation of 1,320 feet and occupies the central portion of the LCAB. The Coast Range has an elevation of approximately 3,500 feet in the west and somewhat lower in the east. Portions of the Mendocino National Forest in the northeast portion of the county rise to peak elevations of more than 7,000 feet (LCAQMD 2002).
- **Meteorology.** The climate in LCAB is dominated by the strength and location of a semi-permanent, subtropical high-pressure cell. During the summer, the Pacific high-pressure cell is centered over the northeastern Pacific Ocean, resulting in stable meteorological conditions and a steady northwesterly wind flow. The upwelling of cold ocean water from below the surface because of the northwesterly flow produces a band of cold water off the California coast. The cool and moisture-laden air approaching the coast from the Pacific Ocean is further cooled by the presence of the cold-water band, resulting in condensation and the presence of fog and stratus clouds along the Northern California coast. In the winter, the Pacific high-pressure cell weakens and shifts southward, resulting in wind flow offshore, the absence of upwelling, and the occurrence of storms. Weak inversions coupled with moderate winds result in a low air pollution potential.
- **Wind Patterns.** As described previously, the northern California intermountain coastal climate dominates the LCAB. The Pacific high-pressure system and thermal low-pressure conditions over the LCAB interact during the summer to create predominantly westerly wind

conditions. Winters are dominated by northwesterly winds associated with winter storms (LCAQMD 2002).

- **Temperature.** Slight local variation in the climate occurs throughout the LCAB due to its mountainous terrain. For example, in the Cobb Mountain Planning Area in the southwest portion of the county has maximum average monthly temperatures reach 83 degrees Fahrenheit in July and minimum temperatures of 29 degrees Fahrenheit in December (Weather Spark 2024a). Maximum temperatures in North Lake Communities Planning Area in the northern portion of the county reach 91 degrees Fahrenheit in July and 35 degrees Fahrenheit in December (Weather Spark 2024b).
- **Precipitation.** Precipitation levels across the LCAB are largely similar. The rainy season lasts from approximately October to April. The month with the most wet days in all local areas is February, with an average of 9 to 10 days with at least 0.04 inches of precipitation. Late spring and summer are typically the driest. August is the driest month with an average of only 0.04 inches of precipitation (Weather Spark 2024b).
- **Inversions.** The LCAB experiences frequent temperature inversions that trap pollutants near the ground surface, especially in early morning hours. Upper air subsidence, which restricts upward dispersion, is typical of summer seasons. The highest pollutant concentrations are generally observed under stagnating weather patterns and are typically the result of locally derived pollutants, poorly carried out control burns, or wildfires (LCAQMD 2002).

LCAB Area Designations

Air Quality Management Plans provide the framework for air quality basins to achieve attainment of National and California AAQS through the State Implementation Plan. Areas that meet AAQS are classified attainment areas, and areas that do not meet these standards are classified nonattainment areas. Severity classifications for O_3 range from marginal, moderate, and serious to severe and extreme.

- **Unclassified:** A pollutant is designated unclassified if the data are incomplete and do not support a designation of attainment or nonattainment.
- **Attainment:** A pollutant is in attainment if the AAQS for that pollutant was not violated at any site in the area during a three-year period.
- **Nonattainment:** A pollutant is in nonattainment if there was at least one violation of an AAQS for that pollutant in the area.
- **Nonattainment/Transitional:** A subcategory of the nonattainment designation. An area is designated nonattainment/transitional to signify that the area is close to attaining the AAQS for that pollutant.

The attainment status for the LCAB is shown in Table 3.3-2, *Attainment Status of Criteria Air Pollutants in the Lake County Air Basin.* The LCAB is currently in attainment for all standards.

Table 3.3-2 Attainment Status of Criteria Pollutants in the Lake County Air Basin

Pollutant	State	Federal
Ozone – 1-hour	Attainment	NA
Ozone – 8-hour	Attainment	Unclassified/Attainment
PM_{10}	Attainment	Unclassified
$PM_{2.5}$	Attainment	Unclassified/Attainment
CO	Attainment	Unclassified/Attainment
NO_2	Attainment	Unclassified/Attainment
SO_2	Attainment	Unclassified/Attainment
Lead	Attainment	Unclassified/Attainment
Sulfates	Attainment	Unclassified/Attainment
All others	Unclassified/Attainment	Unclassified/Attainment

Source: CARB 2024g.

Existing Ambient Air Quality

Existing levels of ambient air quality and historical trends and projections in the vicinity of Lake County have been documented and measured by the LCAQMD. LCAQMD has one permanent monitoring station in the county at 2617 South Main Street, in Lakeport. This station measures ozone, $PM_{2.5}$, and PM_{10} levels. Data from this station is summarized in Table 3.3-3, *Ambient Air Quality Monitoring Summary*. The data show occasional violations of the federal $PM_{2.5}$ and State PM_{10} standards. It should be noted that other criteria pollutants, such as NO_2, SO_2, and CO, are not measured at this monitoring station. In general, an area that does not measure criteria air pollutants is assumed to not risk nonattainment status from these pollutants, because investments in new monitoring equipment are not sought by LCAQMD for pollutants that are not the driver for poor air quality.

Table 3.3-3 Ambient Air Quality Monitoring Summary

Pollutant/Standard	Number of Days Threshold Were Exceeded and Maximum Levels During Such Violations		
	2020	2021	2022
Ozone (O_3)			
State 1-Hour ≥ 0.09 ppm	0	0	0
State & Federal 8-hour ≥ 0.07 ppm	0	0	0
Maximum 1-Hour Conc. (ppm)	0.070	0.067	0.068
Maximum 8-Hour Conc. (ppm)	0.063	0.055	0.053
Coarse Particulates (PM_{10})			
State 24-Hour > 50 µg/m^3	4	1	0
Federal 24-Hour > 150 µg/m^3	0	0	0

Table 3.3-3 Ambient Air Quality Monitoring Summary

Pollutant/Standard	Number of Days Threshold Were Exceeded and Maximum Levels During Such Violations		
	2020	2021	2022
Maximum 24-Hour Conc. (µg/ m^3)	37.5	122.9	35.2
Fine Particulates ($PM_{2.5}$)			
Federal 24-Hour > 35 µg/m^3	4	1	0
Maximum 24-Hour Conc. (µg/m^3)	111.5	64.4	22.4

Source: CARB 2024b.

Notes: ppm = parts per million; ppb = parts per billion; µg/m^3 = micrograms per cubic meter.

Emissions Sources

Asbestos

Naturally occurring asbestos (NOA) is found in at least 44 of California's 58 counties. Asbestos is the name for a group of naturally occurring silicate minerals. Exposure to friable asbestos may result in inhalation or ingestion of asbestos fibers, which over time may result in damage to the lungs or membranes that cover the lungs, leading to illness or even death. NOA, often found in serpentine rock formations, is present in several areas of Lake County (DOC 2024). LCCO Chapter 30, *Grading Ordinance*, requires the preparation of an Asbestos Dust Mitigation Plan and mitigation measures for grading in NOA areas. These plans are required to be submitted to LCAQMD for approval.

Asbestos-containing materials (ACM) are also a hazard of concern in the county due to the use of these materials for building construction. Asbestos fibers may be released into the air by the disturbance of ACM during product use, demolition work, building or home maintenance, repair, and remodeling (EPA 2024a). LCAQMD regulates the use and disposal of ACM in Section 476, *Asbestos Emissions Control Measure*, of the LCAQMD Rules and Regulations (LCAQMD 2001). Section 476 specifies the procedures for demolition and disposal activities that involve ACM, prohibits the use of ACM in the manufacture of molded insulating materials, and regulates the use of ACM in roadway surfacing. Pursuant to this rule, LCAQMD requires inspections and notification of all demolitions and most renovations in the county through its Asbestos Demolition/Renovation Notification Form (LCAQMD n.d.).

Geothermal Energy

As shown on the County's Primary Geothermal Resource Area map included as Figure 10-1 in the 2008 General Plan, the western portion of the county contains the primary geothermal resources (Lake County 2008). This area contains a number of geothermal operations associated with "The Geysers," which is known as the largest geothermal field in the world (Lake County,

Geothermal). Geothermal energy development began at The Geysers during the 1960s with the construction of roads, well drilling, and energy plants continuing into the 1990s (USGS 2023). The geothermal field currently contains 18 geothermal power plants and draws steam from more than 350 wells (LCHS n.d.).

Emissions associated with geothermal energy extraction include hydrogen sulfide (a toxic gas known for its characteristic "rotten egg" odor that is regulated by CARB for the purpose of odor control [CARB 2024b]), ammonia, methane, and carbon dioxide. Geothermal power plants use scrubbers to remove the hydrogen sulfide naturally found in geothermal reservoirs. Most geothermal power plants also inject the geothermal steam and water that they use back into the earth (USFWS n.d.). However, LCAQMD reports that emissions of hydrogen sulfide associated with the geothermal development in the county have resulted in complaints from residents due to the odor nuisance of gas (SSD 2007).

PLANNING AREAS

Cobb Mountain Planning Area

The Cobb Mountain Planning Area is sparsely populated and is characterized by a mix of land uses that have resulted in geothermal development in proximity to residential and recreational uses. A portion of the Cobb Mountain Planning Area overlies the primary geothermal resource area of the county (Lake County 2008). The Calistoga Geothermal Project and Bottle Rock Power Plant are in the Cobb Mountain Planning Area (CEC 2024a, 2024b). Prevailing weather patterns cause geothermal emissions to be carried easterly and northerly into residential and recreational areas of the Cobb Mountain Planning Area. Additionally, other meteorological conditions in the late summer and fall months like temperature inversions, low wind speed, and low precipitation result in poor air dispersion, which can cause an excess of hydrogen sulfide to accumulate in the area north of Cobb Mountain. This can result in potential odor nuisances from the hydrogen sulfide gas. Other sources of emissions in the Cobb Mountain Planning Area include large stationary engines, truck and auto traffic, dust from unpaved roads and construction areas, and residential wood smoke.

East Lake Communities Planning Area

The East Lake Communities Planning Area encompasses the largest incorporated city in the county, Clearlake, and is on the eastern portion of Clear Lake. It also borders the Coastal Range and the Mendocino National Forest to the east. The East Lake Communities Planning Area contains a variety of land uses, including single-family subdivisions, commercial and industrial uses, and agricultural uses, specifically viticultural. Like other portions of the county, the primary emissions sources include burning from wood stoves, vegetation burning, dust from agricultural and construction activities, and vehicles.

Kelseyville Planning Area

The Kelseyville Planning Area contains a mixture of industrial, commercial, agricultural, and residential land uses. Combined with the natural drainage effects of the surrounding hills and mountains, Big Valley and Kelseyville are subject to localized poor dispersion during portions of the year. Inversions trap the pollutants carried into the valley from remote sources as well as stagnating the locally generated pollutants. These inversions occur more often and last longer in the Kelseyville Planning Area than in the rest of the county due to its basin topography, stagnant cold air, and location on the windward side of Mount Konocti. The high concentration of development, and residential and agricultural burning activities are the cause of increased particulate concentrations and visibility reductions within this airshed sub-basin. Particulate matter is also generated by dust from agricultural activities, unpaved driveways/roads, and construction activities (Lake County, Kelseyville).

Lakeport Planning Area

The Lakeport Planning Area has a varied terrain, bordering and encompassing part of Clear Lake to the east and Mayacamas Mountain Range to the west. Due to the geology of the mountain range, the Lakeport Planning Area contains areas of crushed serpentine mash which contains the mineral chrysotile, a primary source of naturally occurring asbestos. Grading within the NOA areas would require compliance with the LCAQMD's regulations pertaining to control of asbestos emissions. The Lakeport Planning Area contains residential, commercial, industrial, and agricultural uses, in addition to recreational uses along Clear Lake and in the mountains. The burning of agricultural waste, wood heaters for residential units, dust from unpaved roads and driveways, agricultural spraying and grading, as well as vehicles, are common sources of air pollutants in this portion of the county. Due to the Lakeport Planning Area's terrain, pollutants often get trapped in the flatter, more populated area of the Lakeport Planning Area during inversion periods.

Middletown Planning Area

Like other areas of the county, the Middletown Planning Area is often subject to poor air dispersion during portions of the year primarily due to its position in a valley basin between the Coast Range mountains. In the Middletown Planning Area, inversion periods will trap pollutants carried into the Callayomi Valley from remote industrial sources and locally sources pollutants. The Middletown Planning Area contains low density housing and commercial uses centered around State Route (SR) 175 and SR-25, in addition to agricultural and industrial uses on the periphery of Middletown. Additionally, most of the geothermal wells in Lake County are in the Middletown Planning Area (Lake County 2010). Smoke from open residential burning, prescribed vegetation burning, and agricultural burning is a frequent air quality hazard in this area. Agricultural operations in addition to burning, including agricultural tillage, use of fertilizers and chemical sprays, and unpaved driveways and roads are also major sources of particulate air pollution in the Middletown Planning Area (Lake County 2010). NOA is also a

concern for development in this Planning Area as there are extensive deposits of ultramafic rocks and serpentine soil.

North Lake Communities Planning Area

The North Lake Communities Planning Area is the largest area, dominating the northern portion of the county. Land uses primarily include agriculture and recreation, in addition to commercial and residential development concentrated in Upper Lake and Nice. Vehicles are the primary source of emissions in the Planning Area, but dust and smoke associated with agricultural activities contribute to worsened air quality in the flatter, more populated areas near Clear Lake, specifically during inversion periods. NOA is also a concern for development in this Planning Area.

Rivieras Planning Area

The Rivieras Planning Area contains a mixture of agricultural and residential land uses, particularly single-family subdivisions, with a limited amount of commercial development, as the geography, road network, and level of services available are not conducive to many types of commercial or industrial uses. The Rivieras Planning Area encompasses the southwestern portion of Clear Lake and, like the Lakeport Planning Area, is bordered by the Coastal Range mountains to the west, which results in low levels of dispersion during inversion periods. Emissions sources include burning from residential heating, agricultural burning, and prescribed fires, in addition to vehicle emissions and dust from agricultural activities and construction.

3.3.3 Standards for Analysis

SIGNIFICANCE CRITERIA

Appendix G, *Environmental Checklist Form*, of the CEQA Guidelines states that the proposed project would result in a significant air quality impact if it would:

a) Conflict with or obstruct implementation of the applicable air quality plan.

b) 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.

c) Expose sensitive receptors to substantial pollutant concentrations.

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

THRESHOLD GUIDANCE

Because LCAQMD has not adopted CEQA thresholds of significance for criteria air pollutants—and consistent with prior LCAQMD recommendation to use Bay Area Air District guidance and methodology—thresholds of significance will be those identified in the latest Bay Area Air District CEQA Guidelines (most recently updated in April 2023), which are summarized below (LCAQMD 2017; Bay Area Air District 2023).

Air Quality Management Plan Consistency

For the plan-level air quality analysis, the Bay Area Air District recommends a consistency evaluation of a plan with its current Air Quality Management Plan (AQMP) measures. The Bay Area Air District considers plan-level consistency with the AQMP in accordance with the following:

- Does the project support the primary goals of the AQMP?
- Does the project include applicable control measures from the AQMP?
- Does the project disrupt or hinder implementation of any AQMP control measures?
- A comparison of the project VMT or vehicle trip increase is less than or equal to the projected population increase.

Because Lake County Air Basin is in attainment of federal and State AAQS, an AQMP has not been prepared, and LCAQMD is not required to prepare one for the LCAB. Moreover, as the Bay Area Air District's AQMP pertains specifically to that region's attainment status for criteria air pollutants and the primary goals and control measures thereof do not apply to Lake County, the following analysis will focus on the project's growth in population and VMT for this impact.

Criteria Air Pollutant Emissions and Precursors

Table 3.3-4, *Bay Area Air District Project-Level Regional (Mass Emissions) Criteria Air Pollutant Thresholds*, shows the Bay Area Air District's criteria for regional significance for projects that have the potential to result in cumulatively considerable contribution to current or projected violations in ambient air quality standards. Both the project-level construction and operational phase significance criteria are provided in Table 3.3-4, *Bay Area Air District Project-Level Regional (Mass Emissions) Criteria Air Pollutant Thresholds*.

Table 3.3-4 Bay Area Air District Project-Level Regional (Mass Emissions) Criteria Air Pollutant Thresholds

Pollutant	Construction Phase		Operational Phase
	Average Daily Emissions (lbs/day)	Average Daily Emissions (lbs/day)	Maximum Annual Emissions (Tons/year)
ROG (reactive organic gas)	54	54	10
NO_X (nitrogen)	54	54	10
PM_{10} (particulate matter)	82 (Exhaust)	82	15
$PM_{2.5}$ (fine particulate matter)	54 (Exhaust)	54	10
PM_{10} and $PM_{2.5}$ Fugitive Dust	Best Management Practices	None	None

Source: Bay Air District 2023.

If projects exceed the emissions shown in Table 3.3-4, emissions could cumulatively contribute to a State or national AAQS nonattainment status and would contribute to elevating health effects associated with these criteria air pollutants. However, for projects that exceed the emissions in Table 3.3-4, it is speculative to determine how exceeding the regional thresholds would affect the number of days the region is in nonattainment or health consequences within the LCAB. This is because on a percentage basis, the increase in emissions from a single project would be small in the context of emissions within the entire LCAB. While regional dispersion modeling is feasible, the effects of any project on concentrations within the region are well within the model's margin of error due to the magnitude of regional emissions compared to any single development project. Consequently, information derived from regional modeling tools would not provide meaningful information regarding the project's cumulative contribution to health impacts in the LCAB from emissions that exceed the thresholds identified in Table 3.3-4. While the proposed project would be programmatic in nature, the thresholds in Table 3.3-4 will be used to determine whether the project may cumulatively result in a significant air quality impact.

Health Risk Impacts

Plan-Level Health Risk

The Bay Area Air District's significance thresholds for local community risk and hazard impacts apply to both the siting of a new source and to the siting of a new receptor. Local community risk and hazard impacts are associated with TACs and $PM_{2.5}$ because emissions of these pollutants can have significant health impacts at the local level. The proposed project would generate TACs and $PM_{2.5}$ during construction activities that could elevate concentrations of air pollutants at the nearby receptors. The thresholds for construction-related local community risk and hazard impacts are the same as for project operations. The Bay Area Air District has adopted screening tables for air toxics evaluation during construction (Bay Area Air District 2023). Construction-related TAC and $PM_{2.5}$ impacts are addressed on a case-by-case basis, taking into consideration the specific construction-related characteristics of each project and proximity to off-site and on-site receptors, as applicable (Bay Area Air District 2017, 2023).

For construction and operation, the Bay Area Air District significance thresholds for a project-level analysis are shown below:

- Excess cancer risk of more than 10 in a million.
- Non-cancer hazard index (chronic or acute) greater than 1.0.
- Incremental increase in average annual $PM_{2.5}$ concentration of greater than 0.3 cubic meter ($\mu g/m^3$).

Because these thresholds apply to individual projects and site-specific conditions are unknown at the time this Draft EIR is prepared, construction health impacts will be discussed qualitatively.

For operation, this analysis will use CARB's recommended screening distances from its *Air Quality and Land Use Handbook: A Community Health Perspective* (2005) for TAC-generating land uses, such as distribution centers or rail yards, in relation to existing or planning sensitive land uses (e.g., residential, school, medical).

Carbon Monoxide Hotspots

Congested intersections have the potential to create elevated concentrations of carbon monoxide (CO), referred to as CO hotspots. The significance criteria for CO hotspots are based on the State AAQS for CO, which are 9.0 ppm (8-hour average) and 20.0 ppm (1-hour average). The Bay Area Air District does not recommend a CO hotspot analysis if the following criteria are met:

- The project is consistent with an applicable congestion management program established by the County Congestion Management Agency for designated roads or highways, the regional transportation plan, and local congestion management agency plans.

- The project would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour.
- The project traffic would not increase traffic volumes at affected intersection to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).

Lake County does not have a Congestion Management Agency or an adopted congestion management program. Therefore, impacts associated with CO hotspots will analyze whether the proposed project's increases in vehicle trips would increase traffic volumes on roadway segments to over 44,000 vehicles per hour or 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited.

Odors

The Bay Area Air District's thresholds for odors are qualitative based on the Bay Area Air District's Regulation 7, *Odorous Substances*, which establishes odor screening thresholds for land uses that have the potential to generate substantial odor complaints, including wastewater treatment plants, landfills or transfer stations, composting facilities, confined animal facilities, food manufacturing, and chemical plants (Bay Area Air District 2023). To determine potential odor impacts for a plan-level analysis, the Bay Area Air District recommends:

- Identification of potential existing and planned location of odor sources
- Policies to reduce odors

The LCCO and Zoning Ordinance include provisions that apply to odor management in the County. Noxious odors are subject to the prohibitions in Chapter 13, *Nuisances*, of the LCCO. However, the provisions of Chapter 13 would generally not apply to existing agricultural operations. Per Section 3-43 of the LCCO Right-to-Farm Ordinance, new non-agricultural uses adjacent to existing agricultural operations would be required to sign a Real Estate Transfer Disclosure Statement to acknowledge the presence and potential exposure to odors associated with agricultural uses. Additionally, permittees of cannabis operations would be subject to the requirements of Article 27 of the Lake County Zoning Ordinance. Such requirements include the preparation of a Property Management Plan that includes odor attenuation and response measures.

Therefore, the following analysis will also discuss odor impacts of the proposed General Plan 2050 with respect to the County's requirements and policies.

METHODOLOGY

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 proposed project. As discussed previously, the Bay Area Air District guidance for analyzing and mitigating air quality impacts was used in this analysis. The EIR Study Area's criteria air pollutant emissions inventory includes the following sectors:

- **Transportation.** Transportation emissions forecasts were modeled using emission rates from CARB's EMFAC2021, version 1.0.2 web database. Model runs were based on daily VMT data provided by Fehr & Peers (see Appendix B, *Transportation Data*, of this Draft EIR) adjusted for the population and employment in the EIR Study Area in 2019. VMT data is based on the Origin Destination (OD) Method and on the recommendations of CARB's Regional Targets Advisory Committee (RTAC) created under Senate Bill (SB) 375. Consistent with CARB's methodology within the Climate Change Scoping Plan Measure Documentation Supplement, daily VMT was multiplied by 347 days per year to account for reduced traffic on weekends and holidays to determine annual emissions. The VMT estimates included in Appendix B, *Transportation Data*, reflect OD VMT that were updated after the emissions calculations for this chapter and Appendix C, *Air Quality and Greenhouse Gas Emissions Data*, were prepared. As a result, the OD VMT used in the emissions analysis, provided in Section 3.3.4, *Project Impact Discussion,* reflects a higher daily VMT for the proposed project of 1,474,570 miles instead of the updated daily OD VMT of 1,470,343 miles when accounting for the RTAC adjustment, as shown in Appendix B. Therefore, the emissions analysis herein uses VMT estimates that are higher than those contained in Appendix B, thereby representing a conservative assessment of potential mobile source emissions impacts from implementation of the proposed project.
- **Energy.**
  - **Building Electricity Use.** Emissions associated with electricity use for residential and nonresidential land uses in the county were calculated based on data provided by the Pacific Gas and Electric Company (PG&E). Due to the 15/15 Rule, electricity use data for industrial land uses was aggregated with the nonresidential land uses in the data provided by PG&E. Existing 2024 emissions are based on the 2019-2023 annual average electricity use. Forecasts for year 2050 are adjusted for increases in population for residential electricity use and nonresidential square footage for nonresidential electricity use in the County. Carbon intensity for year 2024 and 2050 are based on the carbon intensity for PG&E identified in the 2022 CalEEMod User's Guide, Appendix G (CAPCOA 2022). Because there are no natural gas pipelines in the County and natural gas infrastructure is highly dispersed, natural gas consumption is not accounted for within these calculations.

- **Propane Use**. For propane emissions, proposal consumption was identified for residential uses using US Census Bureau data for houses using bottled, tank, or LP gas for house heating fuels and US Energy Information Administration data for propane consumption, and was applied to the growth in residential units through 2050. Nonresidential propane consumption was estimated using CalEEMod default consumption factors for natural gas as a proxy for propane consumption. The consumption factors were applied to the growth in non-residential square footage through 2050. Please refer to Appendix C, *Air Quality and Greenhouse Gas Emissions Data,* for propane source emission calculations.

- **Off-Road Equipment**. Emission rates from CARB's OFFROAD2021, version 1.1.0, web database was used to estimate criteria air pollutant emissions from light commercial and construction equipment in the EIR Study Area. OFFROAD2021 is a database of equipment use and associated emissions for each county compiled by CARB. Emissions were compiled using OFFROAD2021 for Lake County for 2024. To determine the percentage of emissions attributable to the unincorporated County, proportional allocations were applied to each emissions category based on the relevant metric. Agricultural equipment is based on the percentage of Important Farmland in the unincorporated County compared to all of Lake County. Construction equipment use is based on the percentage of housing permits for the unincorporated county compared to all of Lake County. The industrial and light commercial equipment use is based on percentage of employment for the unincorporated county compared to all of Lake County. Lawn and garden equipment use is based on the percentage of population in the unincorporated county compared to all of Lake County.
- **Consumer Products**. Emissions from consumer products are based on the emission factors from the latest CalEEMod Users Guide and an estimate of the average residential square footage for all housing units in the county derived from US Census data.
- **Wood Burning**. Emissions from wood burning on hearths and fireplaces are based on the latest CalEEMod Users Guide's wood stove and fireplace usage factors for LCAPCD and emission factors based on tons of wood burned. Emissions from residential wood burning are based on the number of existing and proposed housing units in the EIR Study Area.

3.3.4 Project Impact Discussion

a) Would the project conflict with or obstruct implementation of the applicable air quality plan?

The proposed project plays an important role in local agency project review by linking local planning and individual projects to the applicable AQMP. 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

AQMPs. Since the LCAB is in attainment for all criteria air pollutants, LCAQMD has not prepared an AQMP. Accordingly, a plan consistency analysis is not required at this time, and impacts are considered **less than significant.**

If over the course of the buildout horizon, Lake County should become in non-attainment, the proposed General Plan 2050 contains policies and actions that require local planning and development decisions to consider impacts from emissions and implementation of the policies and actions would contribute towards minimizing long-term emissions. Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, identifies the specific policies and actions denoted with the abbreviation AIR that reduce air quality pollutants. In particular, the following key policies and actions would serve to minimize conflicts with the applicable AQMP:

- Policy HS-5.1 requires monitoring new and existing air pollution point sources for compliance with County, State, and federal air quality regulations and standards.
- Policy HS-5.4 requires cooperation with local and regional agencies to develop an effective approach to regional air quality planning management and solicit and consider comments from local and regional agencies on proposed projects that may affect regional air quality. Continue to submit development proposals to the LCAQMD for review and comment, in compliance with CEQA, prior to consideration for approval by the County.
- Policy HS-5.5 requires developments to be located, designed, and constructed in a manner that minimizes air pollutant emissions through project design and implementation of feasible alternatives and amendments identified during development review.
- Policy HS-5.6* requires project applicants of discretionary projects, as appropriate, to prepare technical assessments evaluating potential project construction and operation phase-related air quality impacts to Lake County for review and approval prior to project approval. Such evaluations shall be prepared in conformance with the LCAQMD or Bay Area Air District criteria and methodology in assessing air quality impacts. If air pollutants are found to have the potential to exceed the LCAQMD or Bay Area Air District thresholds of significance, ensure mitigation measures, such as those listed in the EIR, are incorporated to reduce air pollutant emissions during construction or operational activities.
- Policy HS-5.7* requires project applicants of discretionary projects on sites greater than one acre, within 1,000 feet of sensitive land uses (e.g., residences, schools, day care facilities, and nursing homes, etc.) as measured from the property line of the project, that utilize off-road equipment of 50 horsepower or more and that occur for more than 12 months of active construction (i.e., exclusive of interior renovations), to prepare a construction health risk assessment (HRA) in accordance with policies and procedures of the State Office of Environmental Health Hazard Assessment and LCAQMD. If the construction HRA shows that the incremental cancer risk exceeds 10 in a million, the appropriate noncancer hazard index exceeds 1.0, or the thresholds as determined by the LCAQMD, require the project applicant to identify and demonstrate measures, such as those listed in the EIR, that can reduce potential cancer and noncancer risks to an acceptable level.

- Policy HS-5.8* requires project applicants of discretionary projects to prepare an operational HRA for industrial or warehousing land uses and commercial land uses that would generate substantial diesel truck travel (i.e., 100 diesel trucks or 40 or more trucks with diesel-powered transport refrigeration units per day based on the CARB recommendations for siting new sensitive land uses) prior to project approval. The operational HRA shall be prepared in accordance with policies and procedures of the State Office of Environmental Health Hazard Assessment and the LCAQMD. If the operational HRA shows that the incremental cancer risk exceeds 10 in a million, the appropriate noncancer hazard index exceeds 1.0; or the thresholds as determined by the LCAQMD, require the project applicant to identify and demonstrate measures, such as those listed in EIR, that can reduce potential cancer and noncancer risks to an acceptable level.
- Action HS-5.c requires development projects (hospitals, schools, high-occupancy public facilities, and industrial/commercial facilities over 20,000 square feet) to mitigate air quality impacts from increased traffic. Mitigation may include, but is not limited to:
  - Providing bicycle access and parking facilities
  - Providing preferential parking for high-occupancy vehicles and carpools
  - Establishing telecommuting programs or satellite work centers
  - Adding additional public transportation stops along existing bus routes
  - Installing electric vehicle charging infrastructure
- Policies CM-LU-2.5, EL-LU-2.4, K-LU-2.4, L-LU-2.4, LL-LU-2.4, M-LU-2.4, NL-LU-2.4, and R-LU-2.4 encourage potential transit destinations, including employment centers, schools, personal services, administrative and professional offices, and social/recreational centers, to be clustered within a convenient walking distance of one another and to a transit stop.
- Policies CM-C-3.3, EL-C-3.3, K-C-3.3, L-C-3.3, LL-C-3.3, M-C-3.3, NL-C-3.3, and R-C-3.3 encourage vehicle trip reduction through home occupations and telecommuting.
- Policies CM-C-3.4, EL-C-3.4, K-C-3.4, L-C-3.4, LL-C-3.4, M-C-3.4, NL-C-3.4, and R-C-3.4 encourage regional employers to provide employees with options and incentives to use non-personal vehicle modes of transportation to work or to otherwise reduce VMT (e.g., transit subsidies, bicycle facilities, ridesharing, alternative work schedules, telecommuting, and preferential parking for carpools).
- Policies CM-C-3.6, EL-C-3.6, K-C-3.6, L-C-3.6, LL-C-3.6, M-C-3.6, NL-C-3.6, and R-C-3.6 support transitioning on-road vehicles, including personal, business, government, and public transit fleets, to electric power from renewable sources or other zero-emission fuels.
- Policies CM-C-3.7, EL-C-3.7, K-C-3.7, L-C-3.7, LL-C-3.7, M-C-3.7, NL-C-3.7, and R-C-3.7 support efforts to build electric vehicle charging stations at employment and community destinations, as allowed by market conditions.
- Actions CM-C-3.e, EL-C-3.e, K-C-3.e, L-C-3.e, LL-C-3.e, M-C-3.e, NL-C-3.e, and R-C-3.e require amendment of Article 46 of the Zoning Ordinance to create electric vehicle charging and parking requirements for new development (e.g., one electric vehicle space per every 15

non-electric vehicle spaces and one charging station for large development based on square footage).

- Actions CM-C-6.a, EL-C-6.a, K-C-6.a, L-C-6.a, LL-C-6.a, M-C-6.a, NL-C-6.a, and R-C-6.a require the County to engage in each update to the countywide Active Transportation Plan to ensure the active transportation needs of the Planning Area are met.
- Policies CM-OS-4.1, EL-OS-4.1, K-OS-4.1, L-OS-4.1, LL-OS-4.1, M-OS-4.1, NL-OS-4.1, and R-OS-4.1 require the use of energy conservation features and encourage renewable and carbon-free energy generation and storage systems in new construction and renovation of existing structures.
- Policies CM-OS-4.2, EL-OS-4.2, K-OS-4.2, L-OS-4.2, LL-OS-4.2, M-OS-4.2, NL-OS-4.2, and R-OS-4.2 support efforts to increase renewable and carbon-free energy generation, including wind, solar, and biomass.
- Policies CM-OS-4.3, EL-OS-4.3, K-OS-4.3, L-OS-4.3, LL-OS-4.3, M-OS-4.3, NL-OS-4.3, and R-OS-4.3 promote and incentivize small-scale, on-site renewable energy and storage systems for existing residential units, nonresidential buildings, and in the agricultural sector.
- Policies CM-OS-4.4, EL-OS-4.4, K-OS-4.4, L-OS-4.4, LL-OS-4.4, M-OS-4.4, NL-OS-4.4, and R-OS-4.4 require participation in local and State programs that reduce the consumption of energy.
- Policies CM-OS-4.6, EL-OS-4.6, K-OS-4.6, L-OS-4.6, LL-OS-4.6, M-OS-4.6, NL-OS-4.6, and R-OS-4.6 require construction of all new or remodeled County buildings and retrofit of existing buildings to be energy efficient and rely on renewable and carbon-free energy resources where feasible.

Specifically, proposed General Plan 2050 Policy HS-5.6* would require individual project applicants to prepare technical assessments evaluating potential project construction and operation phase-related air quality impacts and if air pollutants are found to have the potential to exceed the LCAQMD or Bay Area Air District thresholds of significance, mitigation measures would be required. Proposed General Plan 2050 Policy HS-5.7* would require project applicants of discretionary projects on sites greater than one acre, within 1,000 feet of sensitive land uses (e.g., residences, schools, day care facilities, and nursing homes) as measured from the property line of the project, that use off-road equipment of 50 horsepower or more and that occur for more than 12 months of active construction (i.e., exclusive of interior renovations), to prepare a construction HRA. Proposed Action HS-5.d would require development projects to implement dust-suppression measures during excavation, grading, and site preparation activities. Proposed Policy HS-5.8* would require project applicants of discretionary projects to prepare an operational HRA for industrial or warehousing land uses and commercial land uses that would generate substantial diesel truck travel. These proposed General Plan policies and actions would ensure future development would identify project-specific mitigation measures to reduce air pollutant emissions during construction and operational activities.

Significance without Mitigation: Less than significant.

b) Would the project 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?

The proposed General Plan 2050 guides growth within the EIR Study Area by designating land uses in the proposed land use map and through implementation of its policies and actions. New development would increase air pollutant emissions in the EIR Study Area and contribute to the overall emissions inventory in the LCAB. A discussion of health impacts associated with air pollutant emissions generated by construction activities is included under the subheading "Air Pollutants of Concern" at the beginning of this section.

Construction

The proposed project would not directly result in construction of any development or infrastructure; however, future development under the proposed project would result in short-term construction-related criteria pollutant emissions that have the potential to have an adverse effect on air quality. Short-term criteria pollutant emissions would occur during demolition, site preparation, grading, building construction, paving, and architectural coating activities associated with individual development projects. ROG and NO_X emissions are primarily associated with gasoline and diesel equipment exhaust and the application of architectural coatings. Fugitive dust emissions (PM_{10} and $PM_{2.5}$) are primarily associated with site preparation and vary as a function of such parameters as soil silt content, soil moisture, wind speed, acreage of disturbance area, and VMT by construction vehicles on- and off-site. Typical construction equipment associated with development and redevelopment projects includes dozers, graders, excavators, loaders, and trucks. Accordingly, construction activities would temporarily increase criteria air pollutant emissions within the LCAB.

Although the exact coverage, location, or duration of future construction projects is unknown at the time of preparation of this program-level EIR, future development activities would generally entail demolition, site preparation, grading, building construction, paving, and painting. Potential future development from implementation of the proposed project is expected to occur in the form of infill/intensification on sites either already developed and/or underutilized and/or near existing development. Accordingly, many new projects in the EIR Study Area will likely require the demolition of existing structures to make room for newer ones. Fugitive dust emissions would typically be greatest during building demolition, site preparation, and grading activities due to the disturbance of soils and transport of material. NO_X emissions would also result from the combustion of diesel fuels used to power off-road heavy-duty vehicles and equipment (e.g., backhoes, bulldozers, excavators). The types and quantities of equipment as well as duration of construction activities would be dependent on project-specific conditions.

Larger developments would require more equipment over a longer time frame than that required for redevelopment of a single, residential home.

The LCAQMD or Bay Area Air District does not recommend plan-level thresholds of significance for construction emissions; however, the Bay Area Air District does maintain and recommend project-level thresholds of significance for construction emissions that future development projects facilitated by the proposed project would be subject to. In addition, the Bay Area Air District's CEQA Air Quality Guidelines identify and recommend a series of "Basic" measures to control and reduce construction-related fugitive dust emissions. For all projects, the Bay Area Air District recommends implementation of Basic Construction Measures to reduce construction fugitive dust and determines a project's fugitive dust impacts during construction to be less than significant if the Basic Construction Measures are incorporated into project construction.[1]

LCAB is currently in attainment for all California or National AAQS, thus impacts are considered **less than significant.** However, if over the course of the buildout horizon Lake County should become in non-attainment, the proposed General Plan 2050 contains policies and actions that require local planning and development decisions to consider impacts from construction emissions and implementation of the policies and actions would contribute towards minimizing construction emissions. As described in impact discussion (a), Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, identifies the specific policies and actions as denoted with the abbreviation AIR that would reduce air quality pollutants. Specifically, proposed General Plan 2050 Policy HS-5.6*, Policy HS-5.7*, and proposed Action HS-5.d would require development projects to evaluate construction-level impacts. These proposed General Plan policies would ensure future development would identify project-specific mitigation measures to reduce air pollutant emissions during construction activities.

Operation

Implementation and adoption of the proposed project would result in an increase in development intensity in the EIR Study Area and result in direct criteria air pollutant emissions from transportation, energy (e.g., propane use), and area sources (e.g., aerosols, landscaping equipment, wood burning). The emissions forecast for the EIR Study Area under the proposed General Plan 2050 compared to existing conditions are shown in Table 3.3-5, *Criteria Air Pollutant Emissions Forecast Compared to Existing Conditions.* As shown in this table, implementation of the proposed General Plan 2050 would result in an increase in criteria air pollutant emissions from existing conditions.

[1] The Bay Area Air Management District's current CEQA Guidelines can be found on their website: https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa

Table 3.3-5 Criteria Air Pollutant Emissions Forecast Compared to Existing Conditions

Sectors	Criteria Air Pollutant Emissions (Tons per year)			
	ROG	NO_X	PM_{10}	$PM_{2.5}$
Existing Land Uses (Year 2024)				
Transportation [a]	22	149	13	5
Residential Fuels (propane) [b]	14	182	10	10
Off-Road Equipment [c]	63	125	8	7
Consumer Products [d]	138	0	0	0
Wood Burning [e]	622	39	392	380
Total Average (Tons/year)	**859**	**494**	**423**	**402**
Proposed General Plan Land Uses (Year 2050)				
Transportation [a]	4	25	12	4
Residential Fuels (propane) [b]	17	218	12	12
Off-Road Equipment [c]	22	41	2	2
Consumer Products [d]	175	0	0	0
Wood Burning [e]	742	47	470	455
Total Average (Tons/year)	**959**	**330**	**496**	**473**
Change from Existing Land Uses	**100**	**-163**	**73**	**71**
Increase?	**Yes**	**No**	**Yes**	**Yes**
Sectors	**Criteria Air Pollutant Emissions (lbs per day)**			
	ROG	**NO_X**	**PM_{10}**	**$PM_{2.5}$**
Existing Land Uses (Year 2024)				
Transportation [a]	129	857	74	32
Residential Fuels (propane) [b]	77	995	56	56
Off-Road Equipment [c]	343	683	42	38
Consumer Products [d]	755	0	0	0
Wood Burning [e]	3,408	213	2,149	2,082
Total Average (lbs/day)	**4,712**	**2,748**	**2,321**	**2,207**
Proposed General Plan Land Uses (Year 2050)				
Transportation [a]	22	146	66	22
Residential Fuels (propane) [b]	92	1,193	67	67
Off-Road Equipment [c]	119	225	11	10
Consumer Products [d]	957	0	0	0
Wood Burning [e]	4,065	255	2,574	2,494
Total Average (lbs/day)	**5,255**	**1,818**	**2,719**	**2,593**
Change from Existing Land Uses	**543**	**-930**	**398**	**386**
Increase?	**Yes**	**No**	**Yes**	**Yes**

Notes: Emissions may not total to 100 percent due to rounding. Mobile-source criteria air pollutant emissions are based on the traffic analysis conducted by Fehr and Peers (see Appendix B, *Transportation Data*, of this Draft EIR).

a. EMFAC2021 V.1.02. Based on daily VMT (see Appendix B).
b. Residential propane use is based on statewide average household propane estimates from the United States Energy Information Administration and the percentage of households in Lake County that use propane as a heating fuel, based on American Community Survey estimates. Non-residential propane use is based on 2022 California Emissions Estimator Model (CalEEMod) User's Guide natural gas consumption factors (used in the absence of non-residential propane consumption data). The number of households using propane and the amount of propane consumed is conservatively assumed to remain the same between existing conditions and buildout conditions.
c. OFFROAD2021 V.1.1.0
d. Based on CalEEMod User's Guide methodology to calculate ROG emissions from use of household consumer cleaning products.
e. Based on CalEEMod User Guide's wood stove and fireplace usage and emissions factors.

While the operational activities associated with potential future development over the buildout horizon of the proposed project could generate a substantial increase in long-term criteria air pollutant emissions from existing conditions, as described in the construction emissions discussion, the LCAB is currently in attainment for all California or National AAQS. Accordingly, impacts are considered **less than significant**.

As with construction emissions, and as discussed in impact discussion (a), if over the course of the buildout horizon Lake County should become in non-attainment, the proposed General Plan contains policies and actions that require local planning and development decisions to consider impacts from emissions and implementation of the policies and actions would contribute towards minimizing long-term emissions over the buildout horizon. Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, identifies the specific policies and actions denoted with the abbreviation AIR that reduced air quality pollutants. The applicable policies and actions listed in impact discussion (a) would apply to operational emissions. In particular, Policy HS-5.6* would require individual project applicants to prepare technical assessments evaluating potential project operation phase-related air quality impacts and apply project-specific mitigation measures to ensure future projects do not exceed LCAQMD or Bay Area Air District thresholds of significance for criteria pollutant emissions and criteria air pollutant precursors, including ROG, NO, PM_{10}, and $PM_{2.5}$. Development projects below the significance thresholds are not expected to generate sufficient criteria pollutant emissions to violate any air quality standard or contribute substantially to an existing or projected air quality violation.

c) Would the project expose sensitive receptors to substantial pollutant concentrations?

Implementation of the proposed General Plan 2050 would cause or contribute significantly to elevated pollutant concentration levels such that it would expose sensitive receptors to elevated pollutant concentrations. Unlike regional emissions, localized emissions are typically evaluated in terms of air concentration rather than mass so they can be more readily correlated to potential health effects.

The proposed project includes the following key policies and actions that would serve to minimize exposure of pollutant concentrations to sensitive receptors in the EIR Study Area:

- Action AR-2.e requires amendment of Article 27, Uses Generally Permitted, of the Zoning Ordinance to establish a performance standard for the odor response program component of the Property Management Plan.
- Action AR-2.d requires updating regulations and protections, including buffering and operational mitigations, that reduce the impacts of cannabis cultivation on communities and the environment, including impacts to groundwater supply, watershed health, vehicular traffic, and odor, as data becomes available.
- Action AR-2.f requires continued enforcement of unpermitted and illegal cannabis cultivation operations.
- Policy GR-6.3 requires geothermal operations to use the best-available air pollution control technology in all operations where feasible or otherwise required to be consistent with the requirements of the LCAQMD. Ensure operations minimize emissions, avoid vegetation damage and increased fog or haze conditions, prevent nuisance odors, and control dust.
- Policy HS-5.1 requires monitoring of new and existing air pollution point sources for compliance with County, State, and federal air quality regulations and standards.
- Policy HS-5.2 requires the use of the best-available air pollution control technologies to maintain healthy air quality and high visibility standards, along with continuing compliance with State and federal ambient air quality standards.
- Policy HS-5.3 requires that all new roads and driveways for new projects that are adjacent to residences or sensitive receptors be paved or treated to reduce dust generation, where feasible.
- Policy HS-5.6* requires project applicants of discretionary projects, as appropriate, to prepare technical assessments evaluating potential project construction and operation phase-related air quality impacts to Lake County for review and approval prior to project approval.
- Policy HS-5.7* requires project applicants of discretionary projects on sites greater than one acre, within 1,000 feet of sensitive land uses, that utilize off-road equipment of 50 horsepower or more and that occur for more than 12 months of active construction, to prepare a construction health risk assessment.

- Policy HS-5.8* requires project applicants of discretionary projects to prepare an operational health risk assessment for industrial or warehousing land uses and commercial land uses that would generate substantial diesel truck travel prior to project approval.
- Policy HS-5.10* requires dust-suppression measures for grading activities and asbestos-dust hazard mitigation plans for projects in areas of naturally occurring asbestos, including areas with serpentine soils, as part of the project approval process.
- Policy HS-5.11* requires that all projects requiring a grading permit or a building permit that would result in earth disturbance or would be in areas likely to contain naturally occurring asbestos to use approved asbestos-dust mitigation measures as required by the LCAQMD, CARB, and the Lake County Community Development Department.
- Policy HS-5.15 AIR requires new potential sources of toxic air pollutants to demonstrate compliance with the permitting requirements of the LCAQMD and Section 44300 et seq. of the California Health and Safety Code prior to project approval.
- Policy HS-5.17 requires new residential projects and other development with sensitive receptors be located 500 feet or more from stationary air pollutant sources.
- Action HS-5.g requires consultation with LCAQMD and community stakeholders to implement a clean construction ordinance that requires projects to implement extra measures to reduce emissions at construction sites in or near places that are already overburdened by air pollution, such as Equity Priority Areas.
- Policies CM-LU-6.9, EL-LU-6.9, K-LU-6.9, L-LU-6.9, LL-LU-6.9, M-LU-6.9, NL-LU-6.9, and R-LU-6.9 require location of commercial service businesses, such as warehouses, repair services, and building materials sales, away from housing, schools, and other sensitive receptors. Use the following criteria for siting commercial service areas:
  - Provide good access to highways or major collectors;
  - Buffer existing or planned residential areas, schools, and other sensitive uses;
  - Develop in depth rather than in a strip fashion along the access road to provide adequate room for parking, buffering, and other needs; and
  - Encourage development as integrated planned areas in conjunction with community commercial areas or with common architectural and site development features.
- Policies CM-LU-7.7, EL-LU-7.6, K-LU-7.5, L-LU-7.6, LL-LU-7.6, M-LU-7.6, NL-LU-7.6, and R-LU-7.6 require new industrial and heavy commercial uses to be designed to avoid adverse impacts to adjacent uses, particularly residential neighborhoods, schools, and other sensitive uses, with respect to air quality, noise, odor, vibration, and other impacts.
- Policies CM-LU-7.8 EL-LU-7.7, K-LU-7.6, L-LU-7.7, LL-LU-7.8, M-LU-7.7, NL-LU-7.7, and R-LU-7.7 allow asphalt batch plants and similar processing facilities that are directly associated with the development of a resource to be located at the source of the resource under the following criteria:
  - Require a use permit

  - Prohibit any commercial or industrial uses that are not related to the processing of the resource
  - Require mitigation for impacts to surrounding land uses, the environment, and Lake County watersheds to protect air, surface water, and groundwater quality.
- Policies CM-OS-5.4, EL-OS-5.4, K-OS-5.8, L-OS-5.5, LL-OS-5.5, M-OS-5.5, NL-OS-5.5, and R-OS-5.5 promote the use of best-available control technology to minimize dust, smoke, fumes, and odors associated with mining and processing operations.

Construction Community Risk and Hazards

Future construction under the proposed General Plan 2050 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 due to this analysis being conducted at a program level—including phasing of future individual projects, construction duration and phasing, preliminary construction equipment, and proximity to sensitive receptors—construction-related health risks are evaluated qualitatively in accordance with the Bay Area Air District's plan-level guidance. Subsequent environmental review of future development would be required to assess potential construction emission impacts under project level and cumulative significance thresholds for community risk and hazards. As recommended by CARB, applicants for construction within 1,000 feet of residential and other sensitive land uses (e.g., hospitals, nursing homes, and schools/day care centers), as measured from the property line of the project to the property line of the source/edge of the nearest travel lane, are required to prepare construction HRAs in accordance with policies and procedures of the Office Environmental Health Hazard Assessment (OEHHA) and LCAQMD to identify and mitigate health risk impacts from construction. The latest OEHHA guidelines are required to be applied for the analysis, including age sensitivity factors, breathing rates, and body weights appropriate for children ages 0 to 16 years. If the construction HRA shows that the incremental cancer risk exceeds the respective threshold —project-level risk of 10 in a million in all other areas, $PM_{2.5}$ emissions that exceed 0.3 $\mu g/m^3$, or the appropriate noncancer hazard index exceeds 1.0—the applicant would be required to identify and demonstrate that mitigation measures are capable of reducing potential cancer and non-cancer risks below the respective threshold, including appropriate enforcement mechanisms. Measures to reduce risk may include, but are not limited to:

- Use of construction equipment rated as United States Environmental Protection Agency Tier 4 Interim or higher for equipment of 50 horsepower or more.
- Use of construction equipment fitted with Level 3 Diesel Particulate Filters for all equipment of 50 horsepower or more.

Because construction emissions associated with the potential future development over the proposed General Plan 2050 buildout horizon could exceed project level and cumulative significance thresholds for community risk and hazards, construction-related health risk impacts associated with the proposed General Plan 2050 are considered **potentially significant.**

Operational Community Risk and Hazards

CO Hotspots

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. Since CO is produced in the greatest quantities from vehicle combustion and does not readily disperse into the atmosphere, adherence to AAQS is typically demonstrated through an analysis of localized CO concentrations. Hotspots are typically produced at intersections, where traffic congestion is highest because vehicles queue for longer periods and are subject to reduced speeds. Under existing and future vehicle emission rates, a project would have to increase traffic volumes at a single intersection to more than 44,000 vehicles per hour—or 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited—in order to generate a significant CO impact (Bay Area Air District 2023). As shown in the proposed General Plan 2050's traffic volumes in Appendix B, *Transportation Data*, the roadway segment that would experience the highest average daily trips under proposed project conditions would be the CA-53 north of Jessie Street segment with 24,090 average daily vehicle trips. Under the industry standard assumption that one tenth of these daily trips would occur during each peak hour, this segment would experience an estimated 2,409 peak hour trips under future 2050 conditions and would not experience traffic volumes that exceed 24,000 or 44,000 vehicle trips per hour due to the proposed project. Therefore, the proposed General Plan 2050 would not have the potential to substantially increase CO hotspots at intersections in the EIR Study Area. Localized air quality impacts related to mobile-source CO emissions would therefore be **less than significant.**

Permitted Stationary Sources

Various industrial and commercial processes (e.g., manufacturing and dry cleaning) allowed under the proposed General Plan 2050 would be expected to release TACs. TAC emissions generated by stationary and point sources of emissions within the LCAB are regulated and controlled by LCAQMD. Land uses that would require a permit from LCAQMD 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 LCAQMD are subject to the issuance of any necessary air quality permits, including the Authority to Construct, per Chapter IV, *Permits*, of the LCAQMD rules and regulations. While review by LCAQMD ensures that stationary source emissions (permitted sources) would be reduced, these sources would incrementally contribute to emissions in the EIR Study Area.

As previously stated, though the proposed General Plan 2050 includes policies and actions to reduce exposure of sensitive receptors to pollution, and LCAQMD would ensure that on a project-by-project basis emission achieve their permit thresholds, emissions cannot be determined or modeled until specific development projects are proposed. Therefore, implementation of the proposed General Plan 2050 may result in projects that emit TACs and $PM_{2.5}$ throughout the EIR Study Area and result in **potentially significant** impacts.

Nonpermitted Sources

TACs and $PM_{2.5}$ from mobile sources when operating at a property (e.g., truck idling) are regulated by statewide rules and regulations, not by LCAQMD, and have the potential to generate substantial concentrations of air pollutants. The primary mobile source of TACs within the unincorporated county includes truck idling and use of off-road equipment.

New warehousing operations could generate substantial DPM and $PM_{2.5}$ emissions from off-road cargo-handling equipment use and truck idling. In addition, some warehousing and industrial facilities may include use of TRUs for cold storage. New land uses in the EIR Study Area that would be permitted under the proposed General Plan 2050 that use trucks, including trucks with TRUs, could generate an increase in DPM that would contribute to cancer and noncancer health risk in the LCAB. Additionally, 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. In addition, trucks would travel on regional transportation routes through the county, contributing to near-roadway DPM concentrations.

Therefore, the proposed General Plan 2050 could result in specific development projects that emit TACs and $PM_{2.5}$. The emissions associated with these facilities cannot be determined or modeled until specific development projects are proposed. Therefore, implementation of the proposed General Plan 2050 may result in projects that emit TACs and $PM_{2.5}$ in the vicinity of sensitive receptors and result in potentially significant localized air quality impacts.

Therefore, without project-specific analysis health risk impacts from nonpermitted sources associated with development of industrial and commercial land uses are considered **potentially significant.**

Asbestos Exposure

Construction activities under the proposed General Plan 2050 could result in the exposure of receptors to either NOA present in certain areas of the county or ACM in demolished building materials. Asbestos is considered a TAC and, as further discussed in Section 3.9, *Hazards and Hazardous Materials*, inhalation or ingestion of asbestos fibers may result in damage to the lungs or membranes that cover the lungs, leading to illness or even death. Lake County and

LCAQMD enforce existing regulations to limit exposure to asbestos. These include LCCO Chapter 30, *Grading Ordinance*, which requires the preparation of an Asbestos Dust Mitigation Plan and mitigation measures for grading in NOA areas. LCAQMD regulates the use and disposal of ACM in Section 476, *Asbestos Emissions Control Measure*, of the LCAQMD Rules and Regulations, including through inspections and notification of all demolitions and most renovations in the county through its Asbestos Demolition/Renovation Notification Form. Compliance with these existing regulations would ensure that sensitive receptors are not exposed to significant amounts of asbestos. Therefore, impacts would be **less than significant.**

Summary

As described, construction- and operational-related health risk impacts would be potentially **significant** even with implementation of the proposed policies and actions in the proposed General Plan 2050.

Impact AIR-1: Implementation of the General Plan 2050 could expose air quality sensitive receptors to substantial toxic air contaminant concentrations from construction activities and from permitted and non-permitted sources during operation.

Significance with Mitigation: Potential future development from implementation of the proposed General Plan 2050 could result in a substantial increase in TACs near existing or planned air quality sensitive receptors (e.g., children, the elderly, the acutely ill, and the chronically ill, especially those with cardiorespiratory diseases, disadvantaged communities). As described in impact discussions (a), (b), and (c), proposed General Plan 2050 Policies HS-5.6*, HS-5.7*, and HS-5.8* require project applicants to prepare technical assessments, including construction and operational HRAs to evaluate the individual projects' air pollutant emissions and mitigation measures would be required if above project-level threshold adopted by the LCAQMD or Bay Area Air District. Though individual projects would be required to have less-than-significant impacts, cumulative development in the EIR Study Area would result in an increase in DPM concentrations and could increase the environmental burden on sensitive populations, including environmental justice communities, in the LCAB. Overall, because there are no specific development projects identified or approved under the proposed General Plan 2050 and the location and exact nature of future development projects are unknown, determining health risk at this time is considered speculative pursuant to CEQA Guidelines Section 15145. Health risk impacts from development of warehouse and industrial land uses are considered a **significant and unavoidable** project and cumulative impact. However, the identification of this program-level impact does not preclude the finding of less-than-significant impacts for subsequent individual projects that meet applicable thresholds of significance.

d) Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Construction-Related Odors

During construction activities of future development in the EIR Study Area, construction equipment exhaust and application of asphalt and architectural coatings would temporarily generate odors. Any construction-related odor emissions would be temporary and intermittent. 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 are expected to be diluted to well below any level of air quality concern, and impacts would be **less than significant.**

Operational-Related Odors

Industrial Land Uses

Industrial land uses are the primary types of land uses that have the potential to generate objectionable odors. Individual industrial projects facilitated by the proposed General Plan 2050 that are subject to CEQA review would be required to assess odor nuisances. The Bay Area Air District's CEQA Guidelines Table 4*, Project Screening Trigger Levels for Potential Odor Sources*, provides screening distances to ensure that sensitive land uses are not exposed to nuisance odors (Bay Area Air District 2023). The exact nature of and distance from receptors for future odor-generating industrial uses facilitated by the proposed General Plan 2050 are unknown. Nonetheless, compliance with LCCO Chapter 13, *Nuisances*, would require the abatement of odors from non-agricultural uses. The County's existing regulations would generally ensure that odors from industrial land uses do not adversely affect nearby receptors; thus, impacts would be **less than significant.**

Agricultural Land Uses

As a primary industry of Lake County, agricultural operations with the potential to result in odor nuisances would continue to operate in proximity to non-agricultural uses under the General Plan 2050. The County's *Right to Farm Ordinance* under Chapter 3, Article IV of the LCCO requires such a real estate transfer disclosure for purchase of properties in proximity of agricultural facilities for the purpose of disclosing the potential for nuisances like odor to occur and protect agricultural facilities from future nuisance complaints. However, disputes regarding agricultural nuisances can be brought forward to the County's Agricultural Grievance Committee.

Additionally, the County has adopted regulations to ensure that odors associated with cannabis operations are fully mitigated. Article 27, *Uses Generally Permitted*, of the Lake County Zoning Ordinance requires permittees of cannabis operations to prepare a Property Management Plan

which requires the identification and management of resulting odors. The Property Management Plan also requires the preparation of an odor response program with specific provisions. Furthermore, cannabis operations are considered a new source requiring an Authority to Construct permit and a Permit to Operate permit under the LCAQMD's approval.

The occurrence and severity of odor impacts from cultivation sites, including new cannabis sites, would depend on numerous factors, including the nature, frequency, and intensity of the odor sources; wind speeds and direction; topographic conditions; the proximity to off-site receptors; and the sensitivity of exposed receptors. Although exposure to offensive odors generally does not result in physical harm, the odors can be perceived as objectionable leading to considerable distress among the public and can result in citizen complaints to the County and LCAQMD.

Odors are emitted from existing licensed cultivation operations and can be perceived and considered objectionable depending on the size and type of cultivation and other parameters previously mentioned; however, existing cultivation operations are part of the existing environmental setting conditions of the EIR Study Area.

The proposed General Plan 2050 contains policies and actions that require local planning and development decisions to consider odor impacts from potential future development. These are shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation AIR. In particular, the following key policies and actions would serve to minimize odor impacts:

- Action AR-2.d as data becomes available, updates regulations and protections, including buffering and operational mitigations, that reduce the impacts of cannabis cultivation on communities and the environment, including impacts to groundwater supply, watershed health, vehicular traffic, and odor.
- Action AR-2.e* amends Article 27, Uses Generally Permitted, of the Zoning Ordinance to establish a performance standard for the odor response program component of the Property Management Plan.
- Action AR-2.f requires continued enforcement of unpermitted and illegal cannabis cultivation operations.
- Policy GR-6.3 requires geothermal operations to use the best-available air pollution control technology in all operations where feasible or otherwise required to be consistent with the requirements of the Lake County Air Quality Management District. Ensure operations minimize emissions, avoid vegetation damage and increased fog or haze conditions, prevent nuisance odors, and control dust.
- Policy HS-5.1 requires monitoring of new and existing air pollution point sources for compliance with County, State, and federal air quality regulations and standards.

Nonetheless, implementation of the proposed General Plan 2050 could result in expanded cultivation operations near sensitive receptors, including cannabis cultivation, that are known to emit odors, especially during the final stages of the growing cycle. The potential for detected odors to be considered objectionable and result in an adverse effect would depend on the size of operation, the proximity to receptors, the specific agricultural product being cultivated and processed, the presence of nearby vegetation barriers, and topographic and meteorological conditions. As a result, an appropriate buffer distance should be identified at which odors could not be perceived is difficult to identify due to the variability of odor source parameters previously mentioned, and the odor screening distances included in Bay Area Air District's CEQA Guidelines Table 5 do not consider agricultural cultivation operations.

Generally, the larger the size of the canopy area of agricultural product cultivation, the greater the potential for odor to be evident to off-site receptors. Odor-generation from cultivation operations can also vary depending on whether the operation is indoor or outdoor. Odors emitted by indoor cultivation and processing activities can be controlled through the use of active carbon filters, biofilters, plasma ion technology, air filters, and other manufactured odor control/masking substances (e.g., gels and sprays designed to mask odors). Outdoor cultivation operations are expected to have a substantially higher potential to generate objectionable odors. As previously discussed, Article 27 of the County's Zoning Code requires permitted cannabis operations to develop a Property Management Plan that stipulates the identification of equipment and processes that may generate odors and the development of an odor response program that identifies requirements for identifying individuals responsible for responding to odor complaints within a specified timeframe, notifying nearby property owners, and establishing policies and procedures to mitigate odor nuisances to off-site receptors. Nonetheless, because cannabis cultivation could expand under the proposed General Plan 2050 that would generate odors that could affect a substantial number of people, this impact would be **potentially significant**.

Impact AIR-2: Implementation of the General Plan 2050 could result in the development of odor-generating land uses and agricultural cultivation operations that could affect a substantial number of people.

Significance with Mitigation: Implementation of proposed General Plan 2050 Action AR-2.e* would ensure a new performance standard for the odor response program within the Property Management Plan be required under *Commercial Cannabis Cultivation* in Article 27 of the County's Zoning Ordinance. Inclusion of the standard described in proposed General Plan 2050 Action AR-2.e* would require licensed cannabis-producing odor sources to address the odors generated at the property to reduce odor impacts experienced by nearby receptors and establishes an obligation to correct operations on the site to address odor complaints received by the County or LCAQMD. Therefore, with implementation of proposed General Plan 2050 Action AR-2.e*, this impact would be **less than significant.**

3.3.5 Cumulative Impact Discussion

The setting for cumulative impacts includes all areas within the LCAB.

Would the project have a cumulative effect related to air quality?

Air Quality Management Plan Consistency

As discussed under impact discussion (a), LCAQMD does not have an adopted AQMP because the LCAB is in attainment of all criteria air pollutants regulated under the Clean Air Act and implementation of the proposed project would result in a **less-than-significant** cumulative impact.

Criteria Air Pollutants

As identified in Section 3.3.2*, Existing Conditions,* 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 greenhouse gas emissions impacts, air quality impacts are cumulative in nature as no single project generates enough emissions that would cause an air basin to be designated as a nonattainment area. The County is currently in attainment and includes General Plan policies and actions that require project-specific evaluation and mitigation to ensure the adopted LCAQMD or Bay Area Air District's project-level significance thresholds would not be exceeded; thus, contributing to potential future nonattainment designations of the LCAB. Therefore, in combination with past, present, and reasonably foreseeable projects elsewhere within the LCAB, the proposed project would result in a **less-than-significant** cumulative impact with respect to regional air quality.

Toxic Air Contaminants

Buildout of the proposed General Plan 2050 would generate new sources of TAC near existing or planned sensitive receptors. Review of development projects by the LCAQMD for permitted sources of air toxics (e.g., industrial facilities, dry cleaners, and gasoline dispensing facilities) would ensure that health risks are minimized. The proposed General Plan 2050 Policies HS-5.6*, HS-5.7*, and HS-5.8* would ensure project applicants demonstrate feasible measures to reduce potential cancer and noncancer risks to an acceptable level during subsequent project-level environmental review by the County. Individual development projects would be required to achieve the incremental risk thresholds established by OEHHA and LCAQMD, and TACs would be less than significant. However, implementation of the proposed project would generate TACs that could contribute to elevated levels in the LCAB. While individual projects would be required to achieve the project-level risk threshold of ten per million, they would nonetheless contribute to the higher levels of cancer risk in the LCAB; and therefore, result in a cumulatively

considerable impact. Therefore, the cumulative contribution to health risk resulting from implementation of the proposed project is **significant**.

Odor

Buildout of the proposed General Plan 2050 would generate new sources of odor near existing or planned sensitive receptors. Proposed General Plan 2050 Action AR-2.e* and Mitigation Measure AIR-1 would require the consideration of odor-reducing measures in the Property Management Plan for licensed cultivation operations and establish measures necessary to reduce odor impacts experienced by nearby receptors to a less than significant level. Therefore, with implementation of proposed General Plan 2050 Action AR-2.e*and Mitigation Measure AIR-1, odor impacts would result in a **less-than-significant** cumulative impact.

Impact AIR-3: The health risk and criteria air pollutant impacts resulting from implementation of the proposed General Plan 2050 would be cumulatively considerable.

Significance with Mitigation: Aside from the proposed General Plan 2050 policies and actions described in Impact AIR-1, there are no additional mitigation measure that be sufficient to reduce cumulative impacts to a level that is less than significant. With proposed General Plan 2050 Policies HS-5.6*, HS-5.7*, and HS-5.8*, criteria air pollutant and health risk impacts would be reduced; however, due to the unknown nature of the buildout of individual development facilitated by the proposed General Plan 2050, their proximity to sensitive receptors, and their operative nature in terms of emission generation, cumulative impacts would remain **significant and unavoidable**.

3.3.6 References

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3.4 BIOLOGICAL RESOURCES

This section of the Draft EIR describes the potential impacts to biological resources associated with the adoption and implementation of the proposed project. This section describes the regulatory framework and existing conditions, identifies criteria used to determine impact significance, and provides an analysis of the potential impacts to biological resources. The proposed General Plan 2050 policies and actions that would minimize any potentially significant impacts are shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, and denoted with the abbreviation BIO. Where policies and actions are required for mitigation, those policies and actions are described in this section and denoted with an asterisk (*).

3.4.1 Regulatory Framework

FEDERAL

Federal Endangered Species Act

The federal Endangered Species Act (ESA) protects plants and animals that are listed as endangered or threatened by the United States Fish and Wildlife Service (USFWS) or the National Marine Fisheries Service (NMFS). Section 9 of the ESA prohibits the taking of listed wildlife, where take is defined as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct” (50 Code of Federal Regulations [CFR] 17.3). For plants, the ESA prohibits removing or possessing any listed plant on federal land, maliciously damaging or destroying any listed plant in any area, or removing, cutting, digging up, damaging, or destroying any such species in knowing violation of state law (16 United States Code [USC] 1538). Under Section 7 of ESA, federal agencies are required to consult with the USFWS if their actions, including permit approvals or funding, could adversely affect a listed (or proposed) species (including plants) or its designated critical habitat. Through consultation and the issuance of a biological opinion, the USFWS may issue an incidental take statement allowing take of a listed species that is incidental to an otherwise authorized activity provided the activity will not jeopardize the continued existence of the species. Section 10 of the ESA provides for issuance of incidental take permits where no other federal actions are necessary provided a Habitat Conservation Plan (HCP) is developed.

Critical habitat is defined in Section 3 of ESA as:

- The areas within the geographical area occupied by a species, at the time it is listed in accordance with the ESA, on which those physical or biological features are essential to the conservation of the species and may require management considerations or protection; and
- Specific areas outside the geographical area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species.

For inclusion in a critical habitat designation, habitat within the geographical area occupied by the species at the time it was listed must first have features that are essential to the conservation of the species. Critical habitat designations identify, to the extent known and using the best scientific data available, habitat areas that provide essential life cycle needs of the species (i.e., areas on which the primary constituent elements are found). Primary constituent elements are the physical and biological features that are essential to the conservation of the species and that may require special management considerations or protection.

Clean Water Act

The United States Army Corps of Engineers (USACE) is responsible under Section 404 of the Clean Water Act (CWA) to regulate the discharge of fill material into waters of the United States (U.S). These waters, and their lateral limit, include streams that are tributaries to navigable waters and their adjacent wetlands (CFR Title 33, Part 328.3(a)). The lateral limits of jurisdiction for a non-tidal stream are measured at the line of the ordinary high-water mark or the limit of adjacent wetlands (33 CFR Parts 328.3(e), 328.3(b)). Any permanent extension of the limits of an existing water of the U.S., whether natural or human-made, results in a similar extension of USACE jurisdiction. The purpose of the federal CWA is to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." Section 404 of the CWA prohibits the discharge of dredged or fill material into Waters of the U.S. without a permit from the USACE. The definition of Waters of the U.S. includes rivers, streams, estuaries, the territorial seas, ponds, lakes, and wetlands. Wetlands are defined as those areas:

> …that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (33 CFR 328.3 7[b]).

In general, a project proponent must obtain a Section 404 permit from the USACE before placing fill or grading in wetlands or other waters of the U.S. Prior to issuing the permit, the USACE is required to consult with the USFWS under Section 7 of the FESA if the project may affect federally listed species. All USACE permits require water quality certification under Section 401 of the Clean Water Act. In the Lake County Area, this regulatory program is administered by the Central Valley Regional Water Quality Control Board (RWQCB). Project proponents who propose to fill wetlands or other waters of the U.S. must apply for water quality certification from the Central Valley RWQCB. The Central Valley RWQCB has adopted a policy requiring mitigation for any loss of wetland, streambed, or other jurisdictional area.

Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA) prohibits the taking, hunting, killing, selling, purchasing, etc. of migratory birds, parts of migratory birds, or their eggs and nests. As used in the MBTA, the term "take" is defined as "to pursue, hunt, shoot, capture, collect, kill, or attempt

to pursue, hunt, shoot, capture, collect, or kill, unless the context otherwise requires." Most bird species native to North America are covered by this act. The MBTA prohibits the intentional or incidental killing of birds or destruction of their nests when in active use.

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). The 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).

Magnuson-Stevens Fishery Conservation and Management Act

Essential Fish Habitat (EFH) was defined by the U.S. Congress in the 1996 amendments to the Magnuson-Stevens Fishery Conservation and Management Act, or Magnuson-Stevens Act, as "those waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity." Implementing regulations clarified that waters include all aquatic areas and their physical, chemical, and biological properties; substrate includes the associated biological communities that make these areas suitable for fish habitats, and the description and identification of EFH should include habitats used at any time during the species' life cycle. EFH includes all types of aquatic habitat, such as wetlands, coral reefs, sand, seagrasses, and rivers.

STATE

California Fish and Game Code

The California Department of Fish and Wildlife (CDFW) is responsible for enforcing the California Fish and Game Code (CFGC), which contains several protections from "take" for a variety of species and protects streams, water bodies, and riparian corridors.

California Endangered Species Act

The CDFW has jurisdiction over State-listed endangered, threatened, and rare plant and animal species under CESA (CGFC Section 2050 et seq.). CESA is similar to the FESA both in process and substance; it is intended to provide additional protection to threatened and endangered species in California. Species may be listed as threatened or endangered under both acts (in which case the provisions of both State and federal laws apply) or under only one act. A candidate species is one that the Fish and Game Commission has formally noticed as being under review by CDFW for addition to the State list. Candidate species are protected by the provisions of CESA.

Section 2080 of the CFGC prohibits the taking, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit or in the regulations. *Take* is defined in Section 86 of the CFGC as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Section 2081 allows the CDFW to authorize incidental take permits if species-specific minimization and avoidance measures are incorporated to fully mitigate the impact.

Fully Protected Species

The CFGC also lists animal species designated as Fully Protected or Protected, which may not be taken or possessed at any time. The CDFW does not issue licenses or permits for take of these species except for necessary scientific research, habitat restoration/species recovery actions, or live capture and relocation pursuant to a permit for the protection of livestock. Fully protected species are listed in CFGC Sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515 (fish) of the Fish and Game Code, while protected amphibians and reptiles are listed in Chapter 5, Sections 41 and 42, respectively.

Several provisions in the CFGC provide for the protection of birds and bird nests in active use. Unless the CFGC or its implementing regulations provide otherwise, under California law it is unlawful to:

- Take a bird, mammal, fish, reptile, or amphibian.
- Take, possess, or needlessly destroy the nest or eggs of any bird.
- Take, possess, or destroy any bird of prey in the orders Strigiformes (owls) and Falconiformes (such as falcons, hawks and eagles) or the nests or eggs of such bird.
- Take or possess any of the thirteen fully protected bird species listed in CFGC Section 3511.
- Take any non-game bird (i.e., bird that is naturally occurring in California that is not a gamebird, migratory game bird, or fully protected bird).
- Take or possess any migratory non-game bird as designated in the MBTA or any part of such bird, except as provided by rules or regulations adopted by the Department of the Interior under the MBTA.
- Take, import, export, possess, purchase, or sell any bird (or products of a bird), listed as an endangered or threatened species under the CESA unless the person or entity possesses an Incidental Take Permit or equivalent authorization from CDFW.

California Native Plant Protection Act

The California Native Plant Protection Act of 1977 prohibits importation of rare and endangered plants into California, "take" of rare and endangered plants, and sale of rare and endangered plants. The CESA defers to the California Native Plant Protection Act, which ensures that State-listed plant species are protected when State agencies are involved in projects subject to the

California Environmental Quality Act (CEQA). In this case, plants listed as rare under the California Native Plant Protection Act are not protected under the CESA but rather under CEQA.

The California Native Plant Society (CNPS) is a non-governmental conservation organization that has developed a list of plants of special concern in California. The following explains the designations for each plant species:

- **Rank 1A.** Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere
- **Rank 1B.** Plants Rare, Threatened, or Endangered in California and Elsewhere
- **Rank 2A.** Plants Presumed Extirpated in California, But Common Elsewhere
- **Rank 2B.** Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere
- **Rank 3.** Plants About Which More Information is Needed; A Review List
- **Rank 4.** Plants of Limited Distribution; A Watch List (CNPS 2020)

Special Protections for Birds

Sections 3503, 3513, and 3800 of the CFGC specifically protect birds. Section 3503 prohibits the take, possession, or needless destruction of the nest or eggs of any bird. Subsection 3503.5 prohibits the take, possession, or destruction of any birds in the orders Strigiformes (owls) or Falconiformes (hawks and eagles), as well as their nests and eggs. Section 3513 prohibits the take or possession of any migratory nongame bird as designated in the MBTA. Section 3800 states that, with limited exceptions, it is unlawful to take any nongame bird, defined as all birds occurring naturally in California that are not resident game birds, migratory game birds, or fully protected birds. These provisions, along with the federal MBTA, serve to protect all nongame birds and their nests and eggs, except as otherwise provided in the code.

Lake or Streambed Alteration Agreements

Section 1602 of the CFGC requires that a Notification of Lake or Streambed Alteration be submitted to the CDFW for “any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake.” The notification must incorporate proposed measures to protect affected fish and wildlife resources. CDFW may suggest additional protective measures during their review. A Lake or Streambed Alteration Agreement (LSAA) is the final proposal mutually agreed upon by CDFW and the applicant. Projects that require an LSAA often also require a permit from the USACE under Section 404 of the CWA. The conditions of the Section 404 permit and the LSAA frequently overlap planning areas in these instances.

Porter-Cologne Water Quality Control Act

Under the Porter-Cologne Water Quality Control Act (CA Water Code secs. 13000–14920), the RWQCB is authorized to regulate the discharge of waste that could affect the quality of the State's waters. The RWQCB asserts jurisdiction over isolated waters and wetlands, as well as waters and wetlands that are regulated by the USACE. Therefore, even if a project does not require a federal permit, it still requires review and approval by the RWQCB. When reviewing applications, the RWQCB focuses on ensuring that projects do not adversely affect the "beneficial uses" associated with waters of the State. In most cases, the RWQCB seeks to protect these beneficial uses by requiring the integration of waste discharge requirements into projects that will require discharge into waters of the State. For most construction projects, the RWQCB requires the use of construction and post-construction best management practices.

Oak Woodlands Conservation Act

The California Oak Woodlands Conservation Act of 2001 acknowledges the importance of private land stewardship to the conservation of the state's valued oak woodlands (CA Fish and Game Code Section 1360 et seq.). This act established the California Oak Woodlands Conservation Program, which aims to conserve oak woodlands existing in the state's working landscapes through education and incentives to private landowners. The program provides incentives to private landowners to protect biologically functional oak woodlands.

California Environmental Quality Act

Pursuant to CEQA Guidelines Section 15380, a species not protected on a federal or state list may be considered rare or endangered if the species meets certain specified criteria. These criteria the federal and California ESAs, and Sections 1900-1913 of the CFGC, which deal with rare or endangered plants or animals. Section 15380 was included in the CEQA Guidelines primarily to deal with situations where a project under review may have a significant effect on a species that has not yet been listed by either the USFWS or the CDFW.

REGIONAL

Oaks 2040

Oaks 2040 is a tool created to aid decision makers who are developing on Oak Woodlands Management Plans. This document has current information on 48 out of the 58 counties that have significant oak resources within California. Within the Sacramento Region, there are 2.1 million acres of oak woodlands that account for almost a quarter of the state's total oaks woodland amount. Lake County is approximately 20 percent covered by oak woodlands.

LOCAL

Code of Ordinances

The Lake County Code of Ordinances (LCCO) includes various directives pertaining to biological resources. The LCCO is organized by chapter, article, and section. Most provisions related to biological resources are included in Chapter 21, *Zoning*, as follows:

- Article 24, *Open Space or "O" District*, creates a district that preserves public and private lands for their resource production potential and environmentally sensitive animal and plant habitats.
- Article 29, *Wetlands or 'W" Combining District*, outlines regulations to preserve and protect sensitive wetlands. This includes requiring a wetlands management plan when a major use permit is submitted that must be reviewed and approved by the Planning Commission. The wetlands management plan will only be approved if it is found that the proposed project and management plan will:
  - Not significantly adversely affect existing water quality.
  - Materially affect the long-term preservation of lands capable of supporting wetlands vegetation.
  - Not affect any rare or endangered plants or animals.
- Article 37, *Waterway or "WW" Combining District*, seeks to preserve, protect and restore significant riparian systems, streams and their riparian, aquatic and woodland habitats; protect water quality; control erosion, sedimentation and runoff; and protect the public health and safety by minimizing dangers due to floods and earth slides. This article establishes a buffer around riparian corridors where development activity is limited.

Clean Water Program

The Cities of Lakeport and Clearlake, and Lake County are involved in the Lake County Clean Water Program. This program seeks to reduce harmful impacts polluted stormwater runoff and increases in peak flows from development. This program was developed in 2021 and is focused on two pollutants of concern: sediment and nutrients.

Conservation Strategy for the Clear Lake Hitch

The *Conservation Strategy for Clear Lake Hitch* (CLH; *Lavinia exilicauda chi*), is a framework for conservation and protection of the CLH developed by the Sacramento Fish and Wildlife Office of the U.S. Fish and Wildlife Service (Sacramento Fish and Wildlife Office 2024). The CLH is a large minnow and a subspecies of hitch endemic to the Clear Lake watershed in Lake County, California. The CLH is listed as threatened under the California ESA and has been designated as a sensitive species by the U.S. Forest Service. The conservation strategy is intended to contribute to the species' persistence into the future. This conservation strategy includes efforts that

participating tribes, agencies, and partners can implement to provide, to the extent possible, necessary financial and logistical support for the proposed work.

Clear Lake Watershed Management Plan

The Clear Lake Integrated Watershed Management Plan was prepared by the Water Resources Department of the Lake County Department of Public Works and adopted by the Lake County Board of Supervisors on March 2, 2010 (Lake County 2024a). This plan provides guidance on managing Clear Lake and its watershed to "work toward an environmentally and economically healthy watershed that benefits the community and is sustainable for future generations." The plan covers a wide range of topics from land use and natural resources to economic and climate change concerns and provides recommended actions including policies for adoption and specific projects/programs to implement.

Guenoc Valley Agreement

In August 2025, an agreement between the Center of Biological Diversity and the developers of the Guenoc Valley Project was reached to permanently protect 3,717 acres of the Guenoc Valley project site. The site includes oak woodlands and serves as a wildlife corridor for the region. Other terms of the agreement include funding for local projects to reduce greenhouse gas emissions, groundwater monitoring, increased development setback for perennial streams and wetlands, and additional protections for sensitive plants (Center 2025).

3.4.2 Existing Conditions

This section is based on a review of literature sources including USFWS National Wetlands Inventory (NWI) mapping, USFWS Critical Habitat Mapper, California Essential Connectivity Habitat mapper, and other relevant literature as cited throughout this document to identify and characterize biological resources within Lake County. The following resources were reviewed to determine the special-status species that have been documented to occur within the county or may potentially be affected by activities within the county.

- CDFW CNDDB data for Lake County, California (CDFW 2025a).
- USFWS Information, Planning, and Consultation System Resource Report List for Lake County, California (USFWS 2025a).
- CNPS Rare Plant Inventory data for Lake County, California (CNPS 2025a).
- NMFS Resources data for Lake County, California (NOAA 2025a).

The results of the database queries are included in the Biological Resources Assessment prepared for the proposed project, provided as Appendix D, *Biological Resources Assessment.*

COUNTYWIDE AREA

The county has a high diversity of biological communities. It encompasses Clear Lake, one of the largest lakes in California. It extends from Mount Saint Helena in the south to Mendocino National Forest in the north and ranges in elevation from approximately 610 feet above mean sea level (MSL) to 7,032 feet above MSL. The County spans three different geographic subregions: Inner North Coast Ranges, High North Coast Ranges, and Outer North Coast Ranges (Jepson Flora Project 2025).

Vegetation Communities

There are nine general vegetation communities or land cover types occurring in Lake County. These nine communities are conifer forest/woodland, mixed conifer and hardwood forest/woodland, hardwood forest/woodland, shrub, herbaceous, agriculture, water, barren, and urban areas. Vegetation communities and land cover types are depicted on Figure 3.4-1, *Vegetation Communities and Land Cover Types.* The distribution of vegetation communities in the county is closely associated with the varying topography and hydrology of the geographic subregions. Much of the Inner North Coast Ranges subregion supports agricultural land, annual grassland, and shrub lands, while the High North Coast Ranges and Outer North Coast Ranges subregions contain more forested communities. The following sections provide a discussion of each vegetation community and land cover type.

- **Conifer Forest/Woodland.** This vegetation community usually exists as a completely shaded forest and is largely comprised of evergreen trees. These forests are usually found in higher elevations and are characterized primarily by Ponderosa pine (*Pinus ponderosa*) and Douglas fir (*Pseudotsuga menziesii*).
- **Mixed Conifer and Hardwood Forest/Woodland.** This vegetation community is identified as having a mix of black oak (*Quercus kelloggii*), madrone (*Arbutus menziesii*), Ponderosa pine, and Douglas fir. Within this vegetation community montane hardwoods consists of canyon live oak (*Quercus chrysolepis*), madrone and California-laurel (*Umbellularia californica*), and may include some Douglas fir and California black oak in cooler areas with better soil conditions. The trees in this community are often densely packed and shade out shrubs and groundcover.
- **Hardwood Forest/Woodland.** The Hardwood forest/woodland vegetation community consists of several types of vegetation communities. Northern oak woodland is defined as oaks clustered together with 10 percent or more canopy cover per parcel. Oaks have evolved with fire and have developed mechanisms to survive periodic burning. They usually do not suffer long-term damage from low-intensity fires. Over 300 wildlife species use oak woodlands for food, harborage, and reproduction, including 120 species of mammals, 147 species of birds and approximately 60 species of amphibians and reptiles (Giusti et al. 2005). Mixed chaparral woodland is found in lower elevations to the north of Lake County. Plants that are prominent in this community include foothill pines (*Pinus sabiniana*) or blue oaks

(*Quercus douglasii*). This vegetation community contains features of both northern oak woodland and chaparral communities.

- **Shrub.** This vegetation community is dominated by species adapted for dry shallow soils. Common plants in this community include scrub oak (*Quercus berberidifolia*), buck brush (*Ceanothus cuneatus*), chamise (*Adenostoma fasciculatum*), and several species of manzanita (*Arctostaphylos* sp.).
- **Herbaceous.** Herbaceous communities can occur either as a separate community or can be intermixed with other plant communities. Common plants within this vegetation community include wild oats (*Avena fatua*), soft chess (*Bromus hordeaceus*), ripgut brome (*Bromus diandrus*), red brome (*Bromus rubens*), wild barley (*Hordeum murinum*), and foxtail fescue (*Festuca myuros*).
- **Agriculture.** The agriculture lands are dispersed throughout southern and western Lake County. Some of the crops that are farmed in Lake County include English walnuts, pears, and wine grapes. Livestock ranching and timber harvesting also occur in Lake County.
- **Barren.** Barren areas are undeveloped areas that are unvegetated. Land cover is comprised of rock, soil, sand, or snow.
- **Urban.** Urbanized portions in Lake County include unincorporated communities as well as the two incorporated cities of Lakeport and Clearlake. The urbanized areas are predominantly in the southern half of the County. Biological communities in these urbanized areas are relatively limited and support a predominance of horticultural plant species rather than native species.
- **Water.** This community includes open water features that may not have vegetation at the surface or may be sparsely vegetated. Water resources are described further in “Aquatic Resources” below.

Aquatic Resources

Aquatic resources in Lake County, according to the USFWS National Wetlands Inventory (NWI), are shown on Figure 3.4-2, *Aquatic Resources*. Aquatic resource types identified in the county include lake, riverine, freshwater pond, freshwater emergent wetland and freshwater forested/shrub wetland. The wetland types shown in Figure 3.4-2 are not inclusive of all wetlands in the county, and the NWI wetland mapping is an approximation of aquatic resources in the county. Site-specific aquatic resource delineations would be required to identify accurate wetland boundaries and types. The general aquatic resource types found in the county, according to NWI, are described in following sections.

Open Water

Open water communities in the county include large lakes, small ponds throughout agricultural areas, and riverine features consisting of perennial and ephemeral drainages. Riparian areas associated with these lakes and drainages are also present.

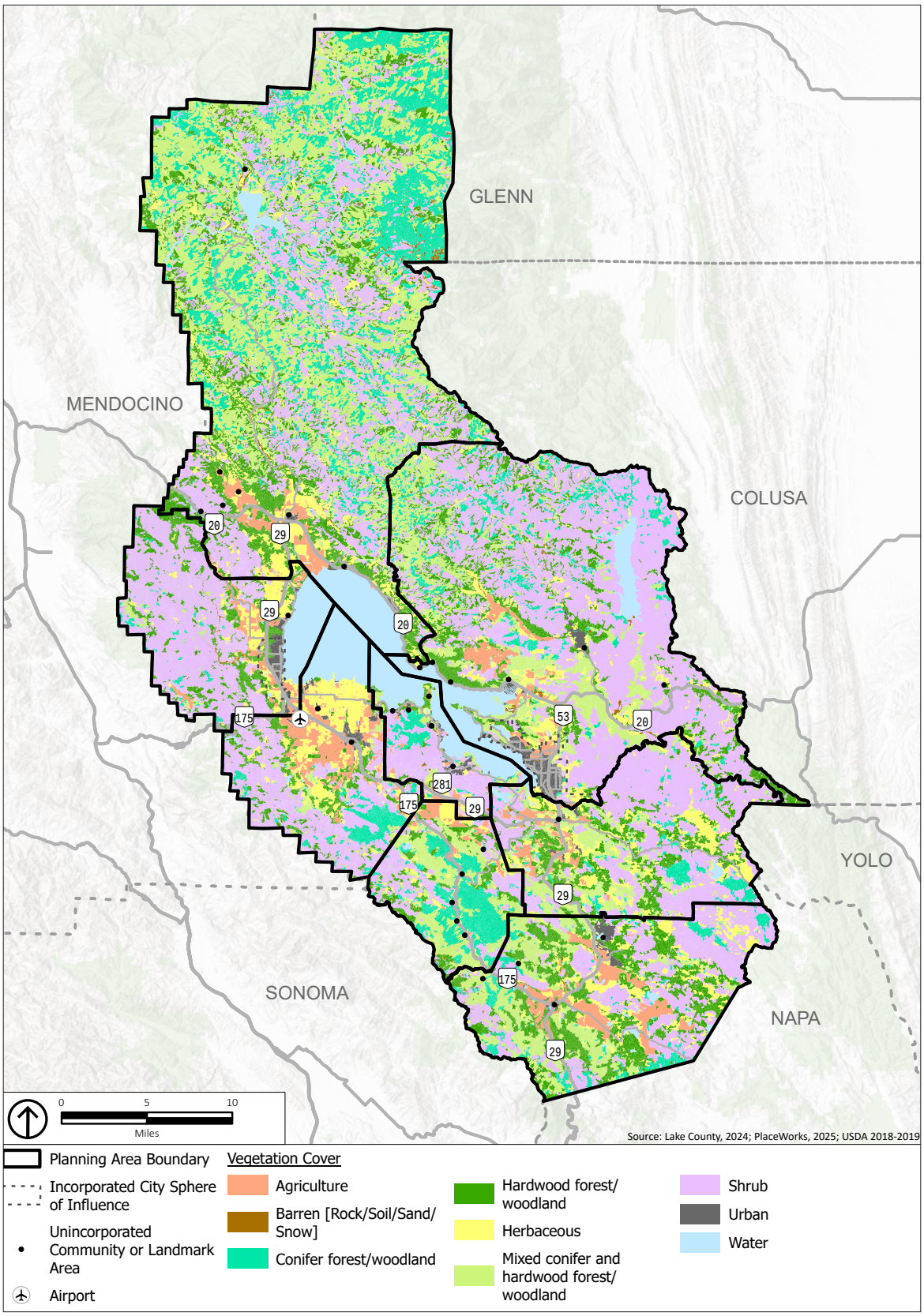

Figure 3.4-1
Vegetation Communities and Land Cover Types

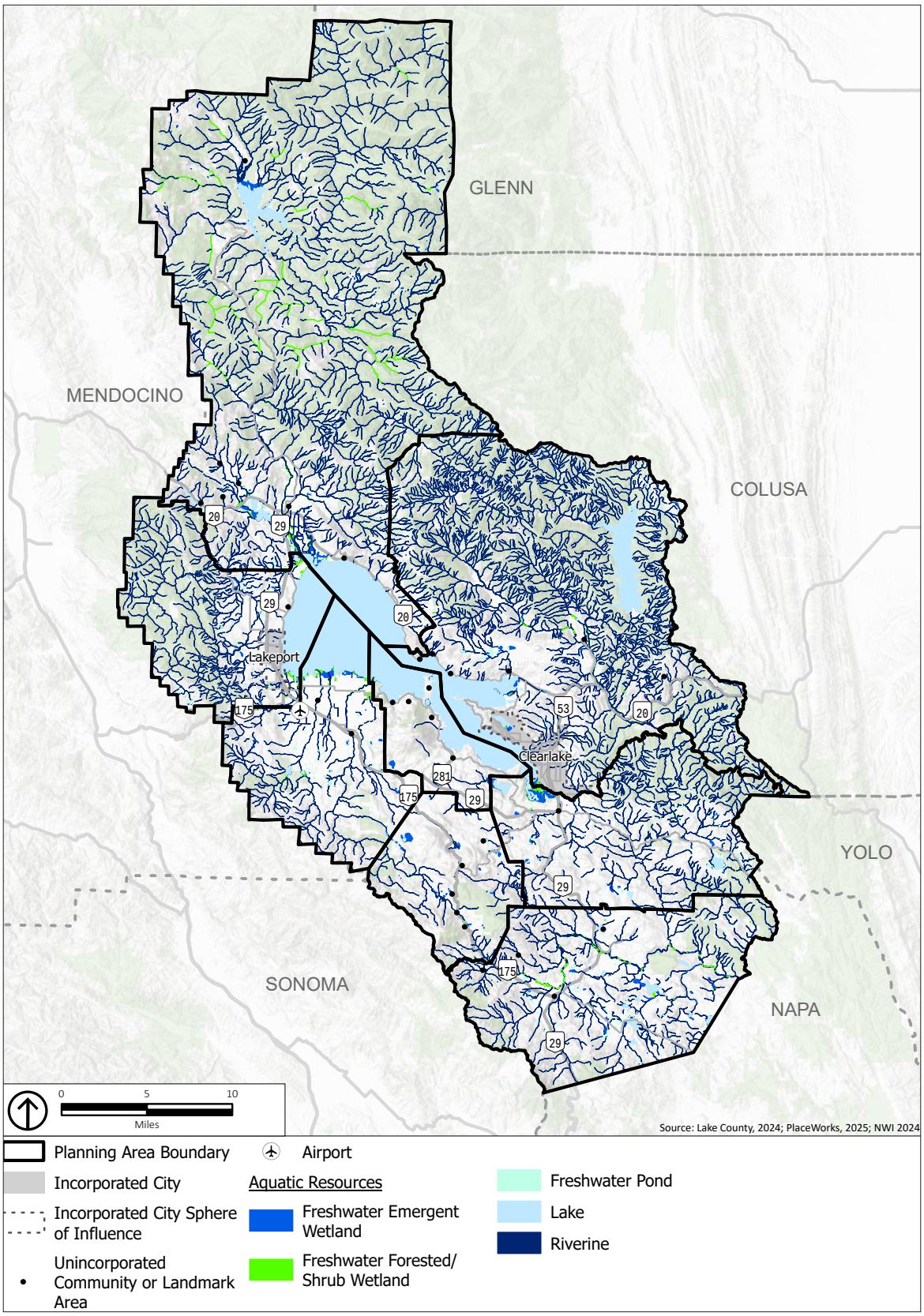

Figure 3.4-2
Aquatic Resources

Open water communities include the following:

- **Lakes and Reservoirs**. There are lakes and reservoirs throughout Lake County. The largest include Clear Lake, Indian Valley Reservoir, and Lake Pillsbury. These open water bodies support fish and wildlife habitat and ample recreational opportunities, including boating, fishing, swimming, and hiking. Indian Valley Reservoir is in the eastern part of the County within the East Lake Communities Planning Area and was created by construction of the Indian Valley Dam across the north fork of Cache Creek in 1976 (California Department of Water Resources 2024). Lake Pillsbury in the northern part of the County is within Mendocino National Forest in the North Lake Communities Planning Area. It was created by construction of Scott Dam on the Eel River to support production of hydroelectric power.
    - Clear Lake, in the center of the County, is the largest natural freshwater lake in California, stretching 68 square miles, and is the oldest lake in North America (Clear Lake Environmental Research Center 2024). It is a shallow lake with numerous volcanic gas vents beneath it (Lake County 2010). The natural level of Clear Lake has been maintained by the Grigsby Riffle, a rock sill at the confluence of Cache and Seigler creeks near Lower Lake. Approximately 3 miles downstream of the Riffle, the Cache Creek Dam has also regulated the level of Clear Lake since 1914. In 1986, Clear Lake was added to the federal CWA Section 303(d) list of impaired water bodies for nutrients, and even though water clarity has improved, nutrients entering the lake through sediment loads have resulted in widespread, noxious and persistent algal blooms (Lake County 2010). Even so, Clear Lake is home to large populations of fishes; its basin supports abundant terrestrial wildlife, and residents and visitors enjoy recreation of all sorts in and around the lake.
- **Ponds.** Ponds are shallow open water features that sometimes include areas of rooted freshwater marsh or floating aquatic plants. Ponds may be naturally occurring or constructed for stock and other uses. Ponds are found primarily in lower elevation areas of the County.
- **Riverine/Drainages.** There are three major watersheds in the county: Cache Creek, Putah Creek, and Eel River. Numerous drainages occur within these watersheds. Drainages may be perennial (year-round), seasonal or ephemeral, and may support riparian habitat and areas of freshwater emergent and forested/shrub wetlands.
    - Putah Creek flows through the southern portion of Lake County, draining from the east side of Cobb Mountain southeast to Lake Berryessa in Napa County, where the creek is impounded by the Monticello Dam (Putah Creek Council 2025). Its watershed within Lake County is characterized by oak savannas, rolling hills, and steep terrain.
    - Cache Creek is a designated California Wild and Scenic River and is the only outflow for Clear Lake, flowing southeast toward Yolo County (Sacramento River Watershed Program 2025). Upper Cache Creek flows through a steep, scenic canyon comprised of mixed chaparral and riparian landscape. Riparian tree cover is dominated by cottonwoods, willows, oaks and alders. The headwaters of North Fork Cache Creek begin at the peak of Goat Mountain and flow through Indian Valley Reservoir in eastern Lake County. North

Fork Cache Creek meets the main stem below Highway 20 and flows through Cache Creek Wilderness Area, a 27,296-acre wilderness area in southeastern Lake County (Lake County Tourism Improvement District 2025). Several dams and rock ledges restrict flow along the main stem of Cache Creek in Lake County.

- The Eel River is a designated California and federal Wild and Scenic River and flows from Lake Pillsbury in northern Lake County northwest to the Pacific Ocean (Bureau of Land Management [BLM], National Park Service, USFWS, U.S. Forest Service, River Management Society 2025). Within Lake County, the Eel River flows through high mountain pine forests and provides outstandingly remarkable fish values and recreational values. The river is a premium fishery for coho salmon, chinook salmon, and steelhead and an important fishery for American shad. It provides extensive recreational fishing and boating opportunities along its 800 river miles.

The County also includes constructed canals and irrigation ditches. The NWI may capture some of these features, but the NWI does not attempt to define the jurisdictional status or limits of aquatic resources.

- **Riparian Areas.** Riparian areas occur around lakes and various creeks within Lake County. These are transitional areas between land and water bodies and provide productive habitat for a wide variety of plants and animals. Commons species in the riparian plant community include cottonwoods (*Populus* sp.), valley oaks (*Quercus lobata*), boxelder (*Acer negundo*), Oregon ash (*Fraxinus latifolia*), black walnut (*Juglans hindsii*), wild grape (*Vitis californica*), blackberry (*Rubus* sp.), wild rose (*Rosa californica*), and elderberry (*Sambucus nigra*).

Wetlands

Three main categories of wetlands occur in the EIR Study Area. These resources provide productive habitat for a variety of wildlife found in the county.

- **Freshwater Emergent Wetland.** Freshwater emergent wetland occurs along the margins of drainages and open water habitats in the county. Characteristic vegetation within this community includes cattails (*Typha* sp.), rushes (*Juncus* sp.), and sedges (*Carex* sp.).
- **Freshwater Forested/Shrub Wetland.** Freshwater forested/shrub wetland occurs along the margins of drainages and open water habitats in the county. Dominant species in these wetlands include cottonwood, valley oak, boxelder, Oregon ash, and black walnut trees, as well as blackberry, wild rose, and elderberry shrubs. These areas are often concurrent with riparian areas in the county.
- **Vernal Pool.** Vernal pools provide unique isolated wetland habitats where endemic plant species are often found, including many rare or endangered plant species. Vernal pools are found within both forested and herbaceous vegetation communities and may occur singly or in complexes of numerous pools in close proximity. This wetland type is not specifically mapped by NWI. Onsite assessment of specific wetland characteristics would be necessary to determine presence of such features.

Special-Status Species

Special-Status Plants

Table 3.4-1, *Special-Status Plants Documented or Identified as Having the Potential to Occur in the EIR Study Area,* lists the special-status plant species that have been documented to occur within the EIR Study Area or may be potentially affected by activities in the EIR Study Area, as identified in the literature review. However, Table 3.4-1 should not be considered a complete list of special-status plant species that may occur within the EIR Study Area. Other species not identified in the literature review may occur in the EIR Study Area presently or in the future.

Table 3.4-1, *Special-Status Plants Documented or Identified as Having the Potential to Occur in the EIR Study Area,* includes the listing status for each species, its geographical distribution, typical habitat requirements, typical blooming period across the species' range in California, and general location information for previously documented occurrences in the county. Based on the literature review, 182 special-status plant species have been documented to occur within the county. Of these 182 species, 16 are federally or State-listed species protected by ESA and/or California ESA.

Special Status Wildlife

Table 3.4-2, *Special-Status Wildlife Documented or Identified as Having the Potential to Occur in the EIR Study Area*, lists all the special-status wildlife species that have been documented to occur within the EIR Study Area or may be potentially affected by activities in the EIR Study Area, as identified in the literature review. However, Table 3.4-2 should not be considered a complete list of special-status wildlife species that may occur within the EIR Study Area. Other species not identified in the literature review may occur in the EIR Study Area presently or in the future.

Table 3.4-2, *Special-Status Wildlife Documented or Identified as Having the Potential to Occur in the EIR Study Area,* presents the listing status for each species, its preferred habitats, and general location information for previously documented occurrences in the county. Based on the literature review, 57 special-status wildlife species, including five amphibians, 28 birds, three crustaceans, eight fish, three insects, nine mammals, and one reptile species have been documented to occur within the county. Out of these 57 species, 20 are listed as either state or federally listed or proposed to be listed. These species include two amphibians, three birds, three crustaceans, six fish, three insects, two mammals, and one reptile.

Table 3.4-1 Special-Status Plants Documented or Identified as Having the Potential to Occur in the EIR Study Area

Scientific Name	Common Name	Federal Status	State Status	California Rare Plant Rank	Habitat	Cobb Mnt.	East Lake	Kelseyville	Lakeport	Lower Lake	Middletown	North Lake	Rivieras
Acmispon rubriflorus	Red-flowered bird's-foot trefoil	--	--	1B.1	Cismontane woodland and valley and foothill grassland. Elevation: 655–1,395 feet Bloom Period: April–June		X						
Allium fimbriatum var. purdyi	Purdy's onion	--	--	4.3	Clay or serpentine substrates of chaparral and cismontane woodland. Elevation: 985–1,970 feet Bloom Period: April–June					X	X		
Amorpha californica var. napensis	Napa False Indigo	--	--	1B.2	Openings in broad-leafed upland forest, chaparral, and cismontane woodland communities. Elevation: 395–6,560 feet Bloom Period: April–July						X		
Amsinckia lunaris	Bent-Flowered Fiddleneck	--	--	1B.2	Cismontane woodland, coastal bluff scrub, and valley and foothill grasslands. Elevation: 10–1,640 feet Bloom Period: March–June	X	X	X	X	X	X	X	X
Anisocarpus scabridus	Scabrid Alpine Tarplant	--	--	1B.3	Metamorphic, rocky soils in upper montane coniferous forest. Elevation: 5,415–7,545 feet Bloom Period: July–August							X	
Antirrhinum subcordatum	Dimorphic snapdragon	--	--	4.3	Sometimes on serpentine substrates of chaparral and lower montane coniferous forest. Elevation: 605–2,625 feet Bloom Period: April–July	X		X	X	X	X	X	

Table 3.4-1 Special-Status Plants Documented or Identified as Having the Potential to Occur in the EIR Study Area

Scientific Name	Common Name	Federal Status	State Status	California Rare Plant Rank	Habitat	Cobb Mnt.	East Lake	Kelseyville	Lakeport	Lower Lake	Middletown	North Lake	Rivieras
Antirrhinum virga	Twig-like snapdragon	--	--	4.3	Rocky soils, openings, and often serpentine in chaparral and lower montane coniferous forest. Elevation: 330–6,610 feet Bloom Period: June–July	X	X			X	X	X	X
Aphyllon validum ssp. howellii	Howell's broomrape	--	--	4.3	Serpentine or volcanic substrates in chaparral. Elevation: 590–5,710 feet Bloom Period: June–September	X	X	X		X	X	X	
Arabis modesta	Modest rockcress	--	--	4.3	Chaparral and lower and montane coniferous forest. Elevation: 395–2,625 feet Bloom Period: May–July					X	X		
Arabis oregana	Oregon rockcress	--	--	4.3	Serpentine substrates of chaparral and lower montane coniferous forest. Elevation: 1,970–6,005 feet Bloom Period: May					X	X		
Arctostaphylos malloryi	Mallory's manzanita	--	--	4.3	Volcanic substrates in chaparral and lower montane coniferous forest. Elevation: 2,510–4,200 feet Bloom Period: April–July							X	
Arctostaphylos manzanita ssp. elegans	Konocti manzanita	--	--	1B.3	Volcanic substrates of chaparral, cismontane woodland, and lower montane coniferous forest. Elevation: 1,295–5,300 feet Bloom Period: March–May	X	X	X	X	X	X	X	X

Table 3.4-1 Special-Status Plants Documented or Identified as Having the Potential to Occur in the EIR Study Area

Scientific Name	Common Name	Federal Status	State Status	California Rare Plant Rank	Habitat	Cobb Mnt.	East Lake	Kelseyville	Lakeport	Lower Lake	Middletown	North Lake	Rivieras
Arctostaphylos stanfordiana ssp. raichei	Raiche's manzanita	--	--	1B.1	Rocky, often serpentine soils of chaparral and lower montane coniferous forest openings. Elevation: 1,475–3,395 feet Bloom Period: February–April	X	X	X	X	X	X	X	X
Asclepias solanoana	Serpentine milkweed	--	--	4.2	Serpentine substrates of chaparral, cismontane woodland, and lower montane coniferous forest. Elevation: 755–6,105 feet Bloom Period: May–July	X	X	X		X	X	X	
Astragalus breweri	Brewer's milkvetch	--	--	4.2	Often serpentine and volcanic substrates of chaparral, cismontane woodland, meadows and seeps, and open gravelly openings of valley and foothill grassland. Elevation: 295–2,395 feet Bloom Period: April–June	X	X	X	X	X	X	X	X
Astragalus clevelandii	Cleveland's milkvetch	--	--	4.3	Serpentine seeps of chaparral, cismontane woodland, and riparian forest. Elevation: 655–4,920 feet Bloom Period: June–September	X	X	X		X	X	X	
Astragalus rattanii var. jepsonianus	Jepson's milkvetch	--	--	1B.2	Chaparral, cismontane woodland, and valley and foothill grassland; often on serpentine substrates. Elevation: 970–2,295 feet Bloom Period: March–June	X	X			X	X	X	

Table 3.4-1 Special-Status Plants Documented or Identified as Having the Potential to Occur in the EIR Study Area

Scientific Name	Common Name	Federal Status	State Status	California Rare Plant Rank	Habitat	Cobb Mnt.	East Lake	Kelseyville	Lakeport	Lower Lake	Middletown	North Lake	Rivieras
Astragalus rattanii var. rattanii	Rattan's milkvetch	--	--	4.3	Gravelly streambanks in chaparral, cismontane woodland, and lower montane coniferous forest. Elevation: 100–2,705 feet Bloom Period: April–July		X					X	
Azolla microphylla	Mexican mosquito fern	--	--	4.2	Marshes and swamps, ponds or slow–moving bodies of water. Elevation: 100–330 feet Bloom Period: August	X		X					X
Balsamorhiza macrolepis	Big-scale balsamroot	--	--	1B.2	Chaparral, cismontane woodland, and valley and foothill grassland, sometimes on serpentine soils. Elevation: 150–5,100 feet Bloom Period: March–June		X			X	X	X	
Boechera ultraalsa	Snow Mountain rockcress	--	--	1B.1	Rocky, upper montane coniferous forest. Elevation: 5,905-5,905 feet Bloom Period: June-July							X	
Botrychium crenulatum	Scalloped moonwort	--	--	2B.2	Bogs and fens, meadows and seeps, and freshwater marshes and swamps within lower montane coniferous forest and upper montane coniferous forest. Elevation: 4,160–10,760 feet Bloom Period: June–September							X	
Brasenia schreberi	Watershield	--	--	2B.3	Freshwater marshes and swamps. Elevation: 100–7,220 feet Bloom Period: June–September	X	X	X	X	X		X	X

Table 3.4-1 Special-Status Plants Documented or Identified as Having the Potential to Occur in the EIR Study Area

Scientific Name	Common Name	Federal Status	State Status	California Rare Plant Rank	Habitat	Cobb Mnt.	East Lake	Kelseyville	Lakeport	Lower Lake	Middletown	North Lake	Rivieras
Brodiaea leptandra	Narrow-anthered brodiaea	--	--	1B.2	Volcanic soils in broad-leafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland. Elevation: 360–3,000 feet Bloom Period: May–July						X		
Brodiaea rosea	Indian Valley brodiaea	--	CE	3.1	Serpentine substrates of closed–cone coniferous forest, chaparral, cismontane woodland, and valley and foothill grassland. Elevation: 1,100–4,760 feet Bloom Period: May–June		X						
Bryum chryseum	Brassy bryum	--	--	4.3	Chaparral openings, cismontane woodland, and valley and foothill grassland. Elevation: 165–1,970 feet Bloom Period: N/A				X				
Calamagrostis ophitidis	Serpentine reed grass	--	--	4.3	Rocky, serpentine substrates of chaparral openings (often north-facing slopes), lower montane coniferous forest, meadows and seeps, and valley and foothill grassland. Elevation: 295–3,495 feet Bloom Period: April–July	X		X		X	X		
Calandrinia Breweri	Brewer's calandrinia	--	--	4.2	Burned or disturbed areas, sometimes on loamy or sandy soils, within chaparral and coastal scrub. Elevation: 35– 4,005 feet Bloom Period: March-June						X		

Table 3.4-1 Special-Status Plants Documented or Identified as Having the Potential to Occur in the EIR Study Area

Scientific Name	Common Name	Federal Status	State Status	California Rare Plant Rank	Habitat	Cobb Mnt.	East Lake	Kelseyville	Lakeport	Lower Lake	Middletown	North Lake	Rivieras
Calochortus uniflorus	Pink star-tulip	--	--	4.2	Coastal prairie, coastal scrub, meadows and seeps, and North Coast coniferous forest. Elevation: 35–3,510 feet Bloom Period: April–June	X	X			X	X		X
Calycadenia micrantha	Small-flowered calycadenia	--	--	1B.2	Sparsely vegetated areas of roadsides, rocky, scree, sometimes serpentine, and talus sites within chaparral, volcanic meadows and seeps, and valley and foothill grassland. Elevation: 15-4,920 feet Bloom Period: June–September		X	X	X			X	
Calyptridium quadripetalum	Four-petaled pussypaws	--	--	4.3	Sandy or gravelly soils of chaparral and lower montane coniferous forest; often on serpentine substrates. Elevation: 1,035–6,695 feet Bloom Period: April–June	X	X	X	X	X	X	X	X
Calystegia collina ssp. Oxyphylla	Mt. Saint Helena morning-glory	--	--	4.2	Serpentine substrates of chaparral, lower montane coniferous forest, and valley and foothill grassland. Elevation: 915–3,315 feet Bloom Period: April–June	X	X	X	X	X	X	X	
Calystegia collina ssp. tridactylosa	Three-fingered morning-glory	--	--	1B.2	Gravelly or rocky openings in serpentine substrates of chaparral and cismontane woodland. Elevation: 0-1,970 feet Bloom Period: April-June	X	X	X				X	

Table 3.4-1 Special-Status Plants Documented or Identified as Having the Potential to Occur in the EIR Study Area

Scientific Name	Common Name	Federal Status	State Status	California Rare Plant Rank	Habitat	Cobb Mnt.	East Lake	Kelseyville	Lakeport	Lower Lake	Middletown	North Lake	Rivieras
Camissonia lacustris	Grassland suncup	--	--	1B.2	Granitic, gravelly, and serpentine substrates in chaparral, cismontane woodland, lower montane coniferous forest, and valley and foothill grassland. Elevation: 590-4,005 feet Bloom Period: March-June	X		X	X			X	X
Carex comosa	Bristly sedge	--	--	2B.1	Mesic (Jepson Flora Project [eds.] 2025) valley and foothill grassland, coastal prairie, and lake margins of marshes and swamps. Elevation: 0–2,050 feet Bloom Period: May–September				X			X	
Carex hystericina	Porcupine sedge	--	--	2B.1	Streambanks of marshes and swamps. Elevation: 738–7,875 feet Bloom Period: May–June		x					x	
Carex klamathensis	Klamath sedge	--	--	1B.2	Serpentine soils in chaparral, cismontane woodland, and meadows and seeps. Elevation: 3,280–3,740 feet Bloom Period: June–July		X						
Carex praticola	Northern meadow sedge	--	--	2B.2	Mesic meadows and seeps. Elevation: 0–10,500 feet Bloom Period: May–July	X				X	X		
Castilleja rubicundula var. rubicundula	Pink creamsacs	--	--	1B.2	Sometimes volcanic or serpentine soils in closed–cone coniferous forest, chaparral, and cismontane woodland. Elevation: 245–3,495 feet Bloom Period: February–June		X			X	X		

Table 3.4-1 Special-Status Plants Documented or Identified as Having the Potential to Occur in the EIR Study Area

Scientific Name	Common Name	Federal Status	State Status	California Rare Plant Rank	Habitat	Cobb Mnt.	East Lake	Kelseyville	Lakeport	Lower Lake	Middletown	North Lake	Rivieras
Ceanothus confusus	Rincon Ridge ceanothus	--	--	1B.1	Serpentine or rocky volcanic substrates in chaparral. Elevation: 560–3,115 feet Bloom Period: February–April	X	X	X	X	X	X	X	
Ceanothus divergens	Calistoga ceanothus	--	--	1B.2	Sandy serpentine, and volcanic soils in chaparral. Elevation: 705–2,625 feet Bloom Period: February–April	X		X		X	X		
Ceanothus pinetorum	Kern ceanothus	--	--	4.3	Granitic or rocky substrates in lower montane coniferous forest, subalpine coniferous forest, and upper montane coniferous forest. Elevation: 3,410-9,005 feet Bloom Period: May-July							X	
Ceanothus Purpureus	Holly-leaved ceanothus	--	--	1B.2	Volcanic and rocky soils in chaparral and cismontane woodland. Elevation: 395–2,100 feet Bloom Period: February–June						X		
Ceanothus sonomensis	Sonoma ceanothus	--	--	1B.2	Often on alkaline soils within chaparral, coastal prairie, meadows and seeps, coastal salt marshes and swamps, vernally mesic valley and foothill grassland. Elevation: 0–1,380 feet Bloom Period: May–November						x		
Centromadia parryi ssp. parryi	Pappose tarplant	--	--	1B.2	Serpentine soils within chaparral. Elevation: 1,000–3,280 feet Bloom Period: May–August		X			X	X	X	

Table 3.4-1 Special-Status Plants Documented or Identified as Having the Potential to Occur in the EIR Study Area

Scientific Name	Common Name	Federal Status	State Status	California Rare Plant Rank	Habitat	Cobb Mnt.	East Lake	Kelseyville	Lakeport	Lower Lake	Middletown	North Lake	Rivieras
Centromadia parryi ssp. rudis	Parry's rough tarplant	--	--	4.2	Alkaline, vernally mesic areas, and seeps in valley and foothill grassland and vernal pools, sometimes found on roadsides. Elevation: 0–330 feet Bloom Period: May–October		X						
Chlorogalum pomeridianum var. minus	Dwarf soaproot	--	--	1B.2	Serpentine in chaparral. Elevation: 1,295–1,905 feet Bloom Period: April–June	X				X	X	X	
Clarkia gracilis ssp. tracyi	Tracy's clarkia	--	--	4.2	Openings, usually with serpentine soils, in chaparral. Elevation: 215–2,135 feet Bloom Period: April–July	X	X	X	X	X	X	X	X
Claytonia obovata	Rydberg's spring beauty	--	--	4.3	Usually within openings on rocky or talus habitat in subalpine coniferous forest. Elevation: 4,545 – 9,300 feet Bloom Period: May–June							X	
Collomia diversifolia	Serpentine collomia	--	--	4.3	Rocky or gravelly serpentine substrates in chaparral and cismontane woodland. Elevation: 655–1,970 feet Bloom Period: May–June	X	X	X	X	X	X	X	
Collomia tracyi	Tracy’s collomia	--	--	4.3	Rocky and sometimes serpentine soils within broad-leafed upland forest and lower montane coniferous forest. Elevation: 985–6,890 feet Bloom Period: June–July							X	

Table 3.4-1 Special-Status Plants Documented or Identified as Having the Potential to Occur in the EIR Study Area

Scientific Name	Common Name	Federal Status	State Status	California Rare Plant Rank	Habitat	Cobb Mnt.	East Lake	Kelseyville	Lakeport	Lower Lake	Middletown	North Lake	Rivieras
Cordylanthus tenuis ssp. brunneus	Serpentine bird'sbeak	--	--	4.3	Usually serpentine soils of closed–cone coniferous forest, chaparral, and cismontane woodland. Elevation: 1,000–3,000 feet Bloom Period: July–August	X	X	X		X	X		X
Cryptantha dissita	Serpentine cryptantha	--	--	1B.2	Serpentine in chaparral. Elevation: 1,295–1,905 feet Bloom Period: April–June		X	X	X		X	X	
Cryptantha excavata	Deep-scarred cryptantha	--	--	1B.1	Sandy or gravelly soils in cismontane woodland. Elevation: 330–1,640 feet Bloom Period: April–May		X			X			
Cryptantha rostellata	Red-stemmed cryptantha	--	--	4.2	Often gravelly volcanic openings and roadsides of cismontane woodland and valley and foothill grassland. Elevation: 130–2,625 feet Bloom Period: April–June		X						
Cuscuta jepsonii	Jepson's dodder	--	--	1B.2	Lake margins of cismontane woodland and valley and foothill grassland; vernal pools. Elevation: 50–3,640 feet Bloom Period: June–July							X	
Cypripedium californicum	California lady’sslipper	--	--	4.2	Usually within serpentine seeps and streambanks of bogs and fens, and lower montane coniferous forest. Elevation: 100–9,025 feet Bloom Period: April–August							X	

Table 3.4-1 Special-Status Plants Documented or Identified as Having the Potential to Occur in the EIR Study Area

Scientific Name	Common Name	Federal Status	State Status	California Rare Plant Rank	Habitat	Cobb Mnt.	East Lake	Kelseyville	Lakeport	Lower Lake	Middletown	North Lake	Rivieras
Cypripedium montanum	Mountain lady'sslipper	--	--	4.2	Broadleaf upland forest, cismontane woodland, lower montane coniferous forest, and North Coast coniferous forest. Elevation: 605–7,300 feet Bloom Period: March–August			X					
Delphinium uliginosum	Swamp larkspur	--	--	4.2	Serpentine seeps in chaparral and valley and foothill grassland. Elevation: 1,115–2,000 feet Bloom Period: May–June	X	X			X	X		
Didymodon californicus	California beardmoss	--	--	4.2	Rocky substrates and streambanks within openings of lower montane coniferous forest. Elevation: 4,510–5,395 feet Bloom Period: N/A							X	
Doellingeria glabrata	Siskiyou aster	--	--	4.3	Rocky openings within lower montane coniferous forest and upper montane coniferous forest. Elevation: 395–8,875 feet Bloom Period: June–September							X	
Downingia willamettensis	Cascade downingia	--	--	2B.2	Mesic meadows and seeps. Elevation: 0–10,500 feet Bloom Period: May–July	X				X	X	X	
Entosthodon kochii	Koch's cord moss	--	--	1B.3	Soil on river banks in cismontane woodland. Elevation: 590–3,280 feet Bloom Period: N/A			X	X				

Table 3.4-1 Special-Status Plants Documented or Identified as Having the Potential to Occur in the EIR Study Area

Scientific Name	Common Name	Federal Status	State Status	California Rare Plant Rank	Habitat	Cobb Mnt.	East Lake	Kelseyville	Lakeport	Lower Lake	Middletown	North Lake	Rivieras
Epilobium nivium	Snow Mountain willowherb	--	--	1B.2	Rocky substrates in chaparral and upper montane coniferous forest. Elevation: 2,610-8,205 feet Bloom Period: June-October	X						X	
Epilobium septentrionale	Humboldt County fuchsia	--	--	4.3	Sometimes rocky and sometimes sandy soils within broad-leafed upland forest and North Coast coniferous forest. Elevation: 150-5,905 feet Bloom Period: July-September				X				
Equisetum palustre	Marsh horsetail	--	--	3	Marshes and swamps. Elevation: 150–3,280 feet Bloom Period: N/A				X	X			
Eriastrum brandegeeae	Brandegee's eriastrum	--	--	1B.1	Volcanic, sandy substrates of chaparral and cismontane woodland. Elevation: 1,395–2,755 feet Bloom Period: April–August	X	X	X		X			X
Eriastrum tracyi	Tracy's eriastrum	--	CR	3.2	Chaparral, cismontane woodland, and valley and foothill grassland. Elevation: 1,035–5,840 feet Bloom Period: May–July		X					X	
Erigeron biolettii	Streamside daisy	--	--	3	Rocky, mesic soils in broad-leafed upland forest, cismontane woodland, and North Coast coniferous forest. Elevation: 100–3,610 feet Bloom Period: June–October					X			

Table 3.4-1 Special-Status Plants Documented or Identified as Having the Potential to Occur in the EIR Study Area

Scientific Name	Common Name	Federal Status	State Status	California Rare Plant Rank	Habitat	Cobb Mnt.	East Lake	Kelseyville	Lakeport	Lower Lake	Middletown	North Lake	Rivieras
Erigeron greenei	Greene's narrowleaved daisy	--	--	1B.2	Serpentine or volcanic soils in chaparral. Elevation: 260–3,295 feet Bloom Period: May–September	X	X			X	X	X	
Eriogonum nervulosum	Snow Mountain buckwheat	--	--	1B.2	Serpentine chaparral communities. Elevation: 985–6,905 feet Bloom Period: June–September	X	X			X	X	X	
Eriogonum strictum var. greenei	Greene's buckwheat	--	--	4.3	Rocky, serpentine soils of lower montane coniferous forest. Elevation: 2,625–6,890 feet Bloom Period: July–September							X	
Eriogonum ternatum	Ternate buckwheat	--	--	4.3	Serpentine soils of lower montane coniferous forest. Elevation: 1,000–7,300 feet Bloom Period: June–August							X	
Eriogonum Tripodum	Tripod buckwheat	--	--	4.2	Often serpentine soils of chaparral and cismontane woodland. Elevation: 655–5,250 feet Bloom Period: May–July					X	X	X	
Eriogonum umbellatum var. bahiiforme	Bay buckwheat	--	--	4.2	Rocky, often serpentine soils in cismontane woodland and lower montane coniferous forest. Elevation: 2,295–7,220 feet Bloom Period: July–September						X	X	
Eryngium Constancei	Loch Lomond button-celery	FE	CE	1B.1	Vernal pools. Elevation: 1,510 –2,805 feet Bloom Period: April–June	X	X	X		X	X		X

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Scientific Name	Common Name	Federal Status	State Status	California Rare Plant Rank	Habitat	Cobb Mnt.	East Lake	Kelseyville	Lakeport	Lower Lake	Middletown	North Lake	Rivieras
Eryngium jepsonii	Jepson's coyote thistle	--	--	1B.2	Clay soils of valley and foothill grassland, and vernal pools. Elevation: 10–985 feet Bloom Period: April–August						X		
Erythranthe nudata	Bare monkeyflower	--	--	4.3	Serpentine seeps of chaparral and cismontane woodland. Elevation: 655–2,295 feet Bloom Period: May–June	X	X	X	X	X	X	X	
Erythronium Helenae	St. Helena fawn lily	--	--	4.2	Volcanic or serpentine substrates of chaparral, cismontane woodland, lower montane coniferous forest, and valley and foothill grassland. Elevation: 1,150–4,005 feet Bloom Period: March–May	X	X	X		X	X	X	X
Extriplex Joaquinana	San Joaquin spearscale	--	--	1B.2	Alkaline soils in chenopod scrub, meadows seeps, playas, and valley and foothill grassland. Elevation: 5–2,740 feet Bloom Period: April–October		X			X			
Fritillaria glauca	Siskiyou fritillaria	--	--	4.2	Slopes in serpentine and talus habitat in alpine boulder and rock field, subalpine coniferous forest, and upper montane coniferous forest. Elevation: 5,695-8,005 feet Bloom period: June–July							X	

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Scientific Name	Common Name	Federal Status	State Status	California Rare Plant Rank	Habitat	Cobb Mnt.	East Lake	Kelseyville	Lakeport	Lower Lake	Middletown	North Lake	Rivieras
Fritillaria purdyi	Purdy's fritillary	--	--	4.3	Usually serpentine substrates of chaparral, cismontane woodland, and lower montane coniferous forest. Elevation: 575–7,400 feet Bloom Period: March–June	X	X	X	X	X	X	X	
Fritillaria pluriflora	Adobe-lily	--	--	1B.2	Adobe soils in chaparral, cismontane woodland, and valley and foothill grassland. Elevation: 195–2,315 feet Bloom Period: February–April		X			X	X		
Gratiola heterosepala	Boggs Lake hedge-hyssop	--	CE	1B.2	Clay substrates of marshes and swamps (lake margins) and vernal pools. Elevation: 35–7,790 feet Bloom Period: April–August	X	X	X	X	X	X		X
Grimmia torenii	Toren's grimmia	--	--	1B.3	Openings, rocky substrates, boulder and rock walls, carbonate substrates, and volcanic substrates in chaparral, cismontane woodland, and lower montane coniferous forest. Elevation: 1,065–3,805 feet Bloom Period: N/A	X			X	X	X	X	
Hackelia Amethystina	Amethyst stickseed	--	--	4.3	Disturbed areas and openings in lower montane coniferous forests, meadows and seeps, and upper montane coniferous forest. Elevation: 4,920–7,595 feet Bloom Period: June–July							X	

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Scientific Name	Common Name	Federal Status	State Status	California Rare Plant Rank	Habitat	Cobb Mnt.	East Lake	Kelseyville	Lakeport	Lower Lake	Middletown	North Lake	Rivieras
Harmonia nutans	Nodding harmonia	--	--	4.3	Sometimes rocky, sometimes gravelly, often volcanic soils in chaparral and cismontane woodland. Elevation: 245–3,200 feet Bloom Period: March–May						X		
Harmonia hallii	Hall's harmonia	--	--	1B.2	Serpentine substrates of chaparral. Elevation: 1,000–3,200 feet Bloom Period: April–June	X	X	X		X	X		X
Harmonia Stebbinsii	Stebbins' harmonia	--	--	1B.2	Serpentine soils in chaparral and lower montane coniferous forest. Elevation: 1,310-5,185 feet Bloom Period: May-June							X	
Hemizonia congesta ssp. calyculata	Mendocino tarplant	--	--	4.3	Sometimes serpentine substrates of cismontane woodland and valley and foothill grassland. Elevation: 740–4,595 feet Bloom Period: July–November	X	X		X	X		X	X
Hemizonia congesta ssp. congesta	Congestedheaded hayfield tarplant	--	--	1B.2	Valley and foothill grassland and sometimes roadsides. Elevation: 65–1,835 feet Bloom Period: April–November					X	X		
Hesperolinon Adenophyllum	Glandular western flax	--	--	1B.2	Serpentine soils (Safford and Miller 2020) in chaparral, cismontane woodland, and valley and foothill grassland. Elevation: 490–4,315 feet Bloom Period: May–August	X	X	X	X	X	X	X	X

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Scientific Name	Common Name	Federal Status	State Status	California Rare Plant Rank	Habitat	Cobb Mnt.	East Lake	Kelseyville	Lakeport	Lower Lake	Middletown	North Lake	Rivieras
Hesperolinon Bicarpellatum	Two-carpellate western flax	--	--	1B.2	Serpentine soils of chaparral. Elevation: 195–3,295 feet Bloom Period: May–July	X	X	X	X	X	X	X	X
Hesperolinon didymocarpum	Lake County western flax	--	CE	1B.2	Serpentine substrates of chaparral, cismontane woodland, and valley and foothill grassland. Elevation: 1,085–1,200 feet Bloom Period: May–July					X	X		
Hesperolinon drymarioides	Drymaria-like western flax	--	--	1B.2	Serpentine substrates of closed cone coniferous forest, chaparral, cismontane woodland, and valley and foothill grassland. Elevation: 330–3,710 feet Bloom Period: May–August		X			X	X	X	
Hesperolinon sharsmithiae	Sharsmith's western flax	--	--	1B.2	Serpentine soils of chaparral. Elevation: 885–985 feet Bloom Period: May–July		X			X	X	X	
Hesperolinon tehamense	Tehama County western flax	--	--	1B.3	Serpentine soils in chaparral and cismontane woodland. Elevation: 330-4100 feet Bloom Period: May–July							X	
Horkelia bolanderi	Bolander's horkelia	--	--	1B.2	Within and on edges of vernally mesic areas in chaparral, lower montane coniferous forest, meadows and seeps, and valley and foothill grassland. Elevation: 1,475–3,910 feet Bloom Period: June–August	X	X	X	X	X	X	X	X

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Scientific Name	Common Name	Federal Status	State Status	California Rare Plant Rank	Habitat	Cobb Mnt.	East Lake	Kelseyville	Lakeport	Lower Lake	Middletown	North Lake	Rivieras
Iliamna bakeri	Baker's globe mallow	--	--	4.2	Volcanic soils (often in burned areas) of chaparral, Great Basin scrub, lower montane coniferous forest openings, and pinyon and juniper woodland. Elevation: 3,280–8,205 feet Bloom Period: June–September							X	
Imperata brevifolia	California satintail	--	--	2B.1	Mesic areas in chaparral, coastal scrub, Mojavean desert scrub, meadows and seeps (often alkali) and riparian scrub. Elevation: 0–3,985 feet Bloom Period: September–May	X	X			X	X		X
Iris longipetala	Coast iris	--	--	4.2	Mesic areas in coastal prairie, lower montane coniferous forest, and meadows and seeps. Elevation: 0–1,970 feet Bloom Period: March–May				X				
Juncus luciensis	Santa Lucia dwarf rush	--	--	1B.2	Chaparral, great basin scrub, lower montane coniferous forest, meadows and seeps, and vernal pools. Elevation: 985–6,695 feet Bloom Period: April-July						X		
Kopsiopsis hookeri	Small groundcone	--	--	2B.3	Lower montane coniferous forest, North Coast coniferous forest, and upper montane coniferous forest. Elevation: 295–2,905 feet Bloom Period: April–August			X	X				

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Scientific Name	Common Name	Federal Status	State Status	California Rare Plant Rank	Habitat	Cobb Mnt.	East Lake	Kelseyville	Lakeport	Lower Lake	Middletown	North Lake	Rivieras
Lasthenia burkei	Burke's goldfields	FE	CE	1B.1	Mesic sites within meadows and seeps and vernal pools. Elevation: 50–1,970 feet Bloom Period: April–June	X	X	X	X	X	X		X
Lasthenia conjugens	Contra Costa Goldfields	FE	--	1B.1	Mesic sites within cismontane woodland, playas with alkaline soils, valley and foothill grassland and vernal pools. Elevation: 0–1,540 feet Bloom Period: March–June	X		X	X				
Layia septentrionalis	Colusa layia	--	--	1B.2	Sandy or serpentine soils in chaparral, cismontane woodland, and valley and foothill grasslands. Elevation: 330–3,595 feet Bloom Period: April–May	X	X	X	X	X	X	X	X
Legenere limosa	Legenere	--	--	1B.1	Various seasonally inundated areas including wetlands, wetland swales, marshes, vernal pools, artificial ponds, and floodplains of intermittent drainages (U.S. Fish and Wildlife Service 2005). Elevation: 5–2,885 feet Bloom Period: April–June	X		X		X	X		X
Leptosiphon aureus	Bristly leptosiphon	--	--	4.2	Chaparral, cismontane woodland, coastal prairie, and valley and foothill grassland. Elevation: 180–4,920 feet Bloom Period: April–July	X	X	X	X	X	X	X	X

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Scientific Name	Common Name	Federal Status	State Status	California Rare Plant Rank	Habitat	Cobb Mnt.	East Lake	Kelseyville	Lakeport	Lower Lake	Middletown	North Lake	Rivieras
Leptosiphon latisectus	Broad-lobed leptosiphon	--	--	4.3	Open or partially shaded grassy slopes (Patterson and Battaglia 2021), broad-leafed upland forest and cismontane woodland. Elevation: 560–4,920 feet Bloom Period: April–June		X	X	X			X	X
Leptosiphon grandiflorus	Large-flowered leptosiphon	--	--	4.2	Usually sandy soils of coastal bluff scrub, closed–cone coniferous forest, cismontane woodland, coastal dunes, coastal prairie, coastal scrub, and valley and foothill grassland. Elevation: 15–4,005 feet Bloom Period: April–August	X				X	X		
Leptosiphon jepsonii	Jepson's leptosiphon	--	--	1B.2	Usually volcanic soils of chaparral, cismontane woodland, valley and foothill grasslands. Elevation: 330–1,640 feet Bloom Period: March–May	X				X	X		
Leptosiphon latisectus	Broad-lobed leptosiphon	--	--	4.3	Open or partially shaded grassy slopes (Patterson and Battaglia 2021), broad-leafed upland forest and cismontane woodland. Elevation: 560–4,920 feet Bloom Period: April–June						X		
Leptosiphon rattanii	Rattan's leptosiphon	--	--	4.3	Sometimes gravelly or rocky soils in cismontane woodland and lower montane coniferous forest. Elevation: 5,580 -6,560 feet Bloom Period: May-July							X	

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Scientific Name	Common Name	Federal Status	State Status	California Rare Plant Rank	Habitat	Cobb Mnt.	East Lake	Kelseyville	Lakeport	Lower Lake	Middletown	North Lake	Rivieras
Lewisia stebbinsii	Stebbins' lewisia	--	--	1B.2	Gravelly, sometimes serpentine soils in lower montane coniferous forest and upper montane coniferous forest. Elevation: 5,250-6,725 feet Bloom Period: May-July							X	
Lilium rubescens	Redwood lily	--	--	4.2	Sometimes serpentine soils and roadsides of broad leafed upland forest, chaparral, lower montane coniferous forest, upper montane coniferous forest, and North Coast coniferous forest. Elevation: 100–6,265 feet Bloom Period: April–August	X	X	X	X	X	X		
Limnanthes floccosa ssp. floccosa	Woolly meadowfoam	--	--	4.2	Vernally mesic chaparral, cismontane woodland, valley and foothill grassland, and vernal pools. Elevation: 195–4,380 feet Bloom Period: March–May	X		X		X	X		
Limnanthes vinculans	Sebastopol Meadowfoam	FE	CE	1B.1	Vernally mesic areas in meadows and seeps, valley and foothill grasslands, and vernal pools. Elevation: 50–1,000 feet Bloom Period: April–May		X				X		X
Lomatium hooveri	Hoover's lomatium	--	--	4.3	Serpentine or rarely volcanic substrates of chaparral and cismontane woodland. Elevation: 985–2,905 feet Bloom Period: April–July		X			X		X	X

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Scientific Name	Common Name	Federal Status	State Status	California Rare Plant Rank	Habitat	Cobb Mnt.	East Lake	Kelseyville	Lakeport	Lower Lake	Middletown	North Lake	Rivieras
Lomatium repostum	Napa lomatium	--	--	4.2	Serpentine soils, often in openings or on volcanic substrates, sometimes gravelly or rocky soils, and rarely on sandstone soils within broad-leafed upland forest, chaparral, and cismontane woodland. The microhabitat is flat to steep slopes in chaparral and woodland (mixed evergreen forest often with madrone). Elevation: 295–4,725 feet Bloom Period: March–June	X	X	X	X	X		X	
Lupinus antoninus	Anthony Peak lupine	--	--	1B.2	Rocky substrates in lower montane and upper montane coniferous forest. Elevation: 4,000–7,495 feet Bloom Period: May–July		X	X	X		X		
Lupinus milobakeri	Milo Baker's Lupine	--	CT	1B.1	Cismontane woodland often along roadsides and valley and foothill grassland. Elevation: 1,295–1,410 feet Bloom Period: June–September		X				X	X	
Lupinus sericatus	Cobb Mountain lupine	--	--	1B.2	Broad-leafed upland forest, chaparral, cismontane woodland, and lower montane coniferous forest. Elevation: 900–5,005 feet Bloom Period: March–June	X	X	X		X			X
Malacothamnus helleri	Heller's bushmallow	--	--	3.3	Sandstone substrates of chaparral and gravelly substrates of riparian woodland. Elevation: 1,000–2,085 feet Bloom Period: May–July					X	X		

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Scientific Name	Common Name	Federal Status	State Status	California Rare Plant Rank	Habitat	Cobb Mnt.	East Lake	Kelseyville	Lakeport	Lower Lake	Middletown	North Lake	Rivieras
Micropus amphibolus	Mt. Diablo cottonweed	--	--	3.2	Rocky soils in broad–leafed upland forest, chaparral, cismontane woodland, valley and foothill grassland. Elevation: 150–2,705 feet Bloom Period: March–May	X		X			X		
Microseris sylvatica	Sylvan microseris	--	--	4.2	Chaparral, cismontane woodland, Great basin scrub, pinyon and juniper woodland, and valley and foothill grassland; rarely on serpentine substrates. Elevation: 150–4,920 feet Bloom Period: March–June						X		X
Mielichhoferia elongata	Elongate copper moss	--	--	4.3	Metamorphic rock that is usually acidic, usually 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. Elevation: 0–6,430 feet Bloom Period: N/A	X	X			X			X
Monardella viridis	Green monardella	--	--	4.3	Conifer forests (Sanders et al. 2012), broad-leafed upland forest, chaparral, and cismontane woodland. Elevation: 330–3,315 feet Bloom Period: June–September	X	X	X	X		X		
Myosurus minimus ssp. apus	Little mousetail	--	--	3.1	Mesic areas (USACE 2022) of valley and foothill grassland and alkaline vernal pools. Elevation: 65–2,100 feet Bloom Period: March–June	X				X			

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Scientific Name	Common Name	Federal Status	State Status	California Rare Plant Rank	Habitat	Cobb Mnt.	East Lake	Kelseyville	Lakeport	Lower Lake	Middletown	North Lake	Rivieras
Navarretia cotulifolia	Cotula navarretia	--	--	4.2	Adobe soils of chaparral, cismontane woodland, and valley and foothill grassland. Elevation: 15–6,005 feet Bloom Period: May–June		X			X	X	X	X
Navarretia jepsonii	Jepson's navarretia	--	--	4.3	Serpentine substrates of chaparral, cismontane woodland, and valley and foothill grassland. Elevation: 575–2,805 feet Bloom Period: April–June		X		X	X	X		X
Navarretia leucocephala ssp. bakeri	Baker's navarretia	--	--	1B.1	Vernal pools and mesic areas within cismontane woodlands, lower montane coniferous forests, meadows and seeps, and valley and foothill grasslands. Elevation: 15–5,710 feet Bloom Period: April–July	X	X			X	X		X
Navarretia leucocephala ssp. pauciflora	Few-flowered Navarretia	FE	CT	1B.1	Volcanic ash flow vernal pools. Elevation: 1,310–2,805 feet Bloom Period: May–June	X	X	X		X			
Navarretia leucocephala ssp. plieantha	Many-flowered navarretia	FE	CE	1B.2	Volcanic ash flow vernal pools. Elevation: 100–3,115 feet Bloom Period: May–June	X	X	X		X	X	X	

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Scientific Name	Common Name	Federal Status	State Status	California Rare Plant Rank	Habitat	Cobb Mnt.	East Lake	Kelseyville	Lakeport	Lower Lake	Middletown	North Lake	Rivieras
Navarretia linearifolia ssp. pinnatisecta	Pinnate-leaved navarretia	--	--	4.3	Serpentine or volcanic substrates of chaparral and lower montane coniferous forest. Elevation: 985–7,220 feet Bloom Period: June–August		X						
Navarretia myersii ssp. deminuta	Small pincushion navarretia	--	--	1B.1	Clay or loamy vernal pools. Elevation: 1,165-1,165 feet Bloom Period: April–May		X						
Navarretia nigelliformis ssp. nigelliformis	Adobe navarretia	--	--	4.2	Clay and sometimes serpentine soils in vernally mesic valley and foothill grasslands and sometimes in vernal pools. Elevation: 330–3,280 feet Bloom Period: April–June		X			X	X		
Navarretia nigelliformis ssp. radians	Shining navarretia	--	--	1B.2	Vernal pools and clay depressions (Johnson 2013) within cismontane woodland and valley or foothill grassland. Elevation: 215–3,280 feet Bloom Period: April–July		X				X		
Navarretia paradoxinota	Porter's navarretia	--	--	1B.3	Vernally mesic openings and drainages on serpentine substrates in meadows and seeps. Elevation: 540–2,755 feet Bloom Period: May–June					X			
Navarretia rosulata	Marin County navarretia	--	--	1B.2	Rocky and serpentine substrates of closed-cone coniferous forest and chaparral. Elevation: 655–2,085 feet Bloom Period: May–July						X	X	X

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Scientific Name	Common Name	Federal Status	State Status	California Rare Plant Rank	Habitat	Cobb Mnt.	East Lake	Kelseyville	Lakeport	Lower Lake	Middletown	North Lake	Rivieras
Ophioglossum pusillum	Northern adder'stongue	--	--	2B.2	Meadows and seeps and margins of marshes and swamps. Elevation: 3,280-6,560 feet Bloom Period: July		X				X		
Orcuttia tenuis	Slender Orcutt Grass	FT	CE	1B.1	Vernal pools, often gravelly. Elevation: 115–5,775 feet Bloom Period: May–September	X		X	X	X	X		X
Panicum acuminatum var. thermale	Geysers panicum	--	CE	1B.2	Geothermically–altered soils and sometimes streamsides of closed–cone coniferous forest, riparian forest, and valley and foothill grassland. Elevation: 1,000–8,105 feet Bloom Period: June–August	X		X		X			
Penstemon newberryi var. sonomensis	Sonoma beardtongue	--	--	1B.3	Rocky substrates of chaparral. Elevation: 2,295–4,495 feet Bloom Period: April–August	X		X		X			
Perideridia gairdneri ssp. gairdneri	Gairdner's yampah	--	--	4.2	Vernally mesic areas in broadleafed upland forest, chaparral, coastal prairie, valley and foothill grassland, and vernal pools. Elevation: 0–2,000 feet Bloom Period: June–October				X				X
Piperia leptopetala	Narrow-petaled rein orchid	--	--	4.3	Cismontane woodland, lower montane coniferous forest, and upper montane coniferous forest. Elevation: 1,245–7,300 feet Bloom Period: May–July		X			X	X		

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Scientific Name	Common Name	Federal Status	State Status	California Rare Plant Rank	Habitat	Cobb Mnt.	East Lake	Kelseyville	Lakeport	Lower Lake	Middletown	North Lake	Rivieras
Piperia michaelii	Michael's rein orchid	--	--	4.2	Coastal bluff scrub, closed–cone coniferous forest, chaparral, cismontane woodland, coastal scrub, and lower montane coniferous forest. Elevation: 10–3,000 feet Bloom Period: April–August	X				X		X	
Plagiobothrys hystriculus	Bearded popcornflower	--	--	1B.1	Often in vernal swales, and in mesic areas of valley and foothill grassland and vernal pool margins. Elevation: 0–900 feet Bloom Period: April–May					X		X	
Plagiobothrys lithocaryus	Mayacamas popcornflower	--	--	1A	Mesic areas in chaparral, cismontane woodland, and valley and foothill grassland. Elevation: 985–1,475 feet Bloom Period: April–May		X	X	X				X
Plagiobryoides vinosula	Wine-colored tufa moss	--	--	4.2	Usually in granitic rock or granitic soil along seeps and streams, sometimes in clay. Elevation: 100–5,695 feet Bloom Period: N/A		X					X	
Potamogeton zosteriformis	Eel-grass pondweed	--	--	2B.2	Assorted freshwater marshes and swamps. Elevation: 0–6,105 feet Bloom Period: June–July	X	X	X	X	X			
Puccinellia simplex	California alkali grass	--	--	1B.2	Alkaline, vernally mesic areas and sinks, flats and lake margins in chenopod scrub, meadows and seeps, valley and foothill grassland, and vernal pools. Elevation: 5–3,050 feet Bloom Period: March–May						X	X	X

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Ranunculus lobbii	Lobb's aquatic buttercup	--	--	4.2	Mesic areas of cismontane woodland, North Coast coniferous forest, valley and foothill grassland, and vernal pools. Elevation: 50–1,540 feet Bloom Period: February–May		X	X	X				
Sedella leiocarpa	Lake County stonecrop	FE	CE	1B.1	Vernally mesic depressions in volcanic outcrops in cismontane woodland, valley and foothill grasslands, and vernal pools. Elevation: 1,200–2,590 feet Bloom Period: April–May	X		X		X		X	
Sedum flavidum	Pale yellow stonecrop	--	--	4.3	Openings, rocky, serpentine, talus, or volcanic soils of broad-leafed upland forest, chaparral, lower montane coniferous forest, and upper montane coniferous forest. Elevation: 1,165-7,070 feet Bloom Period: May-July							x	
Sedum sanhedrinum	Sanhedrin Mountain stonecrop	--	--	1B.2	Openings, rock crevices, rocky and talus in gabbroic, metamorphic, or serpentine soils of chaparral, lower montane coniferous forest, and upper coniferous forest. Elevation: 4,645-7,495 feet Bloom Period: May-July		X						

Table 3.4-1 Special-Status Plants Documented or Identified as Having the Potential to Occur in the EIR Study Area

Scientific Name	Common Name	Federal Status	State Status	California Rare Plant Rank	Habitat	Cobb Mnt.	East Lake	Kelseyville	Lakeport	Lower Lake	Middletown	North Lake	Rivieras
Senecio clevelandii var. clevelandii	Cleveland's ragwort	--	--	4.3	Serpentine seeps of chaparral. Elevation: 1,200–2,955 feet Bloom Period: June–July					X	X	X	
Sidalcea hickmanii ssp. pillsburiensis	Lake Pillsbury checkerbloom	--	--	1B.2	Openings in chaparral. Elevation: 2.295-2,295 feet Bloom Period: July-August						X		X
Sidalcea keckii	Keck's checkerbloom	--	--	1B.1	Closed–cone coniferous forest and chaparral; usually on serpentine substrates. Elevation: 1,790–3,280 feet Bloom Period: May–June		X			X	X	X	
Sidalcea oregana ssp. hydrophila	Marsh checkerbloom	--	--	1B.2	Serpentine substrates of chaparral and cismontane woodland. Elevation: 1,610–4,005 feet Bloom Period: May–July	X		X		X			
Sidalcea oregana ssp. valida	Kenwood Marsh checkerbloom	FE	CE	1B.1	Freshwater marshes and swamps. Elevation: 375–490 feet Bloom Period: June–September							X	
Silene bolanderi	Bolander's catchfly	--	--	1B.2	Usually grassy openings and sometimes along roadsides or in canyons in rocky or serpentine soils in the edges of chaparral, cismontane woodland, lower montane coniferous forest, meadows and seeps, and North Coast coniferous forest. Elevation: 1,380–3,775 feet Bloom Period: May–June				X			X	X

Table 3.4-1 Special-Status Plants Documented or Identified as Having the Potential to Occur in the EIR Study Area

Scientific Name	Common Name	Federal Status	State Status	California Rare Plant Rank	Habitat	Cobb Mnt.	East Lake	Kelseyville	Lakeport	Lower Lake	Middletown	North Lake	Rivieras
Stipa lemmonii var. pubescens	Pubescent needle grass	--	--	3.2	Serpentine substrates in chaparral and Lower montane coniferous forest. Elevation: 3,380–4,315 feet Bloom Period: May–June		X				X		
Streptanthus barbiger	Bearded jewelflower	--	--	4.2	Serpentine substrates of chaparral. Elevation: 490–3,510 feet Bloom Period: May–July	X		X			X		
Streptanthus brachiatus ssp. brachiatus	Socrates Mine jewelflower	--	--	1B.2	Rocky, serpentine substrates of chaparral openings and cismontane woodland. Elevation: 425–2,495 feet Bloom Period: May–July	X	X	X		X			
Streptanthus brachiatus ssp. hoffmanii	Freed's jewelflower	--	--	1B.2	Serpentine soils in chaparral. Elevation: 295– 2,675 feet Bloom Period: June–September	X	X			X			
Streptanthus drepanoides	Sickle-fruit jewelflower	--	--	4.3	Serpentine soils of chaparral, cismontane woodland, and lower montane coniferous forest. Elevation: 900–5,445 feet Bloom Period: April–June						X	X	
Streptanthus glandulosus ssp. hoffmanii	Hoffman's bristly jewelflower	--	--	1B.3	Serpentine substrates of cismontane woodland. Elevation: 705–3,395 feet Bloom Period: April–July	X		X	X		X		

Table 3.4-1 Special-Status Plants Documented or Identified as Having the Potential to Occur in the EIR Study Area

Scientific Name	Common Name	Federal Status	State Status	California Rare Plant Rank	Habitat	Cobb Mnt.	East Lake	Kelseyville	Lakeport	Lower Lake	Middletown	North Lake	Rivieras
Streptanthus hesperidis	Green jewelflower	--	--	1B.2	Serpentine substrates of closed-cone coniferous forest and chaparral. Elevation: 2,000-2,000 feet Bloom Period: March–May	X				X	X		
Streptanthus morrisonii ssp. elatus	Three Peaks jewelflower	--	--	1B.2	Closed–cone coniferous forest and chaparral; usually on serpentine substrates. Elevation: 1,790–3,280 feet Bloom Period: May–June						X		
Streptanthus morrisonii ssp. kruckebergii	Kruckeberg's jewelflower	--	--	1B.2	Serpentine substrates of chaparral and cismontane woodland. Elevation: 1,610–4,005 feet Bloom Period: May–July					X	X		
Streptanthus vernalis	Early jewelflower	--	--	1B.2	Rocky substrates in chaparral, cismontane woodland, and often serpentine substrates in valley and foothill grassland. Elevation: 395–1,560 feet Bloom Period: March–July						X		
Stuckenia filiformis ssp. alpina	Northern slender pondweed	--	--	2B.2	Assorted shallow freshwater marshes and swamps. Elevation: 985–7,055 feet Bloom Period: May–July						X	X	
Sulcaria badia	Grooved beard lichen	--	--	4.2	Usually on bark of hardwoods and conifers in cismontane woodland and lower montane coniferous forest. Elevation: 1,360–4,955 feet Bloom Period: N/A		X						

Table 3.4-1 Special-Status Plants Documented or Identified as Having the Potential to Occur in the EIR Study Area

Scientific Name	Common Name	Federal Status	State Status	California Rare Plant Rank	Habitat	Cobb Mnt.	East Lake	Kelseyville	Lakeport	Lower Lake	Middletown	North Lake	Rivieras
Thelypodium brachycarpum	Short-podded thelypodium	--	--	4.2	Serpentine, adobe, or alkaline substrates of chaparral, lower montane coniferous forest, and meadows and seeps. Elevation: 2,200–8,400 feet Bloom Period: May–August						X	X	X
Tortella alpicola	Alpine crisp-moss	--	--	2B.3	Rocky and volcanic soils in cismontane woodland. Elevation: 4,595-4,595 feet Bloom Period: N/A		X						
Toxicoscordion fontanum	Marsh zigadenus	--	--	4.2	Vernally mesic chaparral, cismontane woodland, lower montane coniferous forest, meadows and seeps, and marshes and swamps; often on serpentine substrates. Elevation: 50–3,280 feet Bloom Period: April–July	X				X		X	
Tracyina rostrata	Beaked tracyina	--	--	1B.2	Chaparral, cismontane woodland, and valley and foothill grassland. Elevation: 295-4,165 feet Bloom Period: May-June			X	X		X	X	X
Trichodon cylindricus	Cylindrical trichodon	--	--	2B.2	Exposed soil along roadsides and in sandy substrates in broad-leafed upland forest, meadows and seeps, and upper montane coniferous forest. Elevation: 165-6,570 feet Bloom Period: N/A							X	

Table 3.4-1 Special-Status Plants Documented or Identified as Having the Potential to Occur in the EIR Study Area

Scientific Name	Common Name	Federal Status	State Status	California Rare Plant Rank	Habitat	Cobb Mnt.	East Lake	Kelseyville	Lakeport	Lower Lake	Middletown	North Lake	Rivieras
Trichostema ruygtii	Napa bluecurls	--	--	1B.2	Chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland, and vernal pools. Elevation: 100–2,230 feet Bloom Period: June–October	X		X	X		X		
Trifolium amoenum	Two-fork clover	FE	--	1B.1	Sometimes associated with serpentine soils in coastal bluff scrub and valley and foothill grassland. Elevation: 15–1,360 feet Bloom Period: April–June	X		X	X				X
Trifolium hydrophilum	Saline clover	--	--	1B.2	Marshes and swamps, mesic and alkaline areas in valley and foothill grassland, and vernal pools. Elevation: 0–985 feet Bloom Period: April–June		X			X			
Viburnum ellipticum	Oval-leaved viburnum	--	--	2B.3	Chaparral, cismontane woodland, and lower montane coniferous forest communities. Elevation: 705–4,595 feet Bloom Period: May–June	X			X	X			

Sources: California Department of Fish and Wildlife 2025a; Jepson Flora Project [eds] 2025; Johnson 2013; Patterson and Battaglia 2021; Safford and Miller 2020; Sanders et al. 2012; USACE 2022; U.S. Fish and Wildlife Service 2005

Notes: CESA = California Endangered Species Act; ESA = Endangered Species Act; N/A = Not Applicable; NPPA = Native Plant Protection Act; USACE = U.S. Army Corps of Engineers

California Rare Plant Rank:

-(1A) Presumed extinct in California.

-(1B.1) Plants rare, threatened, or endangered in California and elsewhere; seriously threatened in California.

-(1B.2) Plants rare, threatened, or endangered in California and elsewhere; fairly threatened in California.

-(1B.3) Plants rare, threatened, or endangered in California and elsewhere; not very threatened in California.
-(2.1) Plants rare, threatened, or endangered in California, but more common elsewhere; seriously threatened in California.
-(2.2) Plants rare, threatened, or endangered in California, but more common elsewhere; fairly threatened in California.
-(2.3) Plants rare, threatened, or endangered in California, but more common elsewhere; not very threatened in California.
-(3.1) Plants about which we need more information; seriously threatened in California.
-(3.2) Plants about which we need more information; fairly threatened in California.
-(3.3) Plants about which we need more information; not very threatened in California.
-(4.1) Plants of limited distribution; seriously threatened in California.
-(4.2) Plants of limited distribution; fairly threatened in California.
-(4.3) Plants of limited distribution; not very threatened in California.

Federal Status Codes:

-FE = ESA listed, Endangered
-FT = ESA listed, Threatened

State Status Codes:

-CE = CESA- or NPPA listed, Endangered
-CT = CESA- or NPPA listed, Threatened
-CR = CESA- or NPPA listed, Rare

Table 3.4-2 Special-Status Wildlife Documented or Identified as Having the Potential to Occur in the EIR Study Area

Scientific Name	Common Name	Federal Status	State Status	CDFW	Habitat	Cobb Mnt.	East Lake	Kelseyville	Lakeport	Lower Lake	Middletown	North Lakes	Rivieras
Amphibians													
Dicamptodon ensatus	California giant salamander	--	--	SSC	Wet coastal forests in or near clear, cold permanent and semi-permanent streams and seeps up to 3,000 feet. Adults are terrestrial and typically found within 50 meters of water. North Coast Ranges south to Santa Cruz County. Survey Period: Winter-Spring	X		X		X	X		
Rana boylii pop. 1	Foothill yellowlegged Frog Northwest/ North Coast Clade	--	--	SSC	Partly shaded shallow streams and riffles in variety of habitats. Needs cobble-sized substrate for egg-laying and at least 15 weeks of permanent water to attain metamorphosis. Can be active all year in warmer locations; become inactive or hibernate in colder climates. Northern Coast Ranges, Klamath Mountains and Cascade Range. Survey Period: May–October.	X	X	X	X	X	X	X	X
Rana draytonii	California redlegged frog	FT	--	SSC	Lowlands and foothills of the northern and southern Coast Ranges and Sierra Nevada. Found in deep standing or flowing water with dense shrubby or emergent riparian vegetation; requires 11-20 weeks of permanent water for larval development. Adults require aestivation habitat to endure summer dry down. Survey Period: January – September	X	X	X	X	X	X	X	X

Table 3.4-2 Special-Status Wildlife Documented or Identified as Having the Potential to Occur in the EIR Study Area

Scientific Name	Common Name	Federal Status	State Status	CDFW	Habitat	Cobb Mnt.	East Lake	Kelseyville	Lakeport	Lower Lake	Middletown	North Lakes	Rivieras
Spea hammondii	Western spadefoot (Northern DPS)	FPT	--	SSC	California endemic species of vernal pools, swales, and seasonal wetlands in grassland, scrub and woodland habitats throughout the Central Valley and South Coast Ranges. Prefers open areas with sandy or gravelly soils. Survey Period: Winter-Spring		X			X	X	X	
Taricha rivularis	Red-bellied newt	--	--	SSC	Breeds in streams with moderate flow and clean, rocky substrate. Adults are terrestrial in coastal woodlands and redwood forests along the northern California coast. Will migrate over 1 kilometer to breed. North Coast Range to Lake County; isolated population in Santa Clara County. Survey Period: Winter-Spring	X	X	X	X	X	X	X	X
Birds													
Aechmophorus occidentalis	Western grebe	--	--	BCC	Winters on salt or brackish bays, estuaries, sheltered sea coasts, freshwater lakes, and rivers. Nests on freshwater lakes and marshes with open water bordered by emergent vegetation. Nesting: June-August	X	X	X	X	X	X		X

Table 3.4-2 Special-Status Wildlife Documented or Identified as Having the Potential to Occur in the EIR Study Area

Scientific Name	Common Name	Federal Status	State Status	CDFW	Habitat	Cobb Mnt.	East Lake	Kelseyville	Lakeport	Lower Lake	Middletown	North Lakes	Rivieras
Aechmophorus clarkii	Clark's grebe	--	--	BCC	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. Nesting: June-August	X	X	X	X	X	X	X	
*Coccyzus americanus**	Yellow-billed cuckoo	FT	CE	--	Breeding habitat is generally open woodland with clearings and low, dense, scrubby vegetation associated with watercourses, and includes desert riparian woodlands with willow, Fremont's cottonwood, alder, walnut, box-elder, and dense mesquite. Nests are generally found in deciduous hardwoods with thick bushes, vines, or hedgerows providing dense foliage within 10 meters (33 feet) of ground; prefer riparian patches of at least 81 hectares (200 acres) (Hughes 2020). Winters in South America. Nesting: June 15-August 15								

Table 3.4-2 Special-Status Wildlife Documented or Identified as Having the Potential to Occur in the EIR Study Area

Scientific Name	Common Name	Federal Status	State Status	CDFW	Habitat	Cobb Mnt.	East Lake	Kelseyville	Lakeport	Lower Lake	Middletown	North Lakes	Rivieras
*Selasphorus rufus**	Rufous hummingbird	--	--	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. Nesting: April-July								
*Selasphorus sasin**	Allen's hummingbird	--	--	BCC	Breeds along narrow coastal band from Southwest Oregon south to Santa Barbara and Ventura counties. Channel Islands. Migratory subspecies winter in Mexico, and *sedentarius* resident on Channel Islands and coastal southern California. Breeding occurs in coastal scrub, riparian habitat, mixed evergreen or live oak woodlands. Nesting: February-June								
*Anaryhynchus nivosus nivosus**	Western snowy plover (Interior population)	--	--	BCC, SSC	Nests on the ground, on open sandy, barrens shores of inland saline lakes (e.g., Salton Sea), on river bars, and man-made ponds such as wastewater ponds, dredge spoils, and salt evaporation ponds. Nesting: March-September								

Table 3.4-2 Special-Status Wildlife Documented or Identified as Having the Potential to Occur in the EIR Study Area

Scientific Name	Common Name	Federal Status	State Status	CDFW	Habitat	Cobb Mnt.	East Lake	Kelseyville	Lakeport	Lower Lake	Middletown	North Lakes	Rivieras
Limosa fedoa	Marbled godwit	--	--	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. Migrant/Wintering in CA: August-April			X	X	X		X	X
Limnodromus griseus	Short-billed Dowitcher	--	--	BCC	Nests in Canada, southern Alaska; winters in coastal California south to South America; wintering habitat includes coastal mudflats and brackish lagoons. Migrant/Wintering: late-August-May		X	X	X			X	X
Tringa flavipes	Lesser yellowlegs	--	--	BCC	Nests in Alaska and Canada. In California, winters along Pacific Coast from San Francisco Bay south to Southern California, and Salton Sea. Wintering habitat includes a wide variety of wetlands such as salt, brackish, and freshwater marshes, sandbars, riverbanks, lakeshores, rain puddles, sewage lagoons, reservoirs, prairie sloughs, and salt pans. Migrant/Wintering: September-March		X					X	

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Scientific Name	Common Name	Federal Status	State Status	CDFW	Habitat	Cobb Mnt.	East Lake	Kelseyville	Lakeport	Lower Lake	Middletown	North Lakes	Rivieras
Tringa semipalmata	Willet	--	--	BCC	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. Nesting: April-August		X	X	X	X		X	X
*Larus heermanni**	Heermann's gull	--	--	BCC	Breeding ranges includes Gulf of California and offshore Baja California and disjunct location at Robert's Lake, Monterey County. Wintering habitat includes rocky sea coasts, coastal sloughs, estuaries, harbors, lagoons, bays, and offshore kelp beds. Nesting: March-August								
*Larus occidentalis**	Western gull	--	--	BCC	Breeds on offshore islands and rocks along Pacific Coast from Washington to Baja California. Western gulls breed on islands, including offshore islands, rocky islets, abandoned piers, channel markers, dikes in commercial salt flats with rocky or vegetated areas with adequate cover. Nesting: April-August								

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Scientific Name	Common Name	Federal Status	State Status	CDFW	Habitat	Cobb Mnt.	East Lake	Kelseyville	Lakeport	Lower Lake	Middletown	North Lakes	Rivieras
*Larus californicus**	California gull (nesting colony)	--	--	BCC, CDFW WL	Nesting occurs in the Great Basin, Great Plains, Mono Lake, and south San Francisco Bay. Breeding colonies on islands on natural lakes, rivers, or reservoirs. Winters along Pacific Coast from southern British Columbia south to Baja California and Mexico. In California, winters along coast and inland (Central Valley, Salton Sea). Nesting: April-August								
*Gymnogyps californianus**	California condor	FE	CE	CFP	Nests on cliff ledges and rarely in large tree cavities; foraging occurs over vast expanses of coastline, grassland, meadows, savannahs. Non-migratory; can be observed during any season; nesting: eggs (late January-May), nestlings to fledge (March-December)								
Aquila chrysaetos	Golden eagle	--	--	CFP, CDFW WL	Nesting habitat includes mountainous canyon land, rimrock terrain of open desert and grasslands, riparian, oak woodland/savannah, and chaparral. Nesting occurs on cliff ledges, river banks, trees, and human-made structures (e.g., windmills, platforms, and transmission towers). Breeding occurs throughout California, except the immediate coast, Central Valley floor, Salton Sea region, and the Colorado River region, where they can be found during Winter. Nesting: February-August Wintering in Central Valley: October-February	X	X	X	X	X	X	X	x

Table 3.4-2 Special-Status Wildlife Documented or Identified as Having the Potential to Occur in the EIR Study Area

Scientific Name	Common Name	Federal Status	State Status	CDFW	Habitat	Cobb Mnt.	East Lake	Kelseyville	Lakeport	Lower Lake	Middletown	North Lakes	Rivieras
Circus hudsonius	Northern harrier	--	--	BCC, SSC	Nests on the ground in open wetlands, marshy meadows, wet/lightly grazed pastures, (rarely) freshwater/brackish marshes, tundra, grasslands, prairies, croplands, desert, and shrub-steppe. Nesting: April-September	X	X	X	X	X	X	X	x
Accipiter atricapillus	American goshawk	--	--	SSC	Nesting occurs in mature to old-growth forests composed primarily of large trees with high canopy closure. In California, nests are built primarily in conifer trees in the Sierra Nevada, Cascade and northwestern coastal Ranges. Nesting: March-August							X	
Haliaeetus leucocephalus	Bald eagle	De-listed	CE	CFP	Typically nests in forested areas near large bodies of water in the northern half of California; nest in trees and rarely on cliffs; wintering habitat includes forest and woodland communities near water bodies (e.g., rivers, lakes), wetlands, flooded agricultural fields, open grasslands. Nesting: February-September Wintering: October-March	X	X	X	X	X	X	X	x
Psiloscops flammeolus	Flammulated owl	--	--	BCC	In California, breeding range includes Cascades, Sierra Nevada, interior coast ranges, Transverse and Peninsular ranges. Nests in tree cavities within dry montane conifer or aspen forests, often with oak, dense saplings, or other brushy understory. Nesting: May-August							X	

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Scientific Name	Common Name	Federal Status	State Status	CDFW	Habitat	Cobb Mnt.	East Lake	Kelseyville	Lakeport	Lower Lake	Middletown	North Lakes	Rivieras
Megascops kennicottii	Western screechowl	--	--	BCC	Nests in tree cavities excavated by woodpeckers, natural cavities in trees, and nest boxes. Breeding habitat includes vegetation communities with deciduous trees, such as riparian, desert, oak and pine-oak woodlands, and urban/suburban parks. Nesting: March-July	X	X	X	X	X	X	X	x
Strix occidentalis caurina	Northern spotted owl	FT	CE	--	Found from Marin County through coastal ranges north to British Columbia; breeds in old growth mature forest. They use forests with greater complexity and structure. Nesting: March-June	X	X	X	X	X	X	X	x
Asio otus	Long-eared owl	--	--	BCC, SSC	Nests in open forests, riparian woodland, conifer forests, dense vegetation adjacent to grasslands, shrublands or other open communities. Nesting: March-August				X			X	
Dryobates nuttallii	Nuttall's woodpecker	--	--	BCC	Resident from northern California south to Baja California. Nests in tree cavities in oak woodlands and riparian woodlands. Nesting: April-July	X	X	X	X	X	X	X	x
Picoides albolarvatus	White-headed woodpecker	--	--	BCC	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. Nesting: April-August							X	

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Scientific Name	Common Name	Federal Status	State Status	CDFW	Habitat	Cobb Mnt.	East Lake	Kelseyville	Lakeport	Lower Lake	Middletown	North Lakes	Rivieras
Contopus cooperi	Olive-sided flycatcher	--	--	SSC, BCC	Nests in montane and northern coniferous forests in forest openings, forest edges, semi open forest stands. In California, nests in coastal forests, Cascade and Sierra Nevada region. Winters in Central to South America. Nesting: May-August	X	X	X	X	X	X	X	x
Pica nuttallii	Yellow-billed magpie	--	--	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. Nesting: April-June		X						
Poecile rufescens rufescens	Chestnut-backed chickadee (Northern)	--	--	BCC	Found from Alaska south to coastal Sonoma County, California into Montana and Sierra Nevada. Breeding habitat includes coniferous forests and deciduous woodlands. Nesting: March-June		X					X	
Baeolophus inornatus	Oak titmouse	--	--	BCC	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). Nesting: March-July	X	X	X	X	X	X	X	x

Table 3.4-2 Special-Status Wildlife Documented or Identified as Having the Potential to Occur in the EIR Study Area

Scientific Name	Common Name	Federal Status	State Status	CDFW	Habitat	Cobb Mnt.	East Lake	Kelseyville	Lakeport	Lower Lake	Middletown	North Lakes	Rivieras
Progne subis	Purple martin	--	--	SSC	In California, breeds along coast range, Cascade northern Sierra Nevada region and isolated population in Sacramento. Nesting habitat includes montane forests, Pacific lowlands with dead snags; the isolated Sacramento population nests in weep holes under elevated highways/ bridges. Winters in South America. Nesting: May-August	X		X		X	X	X	X
Chamaea fasciata	Wrentit	--	--	BCC	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. Nesting: March-August	X	X	X	X	X	X	X	
Toxostoma redivivum	California thrasher	--	--	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. Nesting: February-July	X	X	X	X	X	X	X	
*Coccothraustes vespertinus**	Evening grosbeak	--	--	BCC	In Sierra Nevada, they nest in trees and large shrubs in open canopy mixed conifer, open canopy red fir, and closed canopy red fir forests. Nesting: May-August								

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Scientific Name	Common Name	Federal Status	State Status	CDFW	Habitat	Cobb Mnt.	East Lake	Kelseyville	Lakeport	Lower Lake	Middletown	North Lakes	Rivieras
*Haemorhous cassinii**	Cassin's finch	--	--	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. Nesting: May-July								
Spinus lawrencei	Lawrence's goldfinch	--	--	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. Nesting: March-September			X	X			X	

Table 3.4-2 Special-Status Wildlife Documented or Identified as Having the Potential to Occur in the EIR Study Area

Scientific Name	Common Name	Federal Status	State Status	CDFW	Habitat	Cobb Mnt.	East Lake	Kelseyville	Lakeport	Lower Lake	Middletown	North Lakes	Rivieras
Ammodramus savannarum	Grasshopper sparrow	--	--	BCC, SSC	In California, breeding range includes most coastal counties south to Baja California; western Sacramento Valley and western edge of Sierra Nevada region. Nests in moderately open grasslands and prairies with patchy bare ground. Avoids grasslands with extensive shrub cover; more likely to occupy large tracts of habitat than small fragments; removal of grass cover by grazing often detrimental. Nesting: May-August			X	X			X	
Spizella atrogularis	Black-chinned sparrow	--	--	BCC	In California, breeds in inner Coast Ranges, Transverse Range, and Peninsular Range, west slope of Sierra Nevada from Kern County to Mariposa County and mountains of southeastern California. Nesting habitat includes moderately dense tall brush on rugged mountain slopes with rocky outcrops and scattered large trees. Prefers young stands with openings. Nesting: April-August	X				X	X		
*Pooecetes gramineus affinis**	Oregon vesper sparrow	--	--	BCC, SSC	Breeds in western Washington and western Oregon south to Del Norte County California. Nests in grasslands, prairie. Winters almost entirely in California in the lower valleys and plains west of the mountains from Central California (Butte County) south to Baja California. Wintering: September-April								

Table 3.4-2 Special-Status Wildlife Documented or Identified as Having the Potential to Occur in the EIR Study Area

Scientific Name	Common Name	Federal Status	State Status	CDFW	Habitat	Cobb Mnt.	East Lake	Kelseyville	Lakeport	Lower Lake	Middletown	North Lakes	Rivieras
*Passerculus sandwichensis beldingi**	Belding's savannah sparrow	--	CE	BCC	Resident coastally from Point Conception south into Baja California; coastal salt marsh. Year-round resident; nests March-August								
*Melospiza melodia graminea**	Santa Barbara song sparrow	--	--	BCC	Breeding habitat includes dense shrubs and thickets of giant coreopsis (Coreopsis gigantea), grasslands with scattered shrubs, Artemisia-Opuntia grass associations, and dense grasslands. Resident on California Channel Islands (San Clemente, San Miguel, Santa Cruz, Santa Rosa, Anacapa) and Isla Los Coronados, Baja California. Nesting: February-July								
Icterus bullockii	Bullock's oriole	--	--	BCC	Breeding habitat includes riparian and oak woodlands. Nesting: March-July	X	X	X	X	X	X	X	X
Agelaius tricolor	Tricolored blackbird	--	CT	BCC, SSC	Breeds locally west of Cascade-Sierra Nevada and southeastern deserts from Humboldt and Shasta counties south to San Bernardino, Riverside and San Diego counties. Central California, Sierra Nevada foothills and Central Valley, Siskiyou, Modoc and Lassen counties. Nests colonially in freshwater marsh, blackberry bramble, milk thistle, triticale fields, weedy (mustard, mallow) fields, giant cane, safflower, stinging nettles, tamarisk, riparian scrublands	X	X	X	X	X	X	X	X

Table 3.4-2 Special-Status Wildlife Documented or Identified as Having the Potential to Occur in the EIR Study Area

Scientific Name	Common Name	Federal Status	State Status	CDFW	Habitat	Cobb Mnt.	East Lake	Kelseyville	Lakeport	Lower Lake	Middletown	North Lakes	Rivieras
					and forests, fiddleneck and fava bean fields (Beedy et al. 2020). Nesting: March-August								
*Geothlypis trichas sinuosa**	Saltmarsh common yellowthroat	--	--	BCC, SSC	Breeds in salt marshes of San Francisco Bay; winters San Francisco south along coast to San Diego County. Nesting: March-July								
Crustaceans													
Branchinecta conservatio	Conservancy fairy shrimp	FE	--	--	Vernal pools/wetlands. Survey Period: November-April	X		X		X	X		X
Branchinecta lynchi	Vernal pool fairy shrimp	FT	--	--	Vernal pools/wetlands. Survey Period: November–April		X			X	X		
Lepidurus packardi	Vernal pool tadpole shrimp	FE	--	--	Vernal pools/wetlands. Survey Period: November-April		X						
Fish													
Lavinia exilicauda chi	Clear Lake hitch	FPT	CT	--	Found only in Clear Lake and associated ponds and streams in Lake County. Adults found in the limnetic zone. Juveniles found in the shallow-water habitat hiding in vegetation. Spawning occurs in streams flowing into Clear Lake (Ewing 2021). Survey Period: N/A	X	X	X	X	X	X	X	X
Archoplites interruptus	Sacramento tule perch	--	--	SSC	Ponds, rivers, backwaters, reservoirs, and lakes in the Central Valley. Survey Period: N/A	X	X	X	X	X		X	X

Table 3.4-2 Special-Status Wildlife Documented or Identified as Having the Potential to Occur in the EIR Study Area

Scientific Name	Common Name	Federal Status	State Status	CDFW	Habitat	Cobb Mnt.	East Lake	Kelseyville	Lakeport	Lower Lake	Middletown	North Lakes	Rivieras
Hysterocarpus traskii lagunae	Clear Lake tule perch	--	--	SSC	Endemic to Clear Lake, Lower Blue Lake, and Upper Blue Lake in Lake County. Requires cover and are usually found in small shoals in deep tule beds, among rocks, or among branches of fallen leaves (Moyle et al. 2015). Survey Period: N/A	X	X	X	X	X		X	X
*Hysterocarpus traskii pomo**	Russian River tule perch	--	--	SSC	This subspecies is confined to the Russian River and its tributaries in Sonoma and Mendocino counties. This subspecies requires clear, flowing water and abundant cover, such as beds of aquatic macrophytes, submerged tree branches, overhanging plants, and large boulders (Moyle et al. 2015). Survey Period: N/A								
Oncorhynchus mykiss irideus pop. 8	Steelhead (CA Central California Coast DPS)	FT	--	--	Fast-flowing, well-oxygenated rivers and streams. This DPS includes naturally spawned anadromous steelhead originating below natural and manmade impassable barriers from the Russian River to and including Aptos Creek, and all drainages of San Francisco and San Pablo Bays eastward to Chipps Island at the confluence of the Sacramento and San Joaquin Rivers (National Oceanic and Atmospheric Administration 2023). Survey Period: N/A	X		X	X		X		

Table 3.4-2 Special-Status Wildlife Documented or Identified as Having the Potential to Occur in the EIR Study Area

Scientific Name	Common Name	Federal Status	State Status	CDFW	Habitat	Cobb Mnt.	East Lake	Kelseyville	Lakeport	Lower Lake	Middletown	North Lakes	Rivieras
Oncorhynchus mykiss irideus pop. 49	Steelhead - northern California DPS winter-run	FT	--	--	Fast-flowing, well-oxygenated rivers and streams below dams in Humboldt and Sonoma counties. Survey Period: N/A							X	
Oncorhynchus mykiss irideus pop. 48	Steelhead - northern California DPS summer-run	FT	--	--	Fast-flowing, well-oxygenated rivers and streams below dams in Humboldt and Sonoma counties. Survey Period: N/A							X	
Oncorhynchus kisutch	Coho salmon (California Central Coast ESU)	FE	CE	--	Anadromous; spawning and rearing in streams and small freshwater coastal tributaries. Survey Period: N/A			X	X		X		
Oncorhynchus kisutch	Coho salmon (Southern Oregon/ Northern California Coast ESU)	FT	--	--	Anadromous; spawning and rearing in streams and small freshwater coastal tributaries. Survey Period: N/A		X					X	
*Oncorhynchus tshawytscha**	Chinook salmon (California Coastal ESU)	FT	--	--	Rivers and streams south of the Klamath River to and including the Russian River. Survey Period: N/A								

Table 3.4-2 Special-Status Wildlife Documented or Identified as Having the Potential to Occur in the EIR Study Area

Scientific Name	Common Name	Federal Status	State Status	CDFW	Habitat	Cobb Mnt.	East Lake	Kelseyville	Lakeport	Lower Lake	Middletown	North Lakes	Rivieras
Insects													
Bombus crotchii	Crotch's bumble bee	--	CC	--	Primarily nests underground, in variety of habitats including open grasslands, shrublands, chaparral, desert margins, and semi-urban settings, from the California coast east to the Sierra Cascade and from Redding south to Mexico. Survey Period: February-October (Preferably April- August)	X	X	X	X	X	X	X	x
Danaus plexippus	Monarch butterfly	FPT	--	--	Adult monarchs west of the Rocky Mountains typically overwinter in sheltered wooded groves of Monterey pine, Monterey cypress, and gum eucalyptus along coastal California, then disperse in spring throughout California, Nevada, Arizona, and parts of Oregon and Washington. Adults require milkweed and additional nectar sources during the breeding season. Larval caterpillars feed exclusively on milkweed. Survey Period: Any season	X	X	X	X	X	X	X	x
Desmocerus californicus dimorphus	Valley elderberry longhorn beetle	FT	--	--	Elderberry shrubs. Survey Period: Any season		X			X	X		

Table 3.4-2 Special-Status Wildlife Documented or Identified as Having the Potential to Occur in the EIR Study Area

Scientific Name	Common Name	Federal Status	State Status	CDFW	Habitat	Cobb Mnt.	East Lake	Kelseyville	Lakeport	Lower Lake	Middletown	North Lakes	Rivieras
*Bombus occidentalis**	Western bumble bee	--	CC	--	Meadows and grasslands with abundant floral resources. Primarily nests underground. Largely restricted to high elevation sites in the Sierra Nevada, although rarely detected on the California coast. Survey Period: April-November								
Mammals													
Arborimus pomo	Sonoma tree vole	--	--	SSC	North coast fog belt from Oregon border to Sonoma County. Feeds almost exclusively on Douglas-fir needles. Will occasionally take needles of grand fir, hemlock or spruce. Survey Period: Any season							X	
Martes caurina humboldtensis	Humboldt marten	FE	CT	SSC	Late successional, old-growth, mature, or structurally complexly structured conifer dominated forest. Species can also utilize shrub dominated serpentine habitat and shore pine and transitional shore pine/Douglas-fir-hemlock forests in Oregon. Dens are typically found in large diameter tree hollows or snags. This species occurs from Clatsop County on the Northern Oregon Coast, south to Sonoma County on the Northern California coast. Survey Period: N/A		X					X	

Table 3.4-2 Special-Status Wildlife Documented or Identified as Having the Potential to Occur in the EIR Study Area

Scientific Name	Common Name	Federal Status	State Status	CDFW	Habitat	Cobb Mnt.	East Lake	Kelseyville	Lakeport	Lower Lake	Middletown	North Lakes	Rivieras
Taxidea taxus	American badger	--	--	SSC	Drier open stages of most shrub, forest, and herbaceous habitats with friable soils. Survey Period: Any season			X	X			X	
Corynorhinus townsendii	Townsend's big-eared bat	--	--	SSC	Occurs throughout the west and is distributed from the southern portion of British Columbia south along the Pacific coast to central Mexico and east into the Great Plains, with isolated populations occurring in the central and eastern United States. It has been reported in a wide variety of habitat types ranging from sea level to 3,300 meters. Habitat associations include: coniferous forests, mixed meso-phytic forests, deserts, native prairies, riparian communities, active agricultural areas, and coastal habitat types. Roosting can occur within caves, mines, buildings, rock crevices, trees. Survey Period: April-September	X	X	X	X	X	X	X	X
Antrozous pallidus	Pallid bat	--	--	SSC	Crevices in rocky outcrops and cliffs, caves, mines, trees (e.g., basal hollows of redwoods, cavities of oaks, exfoliating pine and oak bark, deciduous trees in riparian areas, and fruit trees in orchards). Also roosts in various human structures such as bridges, barns, porches, bat boxes, and human occupied as well as vacant buildings (WBWG 2025). Survey Period: April-September	X	X	X	X	X	X	X	X

Table 3.4-2 Special-Status Wildlife Documented or Identified as Having the Potential to Occur in the EIR Study Area

Scientific Name	Common Name	Federal Status	State Status	CDFW	Habitat	Cobb Mnt.	East Lake	Kelseyville	Lakeport	Lower Lake	Middletown	North Lakes	Rivieras
Pekania pennanti	Fisher	--	--	SSC	Coastal northern California and includes reintroduced populations in the northern Sierra Nevada and southern Oregon Cascades. Any season		X	X	X		X	X	X
Perognathus inornatus	San Joaquin pocket mouse	--	--	SSC	Grassland, oak savanna and arid scrubland in the southern Sacramento Valley, Salinas Valley, San Joaquin Valley and adjacent foothills, south to the Mojave Desert. Survey Period: Any season		X						
Lasiurus frantzii	Western red bat	--	--	SSC	Roosts in foliage of trees or shrubs; Day roosts are commonly in edge habitats adjacent to streams or open fields, in orchards, and sometimes in urban areas. There may be an association with intact riparian habitat (particularly willows, cottonwoods, and sycamores) (WBWG 2025). Survey Period: April-September	X		X		X	X		
Gulo gulo	Wolverine	FPT	CT	--	Scarce resident of North Coast mountains and Sierra Nevada. Wide variety of high elevation habitats. Survey Period: Any season							X	

Table 3.4-2 Special-Status Wildlife Documented or Identified as Having the Potential to Occur in the EIR Study Area

Scientific Name	Common Name	Federal Status	State Status	CDFW	Habitat	Cobb Mnt.	East Lake	Kelseyville	Lakeport	Lower Lake	Middletown	North Lakes	Rivieras
Reptiles													
*Chelonia mydas**	Green sea turtle	FT	--	--	Found in fairly shallow waters (except when migrating) inside reefs, bays, and inlets. The turtles are attracted to lagoons and shoals with an abundance of marine grass and algae. Open beaches with a sloping platform and minimal disturbance are required for nesting (USFWS 2021b). Survey Period: N/A								
Actinemys marmorata	Western pond turtle	FPT	--	SSC	Requires basking sites and upland habitats up to 0.5 kilometer from water for egg laying. Uses ponds, streams, detention basins, and irrigation ditches. Survey Period: April-September	X	X	X	X	X	X	X	X

Sources: CDFW 2025A; Beedy et al. 2020; Ewing 2021; Hughes 2020; Moyle et al. 2015; Patterson and Battaglia 2021; National Oceanic and Atmospheric Administration 2023; USFWS 2021a, 2021b; WBWG 2025.

Notes: CDFW = California Department of Fish and Wildlife; CESA = California Endangered Species Act; DPS = Distinct Population Segment; ESA = Endangered Species Act; ESU = Evolutionarily Significant Unit; N/A = Not Applicable; NPPA = Native Plant Protection Act; USFWS = U.S. Fish and Wildlife Service; WBWG = Western Bat Working Group

*These species came up in the literature review for one or more of the Planning Areas but have low potential to occur in Lake County due to lack of habitat or because Lake County is outside the species' known geographic range.

Status Codes:

-FE ESA listed, Endangered
-FT ESA listed, Threatened
-FPT Formally Proposed for ESA listing as Threatened
-BCC USFWS Bird of Conservation Concern (USFWS 2021a)
-CE CESA- or NPPA listed, Endangered
-CT CESA- or NPPA-listed, Threatened
-CC Candidate for CESA listing as Endangered or Threatened
-CDFW WL CDFW Watch List
-SSC CDFW Species of Special Concern
-Delisted Formally Delisted
-CFP California Fish and Game Code Fully Protected Species (Section 3511-birds, Section 4700-mammals, Section 5050-reptiles/amphibians)

Critical Habitat and Essential Fish Habitat

EFH and critical habitat designated by the USFWS and NOAA mapped within Lake County are shown on Figure 3.4-3, *Critical Habitat*. The county includes EFH for Chinook salmon (*Oncorhynchus tshawytscha*) and Coho salmon (*Oncorhynchus kisutch*) along the Eel River and Middle Creek in northern Lake County (NOAA 2025b) and designated critical habitat for the following species (USFWS 2025b; NOAA 2021): Northern spotted owl (*Strix occidentalis caurina*), Slender Orcutt grass (*Orcuttia tenuis*), and California coastal evolutionarily significant unit chinook salmon.

Sensitive Natural Communities

The CDFW tracks the occurrences of "special" plant communities that are either known or believed to be of high priority for inventory in the CNDDB. These plant communities are listed in the CDFW's *List of California Terrestrial Natural Communities Recognized by the California Natural Diversity Database* publication, which has been updated periodically since and available online on CDFW's website (CDFW 2003). These communities are sometimes addressed by lead or trustee agencies but generally are not afforded the same protection as CNPS Rank 1B and 2 plant species. Many sensitive natural community types support special-status plants and animals and are addressed under CEQA as essential habitat for those species.

As described under subheading *Vegetation Communities and Land Cover Types*, the general vegetation communities and land cover types within the county include conifer forest/woodland, mixed conifer and hardwood forest/woodland, hardwood forest/woodland, shrub, herbaceous, agriculture, water, barren, and urban areas. These general vegetation communities and land cover types, except for urban, barren, and agriculture, can be more finely classified into vegetation alliances and all have potential to include alliances that may be considered sensitive natural communities by CDFW. Lake County likely contains vegetation communities beyond those described in this section that may also be considered sensitive natural communities by CDFW.

Coast and Valley Freshwater Marsh

Coast and valley freshwater marsh communities are dominated by perennial, emergent monocots that often form closed canopies. This community type occurs at quiet, permanently flooded freshwater sites lacking a significant current. Soils are deep due to extended saturation. Coast and valley freshwater marshes occur along the coast and within coastal valleys near river mouths and lake and spring margins. Plants in the genera *Typha* and *Schoenoplectus* dominate this community. Other characteristic genera include *Carex*, *Cyperus, Eleocharis, Juncus*, and *Verbena* (Holland 1986; NatureServe 2025). CNDDB occurrences of this sensitive natural community are mapped within the Cobb Mountain Planning Area, East Lake Communities Planning Area, Kelseyville Planning Area, Lakeport Planning Area, Lower Lake Planning Area, North Lake Communities Planning Area, and Rivieras Planning Area (CDFW 2025a).

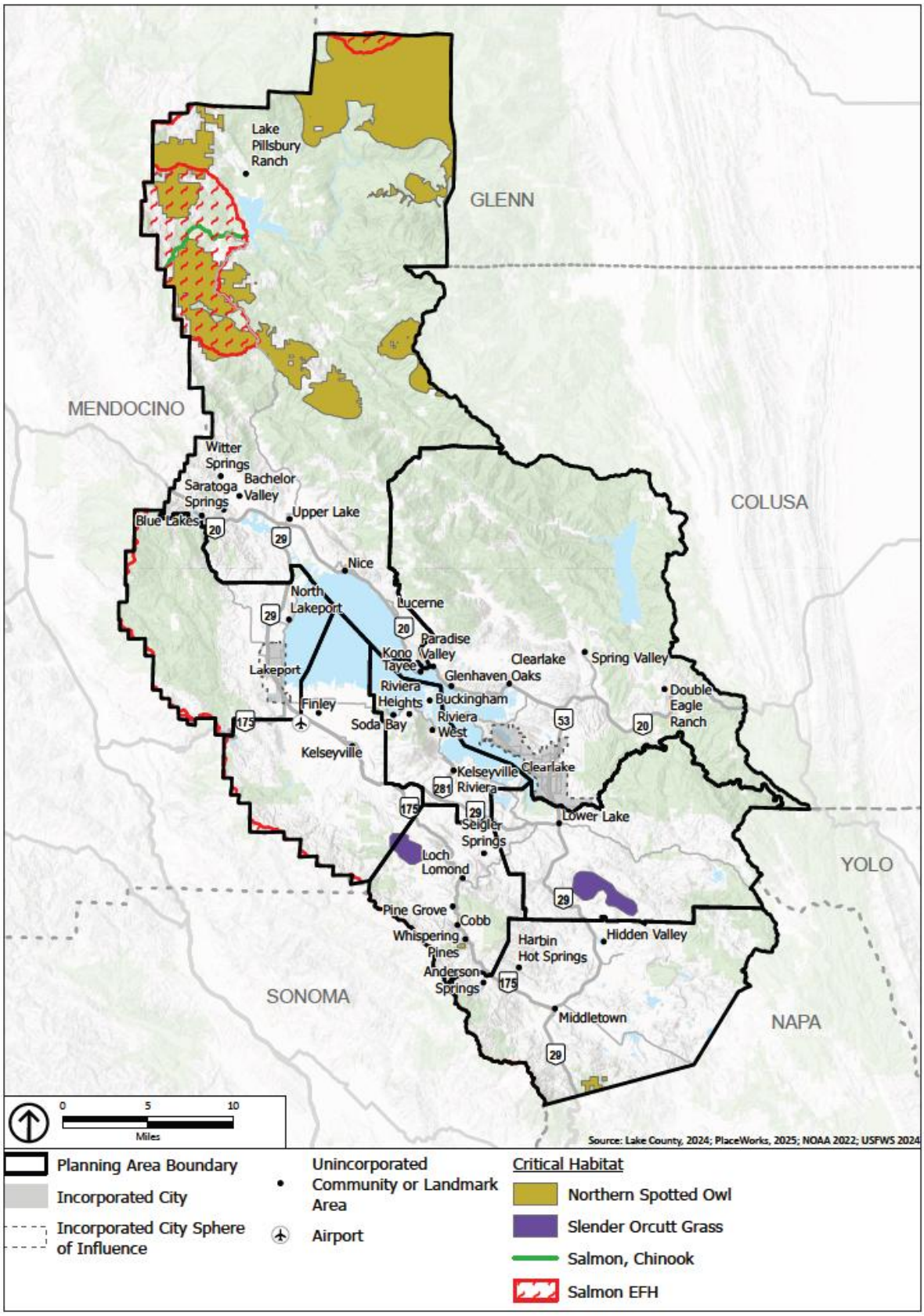

Figure 3.4-3
Critical Habitat

Great Valley Mixed Riparian Forest

The Great Valley mixed riparian forest community consists of tall, dense, broad-leafed riparian forest. Several tree species form a mostly closed canopy. These communities form on fine-textured alluvium in areas that experience overbank flooding with less severe physical disturbance. Great Valley mixed riparian forests occur on floodplains of low-gradient, depositional streams. Characteristic plant genera include *Populus, Salix, Acer, Juglans, Platanus*, and *Fraxinus* (Holland 1986). CNDDB occurrences of this sensitive natural community are mapped within the East Lake Communities Planning Area, North Lake Communities Planning Area, and Rivieras Planning Area (CDFW 2025a).

Northern Basalt Flow Vernal Pool

The northern basalt flow vernal pool community consists of small, seasonally inundated depressions forming on top of basalt flows. Basalt flow pools are scattered along the western Sierra Nevada foothills and in the volcanic tablelands of the Modoc Plateau. Soils within these pools are incredibly thin over solid bedrock that prevents water from percolating downward. Plants in the genera *Downingia, Lasthenia, Blennosperma, Eryngium, Epilobium,* and *Psilocarphus* are common in this community (Holland 1986; NatureServe 2025). CNDDB occurrences of this sensitive natural community are mapped within the Cobb Mountain Planning Area, East Lake Communities Planning Area, Lower Lake Planning Area, Middletown Planning Area, and Rivieras Planning Area (CDFW 2025a).

Northern Hardpan Vernal Pool

The northern hardpan vernal pool community consists of shallow, seasonally inundated pools found in depressions within open grasslands and woodlands. The largest concentrations of these pools are found within intermountain valleys. The soil in the bottom of these pools consists of clay or cemented silicon or iron hardpan that retains water for prolonged periods in the spring but dries out completely in the summer. Plants in the genera *Downingia, Isoetes, Triteleia, Eryngium, Plagiobothrys*, and *Callitriche* dominate this community (NatureServe 2025). CNDDB occurrences of this sensitive natural community are mapped within the Middletown Planning Area (CDFW 2025a).

Northern Interior Cypress Forest

The northern interior cypress forest community is an open, fire-maintained forest community found on harsh dry soils. This community is often associated with ultramafic soils and often intergrades with serpentine chaparral. Northern interior cypress forests are distributed in California across the Siskiyou Mountains, North and South Coast Ranges, Cascades, and northern Sierra Nevada. Plants of the genus *Hesperocyparis* dominate this community. Typical associates of this community include plants in the genera *Pinus, Quercus, Pseudotsuga*, and

Arctostaphylos (Holland 1986; NatureServe 2025). CNDDB occurrences of this sensitive natural community are mapped within the Lakeport Planning Area, Lower Lake Planning Area, and Middletown Planning Area (CDFW 2025a).

Northern Volcanic Mud Flow Vernal Pool

Northern volcanic mud flow vernal pools are shallow, seasonally inundated pools that are typically smaller than hardpan vernal pools (less than 50 square meters). Mud flow pools experience shorter inundation periods than volcanic ash flow pools. Plants of the genera *Lasthenia, Downingia, Eryngium, Eleocharis, Psathyrotes,* and *Sedella* are typical of volcanic pools (NatureServe 2025). CNDDB occurrences of this sensitive natural community are mapped within the Cobb Mountain Planning Area, East Lake Communities Planning Area, Kelseyville Planning Area, Lower Lake Planning Area, Rivieras Planning Area (CDFW 2025a).

Serpentine Bunchgrass

The serpentine bunchgrass community is an open, perennial bunchgrass dominated grassland restricted to sites with serpentine soils. This community is dominated by native species to a greater extent than other California grassland communities. Serpentine bunchgrass is scattered throughout the Coast Ranges. Plants of the genera *Stipa, Festuca, Poa, Calamagrostis, Melica, Eschscholzia*, and *Hemizonia* are typical of this community (Holland 1986). CNDDB occurrences of this sensitive natural community are mapped within the Lakeport Planning Area, Lower Lake Planning Area, and Middletown Planning Area (CDFW 2025a).

Wildflower Field

Wildflower fields are herb-dominated communities distinguished by showy annual wildflower displays. Species dominance varies between sites and between years depending on climatic and site conditions. These communities are often found in areas of poorer nutrient quality in association with grasslands and oak woodlands. Wildflower fields are distributed throughout the valleys and foothills of California with the exception of the North Coast and desert regions. Plants in the genera *Eschscholzia, Gilia, Layia, Lupinus*, and *Castilleja* are commonly found in this community (Holland 1986). CNDDB occurrences of this sensitive natural community are mapped within the East Lake Communities Planning Area and Middletown Planning Area (CDFW 2025a).

Vegetation Classification and Mapping Program

The CDFW Vegetation Classification and Mapping Program (VegCAMP) develops and maintains vegetation assessment and mapping of high-priority conservation and management areas within California, including sensitive natural communities. VegCAMP refines vegetation alliance classifications and locations of sensitive natural communities identified by the CNDDB statewide mapping data, using site specific field assessments and fine-scale vegetation mapping.

VegCAMP vegetation mapping is classified using the National Vegetation Classification System and MCV (CNPS 2025b). While completing a state-wide vegetation assessment and map is the goal of the program, vegetation data is only complete for portions of California at this time.

The data that is currently complete are for portions of the Lower Lake Planning Area, Middleton Planning Area, and East Lake Communities Planning Area (CDFW 2004, 2024). Sensitive natural communities mapped within the VegCAMP data are presented on Figure 3.4-4, *Sensitive Natural Communities,* and Table 3.4-3, *VegCAMP Mapped Sensitive Natural Communities within the EIR Study Area,* depicts sensitive natural communities by Planning Area.

Table 3.4-3 VegCAMP Mapped Sensitive Natural Communities within the EIR Study Area

Vegetation Community	East Lake Communities Planning Area	Lower Lake Planning Area	Middletown Planning Area
Basket bush - river hawthorn - desert olive patches	X		
California bay forest and woodland	X	X	X
California buckeye groves	X		
California coffeeberry – western azalea scrub - Brewer's willow	X	X	X
Canyon live oak - Interior live oak chaparral	X		
Fremont cottonwood forest and woodland	X	X	
Goodding's willow - red willow riparian woodland and forest	X		
Hoary, common, and Stanford manzanita chaparral	X		
Red osier thickets	X		
Soft and western rush – Sedge marshes	X		
Ultramafic cypress woodland	X	X	X
Valley oak riparian forest and woodland	X	X	X
Valley oak woodland and forest	X	X	X

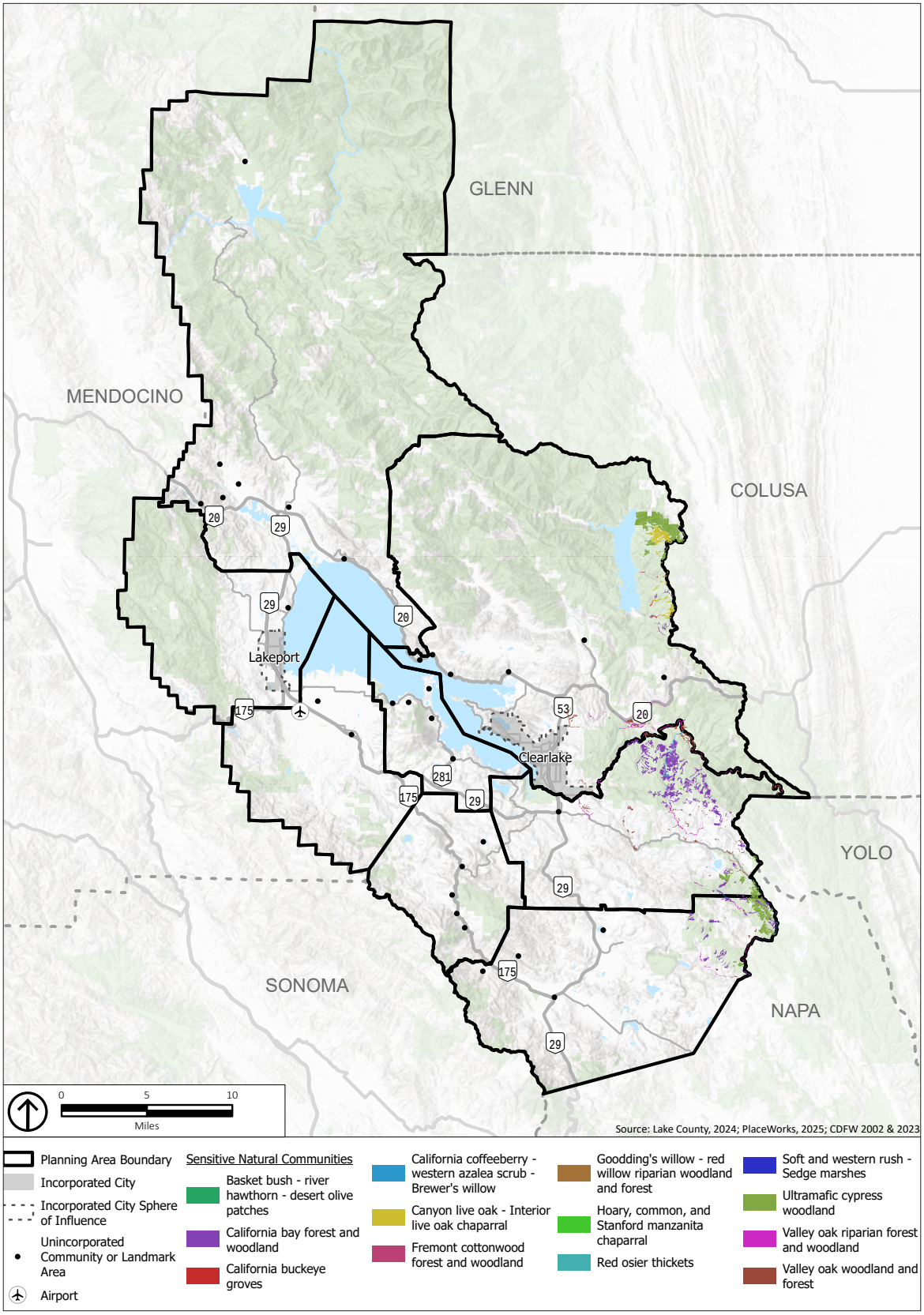

Figure 3.4-4
Sensitive Natural Communities

Wildlife Movement/Corridors and Nursery Sites

The County includes essential movement corridors for native resident and migratory fish and wildlife species. CDFW has mapped an Essential Habitat Connectivity Area running northeast to southwest through the northern portion of the County. This corridor connects Natural Landscape Blocks in Mendocino National Forest with a Natural Landscape Block near Cow Mountain, and those further south and west in Mendocino and Sonoma Counties, as shown in Figure 3.4-5, *California Essential Habitat Connectivity* (CDFW 2014). Natural Landscape Blocks in the far northeast corner of the County, northeast of Lake Pilsbury, within Mendocino National Forest, are also coincident with Mule deer migration corridors, stopover and winter range habitats identified by CDFW (CDFW 2022a).

The Mayacamas to Berryessa Connectivity Network (M2B) identifies several Terrestrial Linkage Potentials from the Mayacamas Mountains, southwest of Lake County, to Clear Lake, and connecting to the Berryessa Range around the south side of Clear Lake in several locations. It also identifies numerous Riparian Linkage Potentials along the rivers and streams in the county, as shown in Figure 3.4-6, *Mayacamas to Berryessa Habitat Connectivity.* Drainages within the county provide important movement corridors for a variety of fish and wildlife.

Bureau of Land Management lands within a 1-mile-wide corridor of Cache Creek are also designated as an Area of Critical Environmental Concern (ACEC) for bald eagles and tule elk by the Bureau of Land Management (BLM 2025).

Highway 53 near Burns Valley Creek and Highway 20 along the North Fork Cache Creek, where several drainages converge, have been identified by CDFW as wildlife movement barriers and priorities for improving terrestrial wildlife movement (CDFW 2022b).

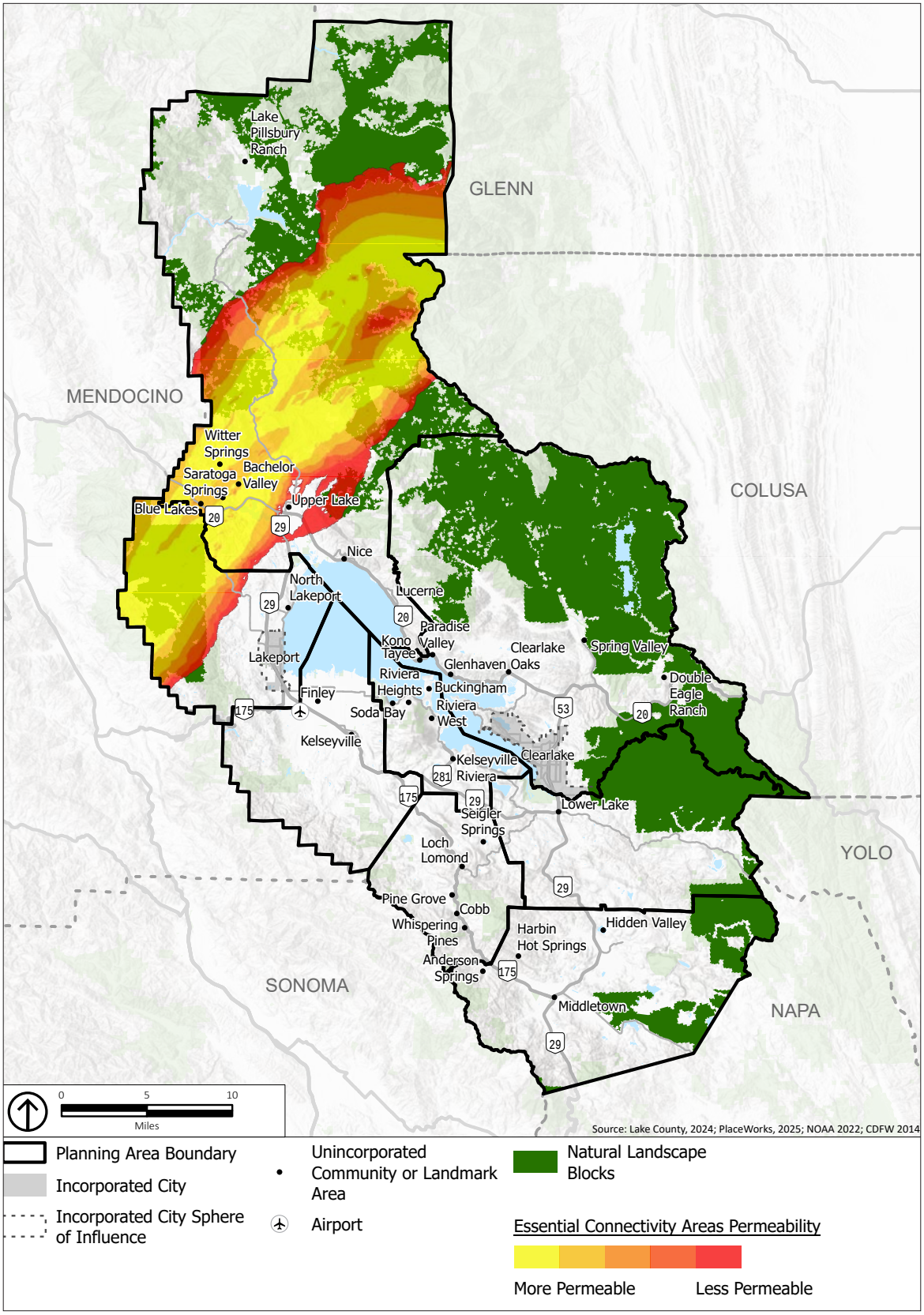

Figure 3.4-5
California Essential Habitat Connectivity (CEHC)

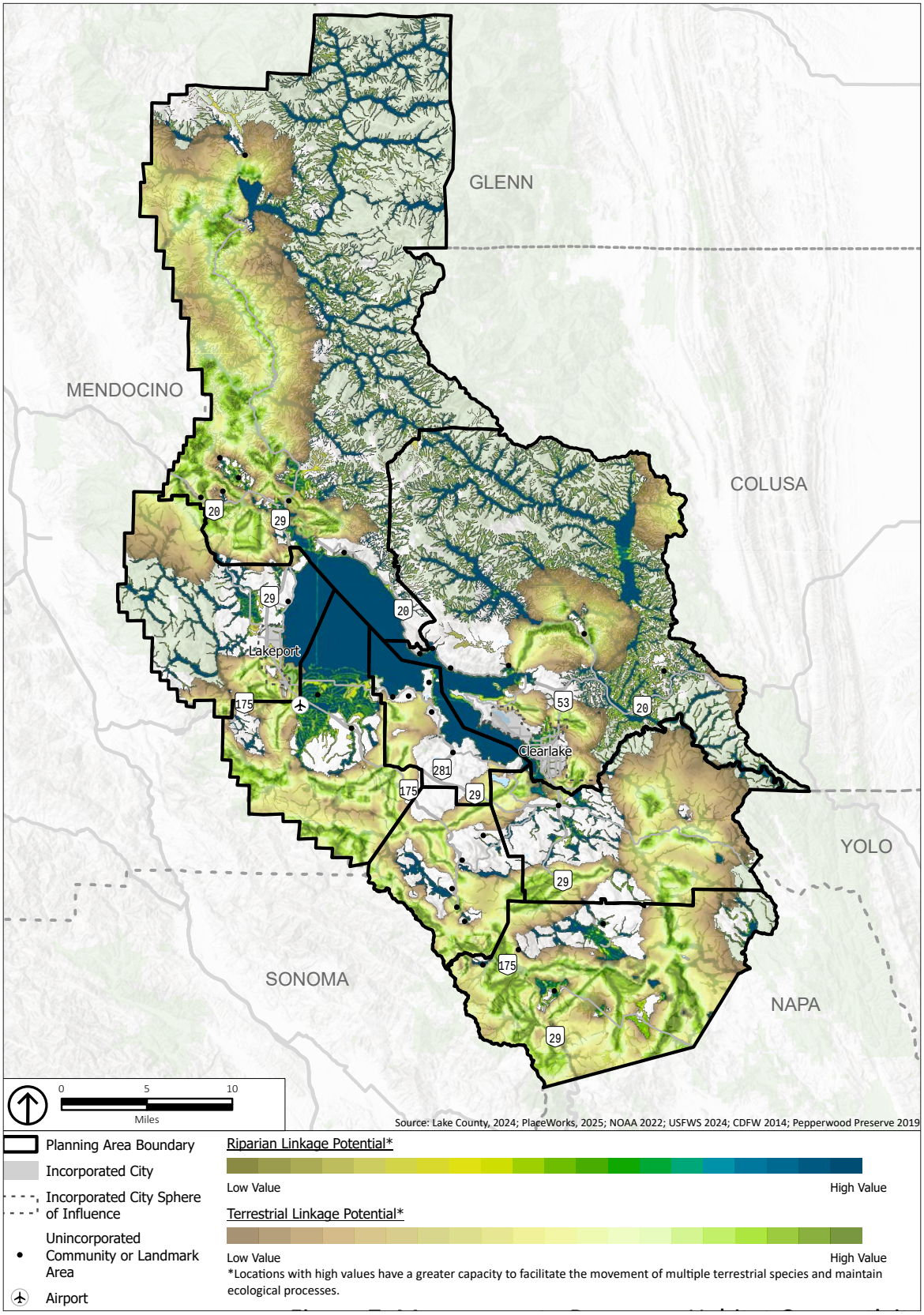

Figure 3.4-6
Mayacamas to Berryessa Habitat Connectivity

PLANNING AREAS

Cobb Mountain Planning Area

Vegetation Communities

The conifer forest/woodland and mixed conifer and hardwood forest/woodland vegetation communities dominate the higher elevations of this Planning Area. A significant timber-producing stand is found in the Boggs Mountain Demonstration State Forest, which occupies the plateau-like top of Boggs Mountain in this Planning Area. Communities of northern oak woodland occur throughout the northeastern, southern, and central portions of this planning area. The south- and west-facing slopes of the Mayacamas Mountains are covered almost exclusively by the shrub vegetation community.

Aquatic Resources

The Cobb Mountain Planning Area contains waterways such as Alder, Lee, Cole, High Valley, Jones, and Kelsey creeks, as well as Big Canyon Creek and its tributaries. In the Cobb Mountain Planning Area, Boggs Lake is the area's largest and most diverse vernal lake. Other large vernal pools within the Cobb Mountain Planning Area are found at Salminas Meadow and Loch Lomond, and near Bonanza Springs near Loch Lomond Road.

Special-Status Species

Based on the literature review, four special-status amphibians, 17 birds, one crustacean, four fish, two insects, 77 plants, three mammals, and one reptile have been documented within the Cobb Mountain Planning Area. This includes one amphibian, three birds, one crustacean, two fish, two insects, nine plants, and one reptile listed or proposed to be listed under the state and/or federal ESAs. The listed plants and animals documented in the Cobb Mountain Planning Area are presented in Table 3.4-1, *Special-Status Plants Documented or Identified as Having the Potential to Occur in the EIR Study Area,* and Table 3.4-2, *Special-Status Wildlife Documented or Identified as Having the Potential to Occur in the EIR Study Area.*

Critical Habitat and Essential Fish Habitat

Critical habitat for Slender Orcutt grass has been designated surrounding Boggs Lake. A small area of Northern Spotted Owl critical habitat has also been designated on the southeast side of Cobb Mountain. EFH for salmon is identified along the western County boundary within this Planning Area.

Sensitive Natural Communities

The following sensitive natural communities have known occurrences in the Cobb Mountain Planning Area:

- Coast and valley freshwater marsh
- Northern basalt flow vernal pool
- Northern volcanic mud flow vernal pool

East Lake Communities Planning Area

Vegetation Communities

Within the East Lake Communities Planning Area, the mixed conifer and hardwood forest/woodland and hardwood forest/woodland vegetation communities are found in the higher elevations of Bartlett Mountain. The east and south parts of this Planning Area are primarily classified as the shrub vegetation community. Rattlesnake Island is where the herbaceous vegetation community is prevalent in this Planning Area.

Aquatic Resources

Within the East Lake Communities Planning Area, riparian areas occur along Cache Creek from the North Fork to the county line, and along the North Fork of Cache Creek north and south of Indian Valley Reservoir. In the East Lake Communities Planning Area, wetlands are prevalent along the shoreline of Clear Lake.

Special-Status Species

Based on the literature review, four special-status amphibians, 20 birds, two crustaceans, four fish, three insects, 86 plants, five mammals, and one reptile have been documented within the East Lake Communities Planning Area. This includes two amphibians, three birds, two crustaceans, two fish, three insects, nine plants, and one reptile listed or proposed to be listed under the state and/or federal ESAs. The listed plants and animals documented in the East Lake Communities Planning Area are presented in Table 3.4-1, *Special-Status Plants Documented or Identified as Having the Potential to Occur in the EIR Study Area,* and Table 3.4-2, *Special-Status Wildlife Documented or Identified as Having the Potential to Occur in the EIR Study Area.*

Critical Habitat and Essential Fish Habitat

There is no designated critical habitat or EFH within the East Lake Communities Planning Area.

Sensitive Natural Communities

The following sensitive natural communities have known occurrences in the East Lake Communities Planning Area based on CNDDB data:

- Coast and valley freshwater marsh
- Great Valley mixed riparian forest
- Northern basalt flow vernal pool
- Northern volcanic mud flow vernal pool
- Wildflower fields

Additionally, the following sensitive natural communities have been mapped by VegCAMP within the East Lake Communities Planning Area:

- Basket bush-river hawthorn-desert olive patches
- California bay forest and woodland
- California buckeye groves
- California coffeeberry – western azalea scrub - Brewer's willow
- Canyon live oak - Interior live oak chaparral
- Fremont cottonwood forest and woodland
- Goodding's willow - red willow riparian woodland and forest
- Hoary, common, and Stanford manzanita chaparral
- Red osier thickets
- Soft and western rush – sedge marshes
- Ultramafic cypress woodland
- Valley oak riparian forest and woodland
- Valley oak woodland and forest

Kelseyville Planning Area

Vegetation Communities

The hardwood forest/woodlands vegetation community is concentrated in Big Valley, with a 90-acre stand of oak woodland adjacent to Clear Lake State Park, and a smaller stand situated between Finley Road and Loasa Road. The herbaceous and agriculture vegetation communities occur in the northern and eastern portions of the Planning Area, near Clear Lake, while shrub dominates in the southwest.

Aquatic Resources

In the Kelseyville Planning Area, Kelsey Creek, McGough Slough, Adobe Creek, Cole Creek, and Thompson Creek and their tributaries drain north into Clear Lake, situated at the northern extent of the Planning Area. Along these creeks are rich and well-developed riparian forests and a few associated lakes, ponds, and freshwater wetlands. Emergent and forested/shrub wetlands occupy the margins of Clear Lake.

Special-Status Species

Based on the literature review, four special-status amphibians, 20 birds, one crustacean, five fish, two insects, 64 plants, five mammals, and one reptile have been documented within the Kelseyville Planning Area. This includes one amphibian, three birds, one crustacean, three fish, two insects, five plants, and one reptile listed or proposed to be listed under the state and/or federal ESAs. The listed plants and animals documented in the Kelseyville Planning Area are presented in Table 3.4-1, *Special-Status Plants Documented or Identified as Having the Potential to Occur in the EIR Study Area,* and Table 3.4-2, *Special-Status Wildlife Documented or Identified as Having the Potential to Occur in the EIR Study Area.*

Critical Habitat and Essential Fish Habitat

Critical habitat for Slender Orcutt grass has been designated surrounding Boggs Lake at the eastern limit of the Kelseyville Planning Area. EFH for salmon is identified along the western County boundary within this Planning Area.

Sensitive Natural Communities

The following sensitive natural communities may occur in the Kelseyville Planning Area:

- Coast and valley freshwater marsh
- Northern volcanic mud flow vernal pool

Lakeport Planning Area

Vegetation Communities

In the Lakeport Planning Area, the shrub community is found in the central and western portions of the planning area and is the predominant plant community. The herbaceous vegetation community is dominant in the eastern portion of the Planning Area, with hardwood forest/woodland and agriculture mixed throughout.

Aquatic Resources

Riparian areas occur in the foothill and valley portions of this Planning Area. Scotts Creek is the main drainage in the Lakeport Planning Area, with several forks and tributaries associated with it and draining into Clear Lake just north of this planning area. Most of the mapped wetlands in the Lakeport Planning Area are concentrated at the margins of Clear Lake in the northeast and southeast corners of the Lakeport Planning Area.

Special-Status Species

Based on the literature review, three special-status amphibians, 20 birds, five fish, two insects, 49 plants, four mammals, and one reptile have been documented within the Lakeport Planning Area. This includes one amphibian, three birds, three fish, two insects, five plants, and one reptile listed or proposed to be listed under the state and/or federal ESAs. The listed plants and animals documented in the Lakeport Planning Area are presented in Table 3.4-1, *Special-Status Plants Documented or Identified as Having the Potential to Occur in the EIR Study Area,* and Table 3.4-2, *Special-Status Wildlife Documented or Identified as Having the Potential to Occur in the EIR Study Area*.

Critical Habitat and Essential Fish Habitat

There is no designated critical habitat within the Lakeport Planning Area. EFH for salmon is identified along the western County boundary within this Planning Area.

Sensitive Natural Communities

The following sensitive natural communities may occurrences in the Lakeport Planning Area:

- Coast and valley freshwater marsh
- Northern interior cypress forest
- Serpentine bunchgrass

Lower Lake Planning Area

Vegetation Communities

The mixed conifer and hardwood forest/woodland vegetation community can be found in the wetter western portion of the area. Northern oak woodlands are prevalent in the wetter portions of the Planning Area along north facing slopes. The shrub vegetation community is found throughout the Planning Area, but brush/chaparral vegetation dominates on the eastern and central portions and is most frequently found on steep hillside terrain. Meanwhile, the herbaceous vegetation community generally occurs in the upland valleys of this Planning Area.

Aquatic Resources

Within the Lower Lake Planning Area, the Anderson Marsh State Historical Park is where the richest riparian habitat is. In the Lower Lake Planning Area, Anderson Marsh, Cache Creek, Seigler Valley, Steinhart Lakes, and Pinkeye Lake are where most wetlands areas are located. Vernal pools have been identified in the vicinity of Spruce Grove Road and Steinhart Falls and are also prevalent in Snows Lake. In addition to Cache Creek, which forms the northern boundary of this planning area, significant drainages in the Lower Lake Planning Area include Rocky Creek, a tributary of Cache Creek, and Soda Creek, a tributary to Putah Creek.

Special-Status Species

Based on the literature review, five special-status amphibians, 19 birds, two crustaceans, three fish, three insects, 93 plants, three mammals, and one reptile have been documented within the Lower Lake Planning Area. This includes two amphibians, three birds, two crustaceans, one fish, three insects, nine plants, and one reptile listed or proposed to be listed under the state and/or federal ESAs. The listed plants and animals documented in the Lower Lake Planning Area are presented in Table 3.4-1, *Special-Status Plants Documented or Identified as Having the Potential to Occur in the EIR Study Area,* and Table 3.4-2, *Special-Status Wildlife Documented or Identified as Having the Potential to Occur in the EIR Study Area.*

Critical Habitat and Essential Fish Habitat

Lower Lake Planning Area contains critical habitat for Slender Orcutt grass extending from Steinhart Lakes to Little High Valley. No EFH is mapped within this Planning Area.

Sensitive Natural Communities

The following sensitive natural communities have known occurrences in the Lower Lake Planning Area based on CNDDB data:

- Coast and valley freshwater marsh
- Northern basalt flow vernal pool
- Northern interior cypress forest
- Northern volcanic mud flow vernal pool
- Serpentine bunchgrass

Additionally, the following sensitive natural communities have been mapped by VegCAMP within the Lower Lake Planning Area:

- California bay forest and woodland
- California coffeeberry-western azalea scrub-Brewer’s willow
- Fremont cottonwood forest and woodland

- Ultramafic cypress woodland
- Valley oak riparian forest and woodland
- Valley oak woodland and forest

Middletown Planning Area

Vegetation Communities

Within the Middletown Planning Area, the mixed conifer and hardwood forest/woodland vegetation community is found in lower elevations in localized areas. Hardwood forest/woodland and shrub vegetation communities are found throughout the Planning Area. Northern oak woodland occurs in the central and western portions at lower elevations. Montane hardwood is on the north and east facing slopes of the Mayacamas Mountains. Chaparral is found in western, central and eastern/northeastern portions of this planning area and is the predominant plant community. The Butts Canyon Knoll is where most of the herbaceous vegetation community is in this Planning Area.

Aquatic Resources

With the Middletown Planning Area, Saint Helena Creek and Putah Creek possess valuable riparian corridors rich in stream life. Wetland areas occur locally in the Middletown Planning Area near surface water bodies such as Detert Reservoir, in the vicinity of Butts Canyon Road, and along stream banks.

Special-Status Species

Based on the literature review, five special-status amphibians, 17 birds, two crustaceans, three fish, three insects, 101 plants, four mammals, and one reptile have been documented within the Middletown Planning Area. This includes two amphibians, three birds, two crustaceans, three fish, three insects, eight plants, and one reptile listed or proposed to be listed under the state and/or federal ESAs. The listed plants and animals documented in the Middletown Planning Area are presented in Table 3.4-1, *Special-Status Plants Documented or Identified as Having the Potential to Occur in the EIR Study Area,* and Table 3.4-2, *Special-Status Wildlife Documented or Identified as Having the Potential to Occur in the EIR Study Area.*

Critical Habitat and Essential Fish Habitat

Middletown Planning Area contains critical habitat for northern spotted owl along the southern county boundary, just east of Route 29 near White Point. EFH for salmon is identified along the western county boundary within this Planning Area.

Sensitive Natural Communities

The following SNCs have known occurrences in the Middletown Planning Area based on CNDDB data:

- Northern basalt flow vernal pool
- Northern hardpan vernal pool
- Northern interior cypress forest
- Serpentine bunchgrass
- Wildflower fields

Additionally, the following SNCs have been mapped by VegCAMP within the Middletown Planning Area:

- California bay forest and woodland
- California coffeeberry-western azalea scrub-Brewer's willow
- Ultramafic cypress woodland
- Valley oak riparian forest and woodland
- Valley oak woodland and forest

North Lake Communities Planning Area

Vegetation Communities

This Planning Area makes up most of the northern part of Lake County. The vegetation communities of conifer forest/woodland, mixed conifer and hardwood forest/woodland, hardwood forest/woodland, shrub, and herbaceous are dispersed throughout this Planning Area. However, hardwood forest/woodland, agriculture, and herbaceous are concentrated in the southern portion of the Planning Area, near Clear Lake, while conifer forest/woodland is concentrated in the northeastern portion of the Planning Area.

Aquatic Resources

In the North Lake Communities Planning Area, Rodman Slough is where most of the wetland community is along the fringes of Clear Lake in the southern portion of the Planning Area. Lake Pillsbury is the second largest lake in the North Lake Communities Planning Area and contains some freshwater wetlands at its northern margin. The Eel River flows through this lake; other significant drainages in the North Lake Communities Planning Area include Willow Creek, Smokehouse Creek, Middle Creek, Rattlesnake Creek, Stony Creek, Rice Fork, Deer Creek, and Bear Creek, many of which contain riparian corridors with freshwater forested/shrub wetlands along them.

Special-Status Species

Based on the literature review, four special-status amphibians, 25 birds, six fish, two insects, 85 plants, seven mammals, and one reptile have been documented within the North Lake Communities Planning Area. This includes two amphibians, three birds, four fish, two insects, five plants, two mammals, and one reptile listed or proposed to be listed under the state and/or federal ESAs. The listed plants and animals documented in the North Lake Communities Planning Area are presented in Table 3.4-1, *Special-Status Plants Documented or Identified as Having the Potential to Occur in the EIR Study Area,* and Table 3.4-2, *Special-Status Wildlife Documented or Identified as Having the Potential to Occur in the EIR Study Area.*

Critical Habitat and Essential Fish Habitat

The northern portion of the North Lake Communities Planning Area contains extensive areas of northern spotted owl critical habitat within Mendocino National Forest. Critical habitat for Chinook salmon is also designated along the Eel River on the west side of Lake Pillsbury. EFH for salmon has also been identified west of Lake Pillsbury, in the watersheds of the Eel River, Panther Creek, Benmore Creek, and Bucknello Creek. Additional EFH has been identified along Middle Creek at the northern limits of the Planning Area.

Sensitive Natural Communities

The following sensitive natural communities have known occurrences in the North Lake Communities Planning Area:

- Coast and valley freshwater marsh
- Great Valley mixed riparian forest

Rivieras Planning Area

Vegetation Communities

The Rivieras Planning Area includes conifer forest/woodland, mixed conifer and hardwood forest/woodland, and shrub vegetation community. There are stands of Konocti manzanita (Arctostaphylos elegans) on Mount Konocti, and there is Sonoma manzanita (*Arctostaphylos canescens* var. *sonomensis*) on the old Bell Mine. Both of these plants are 1B listed plants.

Aquatic Resources

Within the Rivieras Planning Area, Thurston Creek contains important riparian and wetland communities and drains to Thurston Lake. Basalt flow vernal pools exist near the south side of the Rivieras Planning Area on Manning Flat.

Special-Status Species

Based on the literature review, three special-status amphibians, 16 birds, one crustacean, three fish, two insects, 45 plants, two mammals, and one reptile have been documented within the Rivieras Planning Area. This includes one amphibian, three birds, one crustacean, one fish, two insects, six plants, and one reptile listed or proposed to be listed under the state and/or federal ESAs. The listed plants and animals documented in the Rivieras Planning Area are presented in Table 3.4-1, *Special-Status Plants Documented or Identified as Having the Potential to Occur in the EIR Study Area,* and Table 3.4-2, *Special-Status Wildlife Documented or Identified as Having the Potential to Occur in the EIR Study Area*. Thurston Lake supports a population of Clear Lake hitch, a State-listed threatened fish species and U.S. Forest Service designated sensitive species (Ewing 2020).

Critical Habitat and Essential Fish Habitat

There is no designated critical habitat or EFH within the Rivieras Planning Area.

Sensitive Natural Communities

The following sensitive natural communities have known occurrences in the Rivieras Planning Area:

- Coast and valley freshwater marsh
- Great Valley mixed riparian forest
- Northern basalt flow vernal pool
- Northern volcanic mud flow vernal pool

3.4.3 Standards for Analysis

SIGNIFICANCE CRITERIA

Appendix G, *Environmental Checklist Form*, of the CEQA Guidelines states that the proposed project would result in a significant impact on biological resources if it would:

a) Have a substantial effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

c) 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.

d) 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.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

f) Conflict with the provisions of an adopted Habitat Conservation Plan; Natural Community Conservation Plan; or other approved local, regional, or state habitat conservation plan.

METHODOLOGY

The biology evaluation was prepared based on a review of the available literature and data only. No detailed field surveys were conducted as part of this assessment or are considered necessary given the nature of the proposed project as a broad, long-term planning-level document rather than a site-specific development proposal.

3.4.4 Project Impact Discussion

a) Would the project have a substantial effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Local, regional, State, and federal regulations provide varying levels of protection for special-status species, depending on a number of factors, including legal protective status, rarity and distribution, the magnitude of the potential impact on essential habitat, specific occurrence and overall population levels, and take of individual plants or animals. Activities requiring discretionary approvals by local, regional, State, and federal agencies provide for the greatest oversight because each potential future development that could occur from implementation of the proposed project must be evaluated for their potential impact on special-status species and other sensitive biological resources.

The county has a high diversity of biological communities and spans three different geographic subregions: Inner North Coast Ranges, High North Coast Ranges, and Outer North Coast Ranges. As indicated in Table 3.4-1, *Special-Status Plants Documented or Identified as Having the Potential to Occur in the EIR Study Area,* and Table 3.4-2, *Special-Status Wildlife Documented or*

Identified as Having the Potential to Occur in the EIR Study Area, 182 special-status plant species and 57 special-status wildlife species have been documented to occur within Lake County. As development projects are proposed over the course of the buildout horizon, further project-specific detailed investigation is typically necessary to determine whether any occurrences of special-status animal species are present on undeveloped sites with natural habitat and appropriate habitat conditions.

As described in Chapter 2, *Project Description*, of this Draft EIR, potential future development from implementation of the proposed project is expected to occur throughout the EIR Study Area and would be concentrated in the form of infill/intensification on sites either already developed and/or underutilized, and/or in close proximity to existing development, where special-status species have a lower likelihood to be present. The potential for occurrence of special-status species in developed areas is typically less in comparison to undeveloped lands with natural habitat that contain essential habitat characteristics for the range of species known in the EIR Study Area vicinity. However, while the majority of future development under the proposed project would likely not occur in undeveloped, natural areas, the potential for adverse impacts on special-status species still remains due to conversion of areas of natural habitat, removal of trees and other vegetation, increases in light and noise, and other modifications and disturbance. Grading and other construction disturbance to existing natural habitat could eliminate occurrences of special-status plants and individuals or occurrences of special-status animal species, or further isolate them from other occurrences where urbanization creates barriers between the remaining areas of natural habitat. This includes possible loss or disturbance to bird nests in active use, conflicting with both the MBTA and CFGC, and disturbance to wetlands and other bodies of water, conflicting with the *Conservation Strategy for Clear Lake Hitch*, which is found only in Clear Lake and associated ponds and streams in Lake County, or the federal or State ESA.

As detailed in Section 3.4.1, *Regulatory Framework,* there are a number of federal and State regulations in place to protect biological resources, including special-status species and their habitat, within the EIR Study Area, that the County and future project applicants of development project would be required to comply with to ensure impacts to special-status species would be minimized. Furthermore, the proposed General Plan 2050 contains policies and actions that require local planning and development decisions to consider impacts to biological resources and that would serve to minimize impacts to special-status species and sensitive habitat in the EIR Study Area. These are shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation BIO. In particular, the following key policies and actions would serve to minimize potential impacts to special-status species:

- Policy GR-3.11 requires revegetation of geothermal development sites using native plant species to minimize soil erosion and restore and enhance habitat.

- Policy WR-5.7 requires continuation of efforts to reduce the spread of hydrilla and other invasive species and to maintain and improve fish spawning beds in Clear Lake.
- Policy WR-5.8 requires coordination with resource management agencies, Tribal governments, and lake users to prevent the introduction and spread of aquatic invasive species in Clear Lake through monitoring, public education, and rapid response protocols.
- Action WR-4.d requires retrofitting County-owned landscapes to increase the amount of native, drought-resistant, and non-invasive plant landscaping.
- Action WR-5.a requires development and implementation of effective response plans for cyanobacteria and harmful algal blooms through clear communication protocols and public safety measures to protect public health, wildlife, and recreation opportunities.
- Policies CM-LU-1.2, EL-LU-1.2, K-LU-1.2, L-LU-1.2, LL-LU-1.2, M-LU-1.2, NL-LU-1.2, and R-LU-1.2 require the encouragement of clustering of allowable densities to reduce development footprints; protect sensitive habitats, scenic resources, natural features, and open spaces; and avoid hazardous areas.
- Policies CM-OS-1.1, EL-OS-1.1, K-OS-1.1, L-OS-1.1, LL-OS-1.1, M-OS-1.1, NL-OS-1.1, and R-OS-1.1 require coordination with applicable federal, State, regional, and local land management agencies on natural resources and habitat planning, preservation, and mitigation measure development.
- Policies CM-OS-1.3, EL-OS-1.3, K-OS-1.3, L-OS-1.3, LL-OS-1.3, M-OS-1.3, NL-OS-1.3, and R-OS-1.3 require protection of natural lands, including natural resource areas, wildlife habitat, and open space, from encroachment or destruction by incompatible development and invasive species.
- Policies CM-OS-1.4, EL-OS-1.4, K-OS-1.4, L-OS-1.4, LL-OS-1.4, M-OS-1.4, NL-OS-1.4, and R-OS-1.4 require development patterns and practices that conserve habitat for protected species and sensitive biological resources, limiting encroachment into areas that support sensitive habitats and directing development into less-sensitive areas.
- Policies CM-OS-1.5, EL-OS-1.5, K-OS-1.5, L-OS-1.5, LL-OS-1.5, M-OS-1.5, NL-OS-1.5, and R-OS-1.5 require maintenance of ecologically sensitive resource areas in their natural state to the greatest extent possible. It limits development in and near these areas to compatible, low-intensity uses with adequate provisions to protect sensitive resources, including setbacks around resource areas. It prohibits projects that would lead to fragmentation of ecologically sensitive resource areas.
- Policies CM-OS-1.6, EL-OS-1.6, K-OS-1.6, L-OS-1.6, LL-OS-1.6, M-OS-1.6, NL-OS-1.6, and R-OS-1.6 require the use of conservation easements, transfer of development rights, mitigation banking, or similar equity transfer documents to protect unique vegetation, habitat areas, habitat corridors, and sensitive biological resources in new projects.
- Policies CM-OS-1.7*, EL-OS-1.7*, K-OS-1.7*, L-OS-1.7*, LL-OS-1.7*, M-OS-1.7*, NL-OS-1.7*, and R-OS-1.7* require a qualified biologist to prepare a biological resource assessment as part of project approval for proposed development on sites that may support special-status

species, sensitive natural communities, important wildlife corridors, or regulated wetlands and waters to identify potential impacts and measures for protecting the resource and surrounding habitat. It requires a qualified biologist conduct focused surveys, as identified and recommended in the biological resources assessment, during the appropriate season(s) for identification of the resource.

- Policies CM-OS-1.8, EL-OS-1.8, K-OS-1.8, L-OS-1.8, LL-OS-1.8, M-OS-1.8, NL-OS-1.8, and R-OS-1.8 require consultation with the most updated California Natural Diversity Database and other available studies prepared by the California Department of Fish and Wildlife when reviewing development proposals to avoid potential impacts on sensitive habitats or special-status species.
- Policies CM-OS-1.10*, EL-OS-1.10*, K-OS-1.11*, L-OS-1.10*, LL-OS-1.11*, M-OS-1.10*, NL-OS-1.10*, and R-OS-1.10* require that construction or other ground-disturbing activities avoid nests of native birds when in active use by implementing protection measures to ensure compliance with the California Fish and Game Code and federal Migratory Bird Treaty Act. Compliance guidelines are detailed in the EIR.
- Policies CM-OS-1.11*, EL-OS-1.11*, K-OS-1.12*, L-OS-1.11*, LL-OS-1.12*, M-OS-1.11*, NL-OS-1.11*, and R-OS-1.11* require installation and maintenance of construction barrier fencing around sensitive resources on or adjacent to construction sites prior to construction activities and throughout the construction period.
- Policies CM-OS-1.16*, K-OS-1.17*, L-OS-1.16*, LL-OS-1.18*, M-OS-1.16*, NL-OS-1.16*, and R-OS-1.16* require support for the conservation and management of oak woodland communities and their habitats and, where a proposed development would impact an oak woodland community, requires mitigation measures prior to project approval.
- Policies CM-OS-1.17, EL-OS-1.16, K-OS-1.18, L-OS-1.17, LL-OS-1.19, M-OS-1.17, NL-OS-1.17, and R-OS-1.17 require increasing planting and regeneration of native trees, shrubs, grasslands, and natural landscapes and protection of existing native plant species whenever possible to preserve the visual integrity of the landscape, provide habitat, and improve air quality and community health.
- Policies CM-OS-1.18, EL-OS-1.17, K-OS-1.19, L-OS-1.18, LL-OS-1.20, M-OS-1.18, NL-OS-1.18, and R-OS-1.18 require majority use of California native plant species in large, landscaped areas in new development projects, and requires construction practices that avoid spread of invasive plant species by minimizing surface disturbance; seeding and mulching disturbed areas with certified weed-free native mixes; disinfecting and decontaminating equipment; and using native, noninvasive, drought-resistant species in erosion-control plantings.
- Policies CM-OS-1.19*, EL-OS-1.18*, K-OS-1.20*, L-OS-1.19*, LL-OS-1.23*, M-OS-1.19*, NL-OS-1.19*, and R-OS-1.19* protects wildlife migration corridors and, prior to approval of projects that might impact identified wildlife connectivity and wildlife linkage areas, require that a habitat connectivity/wildlife corridor evaluation be completed by a qualified biologist. The evaluation shall identify project design features that would reduce potential impacts to

wildlife movement and incorporate wildlife corridors for new development plans where appropriate.

- Actions CM-OS-1.a, EL-OS-1.a, K-OS-1.a, L-OS-1.a, LL-OS-1.a, M-OS-1.a, NL-OS-1.a, and R-OS-1.a require consultation with CDFW to identify significant environments and priorities for acquisition or maintenance of open space areas based on biological and environmental concerns and develop a strategy for maintaining areas that will preserve the populations of plants and animals in the county.

Because potential future development under the proposed General Plan 2050 has the potential to occur where there is habitat for special-status species and sensitive natural communities, including wetlands and nesting areas, impacts from the proposed project are **potentially significant.**

Impact BIO-1: Impacts to special-status species or the inadvertent loss of bird nests in active use, which would conflict with the federal Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (CFGC), could occur as a result of implementation of the proposed project.

Significance with Mitigation: Implementation of the proposed General Plan 2050 policies and actions, as well as compliance with federal, State, and local regulations under the FESA, MBTA, CESA, CFGC, CWA, and NPPA, and consistency with Lake County's existing requirements protecting biological resources would ensure that the potential impacts of the proposed General Plan 2050 on special-status species would be minimized. Specifically, proposed Planning Area specific Policies CM-OS-1.7*, EL-OS-1.7*, K-OS-1.7*, L-OS-1.7*, LL-OS-1.7*, M-OS-1.7*, NL-OS-1.7*, and R-OS-1.7* require a qualified biologist to prepare a biological resource assessment as part of project approval for proposed development on sites that may support special-status species, sensitive natural communities, important wildlife corridors, or regulated wetlands and waters to identify potential impacts and measures for protecting the resource and surrounding habitat; Policies CM-OS-1.10*, EL-OS-1.10*, K-OS-1.11*, L-OS-1.10*, LL-OS-1.11*, M-OS-1.10*, NL-OS-1.10*, and R-OS-1.10* require that construction or other ground-disturbing activities avoid nests of native birds when in active use by implementing protection measures to ensure compliance with the CFGC and federal MBTA; Policies CM-OS-1.11*, EL-OS-1.11*, K-OS-1.12*, L-OS-1.11*, LL-OS-1.12*, M-OS-1.11*, NL-OS-1.11*, and R-OS-1.11* require installation and maintenance of construction barrier fencing around sensitive resources on or adjacent to construction sites prior to construction activities and throughout the construction period to protect biological resources on and near a project site; and Policies CM-OS-1.19*, EL-OS-1.18*, K-OS-1.20*, L-OS-1.19*, LL-OS-1.23*, M-OS-1.19*, NL-OS-1.19*, and R-OS-1.19* protects wildlife migration corridors and, prior to approval of projects that might impact identified wildlife connectivity and wildlife linkage areas, require that a habitat connectivity/wildlife corridor evaluation be completed by a qualified biologist. Future development would continue to be reviewed through the County's entitlement process and CEQA, when applicable, to ensure consistency with local, State, and federal regulations and all General Plan policies intended to protect sensitive biological resources. Ultimately, potential future development in the EIR Study

Area over the buildout horizon of the proposed General Plan 2050 would be performed in accordance with the proposed General Plan 2050 policies discussed above, which would ensure that potential impacts on special-status species would be **less than significant.**

b) Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Without adequate avoidance and thorough construction controls, potential impacts on riparian habitats and other sensitive natural communities may occur as both direct and indirect impacts associated with implementation of the proposed project. Direct impacts occur as a result of converting areas of a sensitive natural community to new development. Direct impacts may also be temporary in nature if they disturb a habitat that is subsequently restored after construction. Indirect impacts could be caused by changes in hydrology and water quality or through increases in sedimentation as a result of grading, and the introduction of urban pollutants could also have indirect impacts on aquatic habitat and contribute to a reduction in the value of downgradient waters.

As described under "Sensitive Natural Communities" in Section 3.4.2, *Existing Conditions,* sensitive natural communities in the EIR Study Area include riparian habitat along the numerous creeks, areas of freshwater marsh, vernal pools and swales, riparian and cypress forest, and native grasslands and wildflower fields, including oak woodlands. Some of these communities are identified as wetlands under the National Wetlands Inventory and are discussed further under impact discussion (c). See Figure 3.4-4, *Sensitive Natural Communities*. Further detailed investigation is typically necessary to determine whether any sensitive natural communities are present on undeveloped sites with natural habitat and appropriate setbacks to ensure their protection.

Potential future development under the proposed project would be required to comply with the regulations described in Section 3.4.1, *Regulatory Framework,* including LCCO Article XXXVII, *Waterway or "WW" Combining District*. This article is intended to preserve, protect and restore significant riparian systems, streams and their riparian, aquatic and woodland habitats by establishing a buffer around riparian corridors where development activity is limited.

Furthermore, the proposed General Plan 2050 contains policies and actions that require local planning and development decisions to consider impacts on biological resources and that would serve to minimize impacts on riparian habitat and other sensitive natural communities in the EIR Study Area. These policies and actions as shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation BIO. In particular, the following key policies and actions would serve to minimize potential impacts to riparian habitat:

- Policy HS-9.13 requires keeping riparian areas and drainages and areas defined as 100-year floodplains free from development that would adversely impact floodway capacity or characteristics, natural/riparian areas, or natural groundwater recharge areas, including the release of hazardous materials due to flooding.
- Policy HS-9.14 requires restoration and maintenance of the natural functions of riparian corridors and water channels throughout the county to reduce flooding and convey stormwater flows through removal of invasive species, restoration of native vegetation, and stream bank stabilization using natural materials.
- Policy WR-3.5 requires leadership and support of efforts to protect watershed health and sustainability and coordination of these activities with other agencies and programs where appropriate.
- Policy WR-3.6 requires support for implementation of the five-county Westside Sacramento Integrated Regional Water Management Plan for the Cache Creek and Putah Creek watersheds.
- Action WR-3.b requires development of a management plan for each watershed in the county using available monitoring data collected by public water agencies and other sources, in coordination with Tribal governments and local public water agencies.
- Action WR-3.c requires identification of watersheds that drain into Clear Lake with high pollution levels and prioritization of restoration efforts in the most impacted watersheds.
- Policy WR-4.3 requires encouragement of agricultural and forestry operators to participate in watershed management and restoration efforts.
- Policy WR-5.1 requires work with the University of California Cooperative Extension and the Lake County Resource Conservation District to promote best management practices for agriculture to reduce impacts related to cyanobacteria and algal blooms, including cover cropping, riparian buffers, nutrient management plans, and erosion-control techniques.
- Action WR-5.b requires development of incentive programs for landowners and farmers to adopt nutrient-reducing practices.
- Policy CM-OS-1.2 supports protection and restoration of wetland, riparian, and other significant natural areas in the Cobb Mountain Planning Area for wildlife habitats, groundwater recharge, and passive recreation.
- Policy EL-OS-1.2 supports protection and restoration of wetland, riparian, and other significant natural areas in the East Lake Communities Planning Area for wildlife habitats, groundwater recharge, and passive recreation.
- Policy K-OS-1.2 supports protection and restoration of wetland, riparian, and other significant natural areas in the Kelseyville Planning Area for wildlife habitats, groundwater recharge, and passive recreation.
- Policy L-OS-1.2 supports protection and restoration of wetland, riparian, and other significant natural areas in the Lakeport Planning Area for wildlife habitats, groundwater recharge, and passive recreation.

- Policy LL-OS-1.2 supports protection and restoration of wetland, riparian, and other significant natural areas in the Lower Lake Planning Area for wildlife habitats, groundwater recharge, and passive recreation.
- Policy M-OS-1.2 supports protection and restoration of wetland, riparian, and other significant natural areas in the Middletown Planning Area for wildlife habitats, groundwater recharge, and passive recreation.
- Policy NL-OS-1.2 supports protection and restoration of wetland, riparian, and other significant natural areas in the North Lake Communities Planning Area for wildlife habitats, groundwater recharge, and passive recreation.
- Policy R-OS-1.2 supports protection and restoration of wetland, riparian, and other significant natural areas in the Rivieras Planning Area for wildlife habitats, groundwater recharge, and passive recreation.
- Policies CM-OS-1.7*, EL-OS-1. 7*, K-OS-1. 7*, L-OS-1. 7*, LL-OS-1. 7*, M-OS-1. 7*, NL-OS-1. 7*, and R-OS-1. 7* require a qualified biologist to prepare a biological resource assessment as part of project approval for proposed development on sites that may support special-status species, sensitive natural communities, important wildlife corridors, or regulated wetlands and waters to identify potential impacts and measures for protecting the resource and surrounding habitat. It requires a qualified biologist conduct focused surveys, as identified and recommended in the biological resources assessment, during the appropriate season(s) for identification of the resource.
- Policies CM-OS-1.13*, EL-OS-1.13*, K-OS-1.14*, L-OS-1.13*, LL-OS-1.15*, M-OS-1.13*, NL-OS-1.13*, and R-OS-1.13* require new development along significant watercourses, riparian vegetation, and wetlands to establish an ecological buffer zone between the waterway and development to protect the resource. Considers providing opportunities for multiuse trails and recreation in the buffer zone when appropriate.
- Policies CM-OS-1.14*, EL-OS-1.14*, K-OS-1.16*, L-OS-1.14*, LL-OS-1.16*, M-OS-1.14*, NL-OS-1.14*, and R-OS-1.14* require Creek Management Plans and Mineral Reclamation Plans to include measures to protect and maintain riparian resources and habitats.
- Policies CM-OS-1.15, EL-OS-1.15, K-OS-1.15, L-OS-1.15, LL-OS-1.17, M-OS-1.15, NL-OS-1.15, and R-OS-1.15 encourage federal, State and local agencies that manage public lands in the county to prevent vehicular travel in streambeds to minimize sedimentation and protect overall water quality, particularly Clear Lake hitch and their habitat.
- Actions CM-OS-1.b, EL-OS-1.b, K-OS-1.b, L-OS-1.b, LL-OS-1.b, M-OS-1.b, NL-OS-1.b, and R-OS-1.b require preparation and maintenance of a mapped inventory of ecologically sensitive resource areas, including unique natural areas, wetlands, floodplains, riparian resources, and the habitat of rare, threatened, endangered, and other uncommon and protected species.
- Actions CM-OS-1.c*, EL-OS-1.c*, K-OS-1.c*, L-OS-1.c*, LL-OS-1.c*, M-OS-1.c*, NL-OS-1.c*, and R-OS-1.c*require adoption of a Creek and Riparian Area Management Ordinance in

consultation with a qualified biologist to support Clear Lake hitch and other sensitive riparian habitat and educate affected property owners on their responsibilities and options for proper maintenance on private properties.

- Actions CM-OS-1.d, EL-OS-1.d, K-OS-1.d, L-OS-1.d, LL-OS-1.d, M-OS-1.d, NL-OS-1.d and R-OS-1.d require improvement of County roads, where needed, to prevent vehicular travel in streambeds to minimize sedimentation and protect overall water quality, and in particular Clear Lake hitch habitat.

Because potential future development under the proposed General Plan 2050 has the potential to occur where there is riparian habitat or other sensitive natural communities identified in local or regional plans, policies, regulations, or by the CDFW or USFWS, impacts from the proposed project are **potentially significant.**

Impact BIO-2: Impacts to riparian areas, drainages, and sensitive natural communities could occur from potential future development under the proposed General Plan 2050 where natural habitat remains.

Significance with Mitigation: Implementation of the proposed General Plan 2050 policies and actions, as well as compliance with federal, State, and local regulations and consistency with Lake County's existing requirements protecting biological resources would ensure that the potential impacts of the proposed General Plan 2050 on riparian habitat or other sensitive natural communities would be minimized. In addition to those described under Impact BIO-1, specifically, proposed Planning Area-specific Policies CM-OS-1.14*, EL-OS-1.14*, K-OS-1.16*, L-OS-1.14*, LL-OS-1.16*, M-OS-1.14*, NL-OS-1.14*, and R-OS-1.14* require Creek Management Plans and Mineral Reclamation Plans to include measures to protect and maintain riparian resources and habitats and Actions CM-OS-1.c*, EL-OS-1.c*, K-OS-1.c*, L-OS-1.c*, LL-OS-1.c*, M-OS-1.c*, NL-OS-1.c*, and R-OS-1.c* adopt a Creek and Riparian Area Management Ordinance in consultation with a qualified biologist to support Clear Lake hitch and other sensitive riparian habitat and educate affected property owners on their responsibilities and options for proper maintenance on private properties. This would require projects with the potential to impact creeks and riparian areas to demonstrate compliance with the ordinance prior to project approval. Implementation of the proposed General Plan 2050 policies and actions listed would serve to ensure that occurrences of sensitive natural communities are identified, avoided, or adequately mitigated. Future development would continue to be reviewed through the County's entitlement process and CEQA to ensure consistency with local, State, and federal regulations and all General Plan policies and actions intended to protect sensitive biological resources, including sensitive natural communities. Potential future development over the buildout horizon of the proposed General Plan 2050 would be performed in accordance with the proposed General Plan 2050 policies and actions discussed above, which would ensure that potential impacts on sensitive natural communities would be **less than significant.**

c) Would the project 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?

Development and land use activities associated with implementation of the proposed project could result in direct loss or modification to existing wetlands, as well as indirect impacts due to water quality degradation. Affected wetlands could include both the wetland-related sensitive natural community types described under impact discussion (b), including marshes and vernal pools, as well as the resources described in Section 3.4.2, *Existing Conditions,* under *Aquatic Resources* and shown on Figure 3.4-2, *Aquatic Resources*. Indirect impacts to wetlands and other jurisdictional waters include an increase in the potential for sedimentation due to construction grading and ground disturbance, an increase in the potential for erosion due to increased runoff volumes generated by impervious surfaces, and an increase in the potential for water quality degradation due to increased levels in nonpoint pollutants.

Water quality degradation may occur even when wetlands and unvegetated channels are avoided by proposed development if setbacks are inadequate to provide critical vegetation filtration functions. Indirect water quality-related issues are discussed further in Section 3.10, *Hydrology and Water Quality*, of this Draft EIR.

Potential future development under the proposed project would be required to comply with the regulations described in Section 3.4.1, *Regulatory Framework*, including LCCO Article 29, *Wetlands or 'W" Combining District*. This article outlines regulations to preserve and protect sensitive wetlands including requiring a wetlands management plan. Furthermore, the proposed General Plan 2050 contains policies and actions that require local planning and development decisions to consider impacts to biological resources and that would serve to minimize impacts to wetlands, riparian habitat and other sensitive natural communities in the EIR Study Area. These are shown in Appendix F, *Proposed General Plan 2050 Policies and Actions,* of this Draft EIR, denoted with the abbreviations HYD and BIO. In particular, the following key policies and actions would serve to minimize potential impacts to wetlands:

- Policy WR-2.3 requires management of stream channel systems and their watersheds to ensure critical groundwater recharge functions are maintained.
- Policy WR-3.5 requires the County to lead and support efforts to protect watershed health and sustainability and coordination of these activities with other agencies and programs where appropriate.
- Policy WR-3.6 requires support for implementation of the five-county Westside Sacramento Integrated Regional Water Management Plan for the Cache Creek and Putah Creek watersheds.
- Action WR-3.c requires identification of watersheds that drain into Clear Lake with high pollution levels and prioritization of restoration efforts in the most impacted watersheds.

- Policy WR-4.3 requires encouragement of agricultural and forestry operators to participate in watershed management and restoration efforts.
- Policy WR-5.9 requires promotion of the management of shoreline and watershed vegetation to reduce invasive species while protecting native plant communities that support Clear Lake's water quality and provide habitat for native species.
- Action WR-5.a requires development and implementation of effective response plans for cyanobacteria and harmful algal blooms through clear communication protocols and public safety measures to protect public health, wildlife, and recreation opportunities.
- Action WR-5.b requires development of incentive programs for landowners and farmers to adopt nutrient-reducing practices.
- Action WR-5.c requires revision of the Stormwater Management and Grading Ordinances to incorporate green infrastructure to address nutrient and sediment runoff from urban development and residential landscaping into Clear Lake.
- Policy CM-OS-1.2 supports protection and restoration of wetland, riparian, and other significant natural areas in the Cobb Mountain Planning Area for wildlife habitats, groundwater recharge, and passive recreation.
- Policy EL-OS-1.2 supports protection and restoration of wetland, riparian, and other significant natural areas in the East Lake Communities Planning Area for wildlife habitats, groundwater recharge, and passive recreation.
- Policy K-OS-1.2 supports protection and restoration of wetland, riparian, and other significant natural areas in the Kelseyville Planning Area for wildlife habitats, groundwater recharge, and passive recreation.
- Policy L-OS-1.2 supports protection and restoration of wetland, riparian, and other significant natural areas in the Lakeport Planning Area for wildlife habitats, groundwater recharge, and passive recreation.
- Policy LL-OS-1.2 supports protection and restoration of wetland, riparian, and other significant natural areas in the Lower Lake Planning Area for wildlife habitats, groundwater recharge, and passive recreation.
- Policy M-OS-1.2 supports protection and restoration of wetland, riparian, and other significant natural areas in the Middletown Planning Area for wildlife habitats, groundwater recharge, and passive recreation.
- Policy NL-OS-1.2 supports protection and restoration of wetland, riparian, and other significant natural areas in the North Lake Communities Planning Area for wildlife habitats, groundwater recharge, and passive recreation.
- Policy R-OS-1.2 supports protection and restoration of wetland, riparian, and other significant natural areas in the Rivieras Planning Area for wildlife habitats, groundwater recharge, and passive recreation.

- Policies CM-OS-1.7*, EL-OS-1.7*, K-OS-1. 7*, L-OS-1. 7*, LL-OS-1. 7*, M-OS-1. 7*, NL-OS-1. 7*, and R-OS-1. 7* require a qualified biologist to prepare a biological resource assessment as part of project approval for proposed development on sites that may support special-status species, sensitive natural communities, important wildlife corridors, or regulated wetlands and waters to identify potential impacts and measures for protecting the resource and surrounding habitat. It requires a qualified biologist conduct focused surveys, as identified and recommended in the biological resources assessment, during the appropriate season(s) for identification of the resource.
- Policies CM-OS-1.9*, EL-OS-1.9*, K-OS-1.10*, L-OS-1.9*, LL-OS-1.10*, M-OS-1.9*, NL-OS-1.9*, and R-OS-1.9* require a wetland delineation study prepared using the protocol defined by the US Army Corps of Engineers as part of project approval for proposed development on sites with the potential to contain wetland resources. Requires that a report on the findings of this survey be submitted to the County as part of the application process and, where proposed development would impact a wetland resource, requires mitigation measures prior to project approval.
- Policies CM-OS-1.12, EL-OS-1.12, K-OS-1.13, L-OS-1.12, LL-OS-1.13, M-OS-1.12, NL-OS-1.12, and R-OS-1.12 require maintaining creeks in their natural state whenever possible and allows creeks and floodways to function as natural flood-protection features during storms.
- Policies CM-OS-1.13*, EL-OS-1.13*, K-OS-1.14*, L-OS-1.13*, LL-OS-1.15*, M-OS-1.13*, NL-OS-1.13*, and R-OS-1.13* require new development along significant watercourses, riparian vegetation, and wetlands to establish an ecological buffer zone between the waterway and development to protect the resource. Considers providing opportunities for multiuse trails and recreation in the buffer zone when appropriate.
- Policies CM-OS-1.14*, EL-OS-1.14*, K-OS-1.16*, L-OS-1.14*, LL-OS-1.16*, M-OS-1.14*, NL-OS-1.14*, and R-OS-1.14* require Creek Management Plans and Mineral Reclamation Plans to include measures to protect and maintain riparian resources and habitats.
- Actions CM-OS-1.b, EL-OS-1.b, K-OS-1.b, L-OS-1.b, LL-OS-1.b, M-OS-1.b, NL-OS-1.b, and R-OS-1.b require preparation and maintenance of a mapped inventory of ecologically sensitive resource areas, including unique natural areas, wetlands, floodplains, riparian resources, and the habitat of rare, threatened, endangered, and other uncommon and protected species.
- Actions CM-OS-1.c*, EL-OS-1.c*, K-OS-1.c*, L-OS-1.c*, LL-OS-1.c*, M-OS-1.c*, NL-OS-1.c*, and R-OS-1.c*require adoption of a Creek and Riparian Area Management Ordinance in consultation with a qualified biologist to support Clear Lake hitch and other sensitive riparian habitat and educate affected property owners on their responsibilities and options for proper maintenance on private properties.
- Actions CM-OS-1.d, EL-OS-1.d, K-OS-1.d, L-OS-1.d, LL-OS-1.d, M-OS-1.d, NL-OS-1.d and R-OS-1.d require improvement of County roads, where needed, to prevent vehicular travel in streambeds to minimize sedimentation and protect overall water quality, and in particular Clear Lake hitch habitat.

However, because potential future development under the proposed General Plan 2050 has the potential to occur where there are state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal) through direct removal, filling, hydrological interruption, or other means, impacts from the proposed project at the program level are **potentially significant.**

Impact BIO-3: Potential future development from implementation of the proposed General Plan 2050 could result in direct and indirect impacts to wetland habitat.

Significance with Mitigation: Implementation of the proposed General Plan 2050 policies and actions, as well as compliance with federal, State, and local regulations and consistency with Lake County's existing requirements protecting biological resources would ensure that the potential impacts of the proposed General Plan 2050 on wetlands would be minimized. In addition to those described under Impact BIO-1, proposed Planning Area-specific Policies CM-OS-1.9*, EL-OS-1.9*, K-OS-1.10*, L-OS-1.9*, LL-OS-1.10*, M-OS-1.9*, NL-OS-1.9*, and R-OS-1.9* require a wetland delineation study prepared using the protocol defined by the USACE as part of project approval for proposed development on sites with the potential to contain wetland resources. Where proposed development would impact wetland resources, the policies require mitigation measures prior to project approval. Future development would continue to be reviewed through the County's entitlement process and CEQA to ensure consistency with local, State, and federal regulations and all General Plan policies and actions intended to protect sensitive biological resources, including wetlands. Potential future development over the buildout horizon of the proposed project would be performed in accordance with the proposed General Plan 2050 policies and actions discussed above, which would ensure that potential impacts on wetlands would be **less than significant.**

d) Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites?

Lake County includes essential movement corridors for native resident and migratory fish and wildlife species, as described in Section 3.4.2, *Existing Conditions,* under Wildlife Movement/Corridors and Nursery Sites.

Development and land use activities associated with implementation of the proposed project would generally be in urbanized areas with few wildlife corridors or locations where wildlife is already acclimated to human activity. However, there would still be the potential to interfere with the movement of native resident or migratory fish or wildlife species, with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites in the EIR Study Area, particularly along creeks and other drainages, or adjacent to open space and undeveloped lands.

Development under the proposed General Plan could restrict local or regional movement of native wildlife and fish species by fragmenting intact habitat areas. Development in natural or open space areas serves to fragment habitat areas, which reduces the number of special-status species within these areas. This reduction in habitat, including movement corridors or wildlife nursery areas, affects the ability of special-status species to increase in number and increases the probability that such species will be affected by other environmental factors (e.g., disease, catastrophic weather, and predation).

Future development under the proposed project would be required to comply with the regulations described in Section 3.4.1, *Regulatory Framework,* including LCCO Article 24, *Open Space or "O" District*. This article creates a district that preserves public and private lands for their resource production potential and environmentally sensitive animal and plant habitats, which would include the land used for the movement of native resident or migratory fish or wildlife species. Furthermore, as described in impact discussion (a), (b), and (c) the proposed General Plan 2050 contains policies and actions that require local planning and development decisions to consider impacts to biological resources, which would also serve to minimize impacts on wildlife corridors in the EIR Study Area and therefore, the species that use them.

Because potential future development under the proposed General Plan 2050 has the potential to occur where there is habitat for wildlife movement, impacts from the proposed project are **potentially significant.**

Impact BIO-4: Potential future development in the EIR Study Area could result in impacts on the movement of wildlife and potential for increased risk of bird collisions.

Significance with Mitigation: As described under Impacts BIO-1, BIO-2, and BIO-3, the proposed General Plan 2050 includes policies and actions that would mitigate impacts to important wildlife habitats, such as essential habitat for special-status species, occurrences of sensitive natural communities, and regulated wetlands and waters are preserved and protected. These require the preparation of biological resources assessments, implementation of existing regulations, the preparation of technical reports that identify and mitigate project-specific impacts, provide setbacks between waterways and development. Compliance with the applicable regulations and proposed General Plan 2050 policies and actions would ensure future development under the proposed project would not have the potential to 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. In particular, Policies CM-OS-1.19*, EL-OS-1.18*, K-OS-1.20*, L-OS-1.19*, LL-OS-1.23*, M-OS-1.19*, NL-OS-1.19*, and R-OS-1.19* protects wildlife migration corridors and, prior to approval of projects that might impact identified wildlife connectivity and wildlife linkage areas, require that a habitat connectivity/wildlife corridor evaluation be completed by a qualified biologist. The evaluation shall identify project design features that would reduce potential impacts to wildlife movement and incorporate wildlife corridors for new development

plans where appropriate. In addition to these proposed General Plan 2050 policies and actions, potential future development would continue to be reviewed through the County's entitlement process and CEQA, when applicable, to ensure consistency with local, State, and federal regulations and all General Plan policies and actions intended to protect sensitive biological resources, including wildlife corridors and nursery sites. Potential future development over the buildout horizon of the proposed General Plan 2050 would be performed in accordance with the proposed General Plan 2050 policies and actions discussed above, which would ensure that potential impacts on sensitive natural communities would be **less than significant.**

e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

The Lake County General Plan is the primary planning document for the unincorporated County. The proposed revisions to the General Plan policies and actions are intended to provide for an update to the relevant provisions in the current General Plan. Because the General Plan is the overriding planning document for Lake County and because the proposed project involves updating the General Plan, implementation of the proposed project would not conflict with local policies and ordinances protecting biological resources.

Potential future development that occurs from implementation of the proposed project would be required to comply with Oaks 2040 and the appropriate Oak Woodlands Management Plan. Additionally, all future development would also be required to comply with the County's Clean Water Program, *Conservation Strategy for the Clear Lake Hitch*, and Watershed Management Plan.

Potential future development within the EIR Study Area would be required to comply with applicable LCCO regulations and the proposed General Plan 2050 policies, and actions would reduce potential impacts on sensitive biological resources as a result of implementation of the proposed project. With adherence to these regulations, no conflicts with local plans and policies are anticipated, and impacts would be considered **less than significant.**

Significance without Mitigation: Less than significant.

f) Would the project conflict with the provisions of an adopted Habitat Conservation Plan; Natural Community Conservation Plan; or other approved local, regional, or state habitat conservation plan?

The EIR Study Area is not in any local, regional, or State HCP areas. Therefore, the proposed General Plan 2050 would not conflict with the conservation strategy in any HCP or Natural Community Conservation Plan.

Furthermore, several policies and actions in the proposed General Plan 2050, listed under impact discussions (a), (b), and (d) along with LCCO regulations, would serve to protect and enhance the sensitive natural communities and special-status species within the EIR Study Area. Implementation of the proposed General Plan 2050 policies and actions, in conjunction with adherence to State and federal regulations related to the protection of special-status species and sensitive natural communities, including the *Conservation Strategy for Clear Lake Hitch* where applicable, would address potential impacts of anticipated future development under the proposed project. Future development would continue to be reviewed through the County's entitlement process and CEQA to ensure consistency with local, State, and federal regulations and all General Plan policies and actions intended to protect sensitive biological resources. As part of the permitting project with the USACE, projects affecting federally regulated waters must demonstrate that they would not have an adverse effect on federally listed species or would be required to provide adequate compensatory mitigation where avoidance is infeasible. Projects within the boundaries of the *Conservation Strategy for Clear Lake Hitch*, must comply with standards set forth by the USFWS in addressing potential effects on the Clear Lake hitch. Accordingly, **no impact** would occur.

Significance without Mitigation: No impact.

3.4.5 Cumulative Impact Discussion

As discussed in Chapter 3, *Environmental Analysis*, of this Draft EIR, the cumulative setting includes growth within the EIR Study Area in combination with projected overall growth trends within Lake County and adjacent counties. The cumulative setting for biological resources includes future development under the proposed project, combined with effects of development on lands adjacent to the EIR Study Area and surrounding region.

Would the project have a cumulative effect related to biological resources?

The impacts of potential future development on biological resources tend to be site-specific, and the overall cumulative effects would be dependent on the degree to which significant vegetation and wildlife resources are protected on a particular site. This includes preservation of well-developed native vegetation (e.g., native grasslands, oak woodlands, and riparian woodland, among others), populations of special-status plant or animal species, and wetland features (e.g., freshwater marsh and seeps, vernal pools and seasonal wetlands, riparian corridors, and drainages). Further, biological resource assessments would be required for future projects proposed on or near sensitive habitats to mitigate project-specific impacts. These biological resource assessments would serve to ensure that important biological resources are identified, protected, and properly managed and to prevent any significant adverse development-related impacts, including development for the remaining undeveloped lands in the EIR Study Area and surrounding incorporated and unincorporated lands.

To some degree, cumulative development contributes to an incremental reduction in the amount of existing natural wildlife habitat, particularly for birds and larger mammals. Habitat for species intolerant of human disturbance can be lost as development encroaches into previously undeveloped areas, disrupting or eliminating movement corridors and fragmenting the remaining suitable habitat retained within parks, public and private open space, and undeveloped properties. New cumulative development in the region could result in further conversion of existing natural habitats to urban and suburban conditions, limiting the existing habitat values of the surrounding area. This could include further loss of wetlands and sensitive natural communities, reduction in essential habitat for special-status species, removal of mature native trees and other important wildlife habitat features, and obstruction of important wildlife movement corridors. Additional development may also contribute to degradation of the aquatic habitat in the creeks throughout the region, including the EIR Study Area. Grading associated with construction activities generally increases erosion and sedimentation, and urban pollutants from new development would reduce water quality.

However, increased development potential in the EIR Study Area is anticipated to occur primarily in existing urbanized areas. Potential future development that could occur elsewhere in the region, outside of the EIR Study Area, is also anticipated to occur largely in urbanized areas. In the event that potential future development in the region is proposed in an undeveloped area, the project would likely undergo independent environmental review as required by the jurisdiction in which the project is proposed. Further, the policies and actions of the proposed General Plan 2050 described under impact discussions (a) through (f) would serve to address any contributions to cumulative impacts on sensitive biological and wetland resources, as discussed above. Therefore, the proposed project would result in a **less-than-significant** cumulative impact on biological resources with implementation of the proposed General Plan 2050 policies and actions and other controls related to sensitive biological resources.

Significance without Mitigation: Less than significant

3.4.6 References

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3.5 CULTURAL RESOURCES

This section of the Draft EIR describes the potential impacts to cultural resources associated with the adoption and implementation of the proposed project. This section describes the regulatory framework and existing conditions, identifies criteria used to determine impact significance, and provides an analysis of the potential impacts to cultural resources. The proposed General Plan 2050 policies and actions that would minimize any potentially significant impacts are shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, and denoted with the abbreviation CUL. Where policies and actions are required for mitigation, those policies and actions are described in this section and denoted with an asterisk (*).

Because Tribal Cultural Resources (TCRs) are, by definition, cultural resources, potential impacts to TCRs as they relate to the cultural resource California Environmental Quality Act (CEQA) standards are presented in this section. Please also see Section 3.18, *Tribal Cultural Resources*, of this Draft EIR for further discussion of impacts to TCRs pursuant to the TCR CEQA standards.

The following terms are recurring and referenced throughout this section:

- **Cultural Resource:** This term is used to describe several different types of properties: pre-contact (prehistoric) and historic archaeological sites, viewsheds, buildings, objects, structures, and districts or any other physical evidence associated with human activity considered important to a culture or a community for scientific, traditional, spiritual, or religious reasons.
- **Pre-contact:** The pre-contact era is the period prior to European contact with Native Americans, when Native American peoples lived on and managed their ancestral lands according to traditional cultural, spiritual, and subsistence practices. In California, this is recognized as prior to the Common Era 1492.
- **Historic-era/Historic-period**: The historic period is generally defined as being between the pre-contact era and 50 years ago.
- **Built Environmental**: Built Environmental Resources are historic-era buildings, structures, features, and landscapes that are intact or still in use.
- **Historic Property:** Federal regulations (36 Code of Federal Regulations 800) define a historic property as any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places (NRHP). This term includes artifacts, records, and remains that are related to and located within such properties. The term also includes properties of traditional religious and cultural importance to Native American tribes or Native Hawaiian organizations and that meet NRHP criteria.
- **Historical Resource:** CEQA Guidelines Section 15064.5(a) define a historical resource as a resource listed in the California Register of Historical Resources (CRHR) or determined to be eligible for listing in the CRHR by the State Historical Resources Commission, a resource

included in a local register of Historical Resources, or identified as significant in a Historical Resource survey meeting the requirements of Public Resources Code (PRC) Section 5024.1(g), or any object, building, structure, site, area, place, record, or manuscript that 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.

- **Tribal Cultural Resource:** CEQA defines TCRs as sites, features, places, cultural landscapes (geographically defined in terms of the size and scope), sacred places, cultural viewsheds, and objects with cultural value to a California Native American tribe that are included or determined to be eligible for inclusion in the California Register; and/or included in a local register of historical resources; and/or a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant. Tribal Historic Preservation Officers (THPOs) serve as key authorities for identifying, evaluating, and managing Tribal Cultural Resources, and early consultation with the affiliated tribes ensures that traditional knowledge, cultural practices, and Tribal protocols guide the protection, treatment, and interpretation of these resources.
- **Unique Archaeological Resource:** CEQA defines this term as an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:
  - It contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.
  - It has a special and particular quality such as being the oldest of its type or the best available example of its type.
  - It is directly associated with a scientifically recognized important prehistoric or historic event or person.

3.5.1 Regulatory Framework

FEDERAL

National Historic Preservation Act

The National Historic Preservation Act (NHPA) of 1966 defines the responsibilities of federal agencies to protect and preserve historic properties and established the National Register of Historic Places (NRHP) as the official designation of historical resources, including districts, sites, buildings, structures, and objects. Sites less than 50 years in age, unless of exceptional importance, are not eligible. Listing in the NRHP does not entail specific protection for a property, but project effects on properties listed or eligible for listing in the NRHP must be evaluated under CEQA. For a property to be eligible for listing in the NRHP, it must be significant

and possess integrity. According to the NRHP criteria for evaluation,[1] a property is significant in American history, architecture, archaeology, engineering, or culture if it:

- Is associated with events that have made a significant contribution to the broad patterns of our history; or
- Is associated with the lives of significant persons in our past; or
- Embodies the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- Has yielded, or may be likely to yield, information important in history or prehistory. (Code of Federal Regulations, Title 36, Part 60.4)

Integrity is the authenticity of a property's historic identity, evidenced by the survival of physical characteristics that existed during the property's historic or prehistoric period. Loss of integrity, if sufficiently great, will render a resource ineligible for the CRHR. Integrity is determined through application of seven factors:

- **Location** is the place where the historic property was constructed or the place where the historic event occurred.
- **Design** is the combination of elements that create the form, plan, space, structure, and style of a property.
- **Setting** is the physical environment of the historic property.
- **Materials** are the physical elements that were combined or deposited during a particular period and in a particular pattern or configuration form a historic property
- **Workmanship** is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory.
- **Feeling** is a property's expression of the aesthetic or historic sense of a particular time.
- **Association** is the direct link between an important historic event or person and a historic property.

Under Section 101(d)(2) of the NHPA, federally recognized tribes may assume the responsibilities of a State Historic Preservation Officer (SHPO) on tribal lands through a designated THPO. The THPO oversees the identification, evaluation, and protection of cultural, historic, and sacred sites significant to the tribe. Under Section 106 of the NHPA, federal agencies must consult with tribal governments on a government-to-government basis when a project may affect historic properties, including those of religious or cultural importance to tribes, whether on or off tribal lands.

[1] Title 36 of the Code of Federal Regulations, Part 60.4.

TCRs and Traditional Cultural Properties may not always meet NRHP criteria based on physical integrity alone, as their significance often stems from cultural or spiritual associations. These values are best understood through direct consultation with the affected tribes and their THPOs, ensuring meaningful consideration of tribal heritage under both the NHPA and CEQA.

Archaeological Resources Protection Act

The Archaeological Resources Protection Act (United States Code [USC], Title 16, Sections 470aa–mm) became law on October 31, 1979, and has been amended four times. It regulates the protection of archaeological resources and sites that are on federal and Native American lands.

Native American Graves Protection and Repatriation Act

The Native American Graves Protection and Repatriation Act of 1990 (NAGPRA**)** (USC, Title 25, Sections 3001 et seq.) protects Native American remains, including Native American graves on federal and tribal lands, and recognizes tribal authority over the treatment of unmarked graves. NAGPRA affirms the sovereignty of tribes over the treatment, protection, and repatriation of ancestral remains and associated funerary objects. THPOs play a critical role in consulting with federal agencies, museums, and other institutions to ensure proper identification, handling, and return of these resources. This act prohibits the selling of Native American remains and provides guidelines for the return of Native American human remains and cultural objects from any collection receiving federal funding, such as museums, universities, or governments. Compliance with NAGPRA is essential to respect tribal cultural values, spiritual practices, and ancestral connections, and tribes are central decision makers in determining appropriate treatment and reburial of human remains and sacred objects. Noncompliance with this act can result in civil and criminal penalties.

STATE

California Environmental Quality Act

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 effect on the environment. The CEQA Guidelines define four ways that a property can qualify as a historical resource for purposes of CEQA compliance:

- The resource is listed in or determined eligible for listing in the CRHR, as determined by the State Historical Resources Commission.
- The resource is included in a local register of historical resources, as defined in PRC Section 5020.1(k), or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g), unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

- The lead agency determines the resource to be significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, as supported by substantial evidence in light of the whole record.
- The lead agency determines that the resource may be a historical resource as defined in PRC Sections 5020.1(j) or 5024.1 (CEQA Guidelines Section 15064.5), which means, in part, that it may be eligible for the CRHR.

In addition, PRC Section 21083.2 (CEQA Statute) and CEQA Guidelines Section 15126.4 specify lead agency responsibilities in determining whether a project may have a significant effect on archaeological resources. If it can be demonstrated that a project will damage a unique archaeological resource, 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. The PRC also details required mitigation if unique archaeological resources are not preserved in place. Tribal knowledge, cultural values, and traditional landscapes may not be readily apparent through archaeological or historical evaluation alone. Therefore, meaningful government-to-government consultation with tribes is critical to ensure that tribal perspectives guide the identification, evaluation, and protection of historic or archaeological resources. (See additional discussion under "Native American Historic Resources Protection Act" and Section 3.18, *Tribal Cultural Resources,* of this Draft EIR.)

CEQA Guidelines Section 15064.5(e) requires that excavation activities stop whenever human remains are uncovered during a project or activity, and that the county coroner be called in to assess the remains. If the county coroner determines that the remains are Native American, the Native American Heritage Commission (NAHC) must be contacted within 24 hours. At that time, the lead agency must consult with the appropriate Native American descendants, if any, as identified by the NAHC. Under certain circumstances, the lead agency (or applicant), is required to develop an agreement with the Native American descendants for the treatment and disposition of the remains. In addition to the mitigating provisions pertaining to accidental discovery of human remains, CEQA Guidelines Section 15064.5(f) also requires that a lead agency make provisions for the accidental discovery of historical or archaeological resources. These provisions should include an immediate evaluation of the find by a qualified archaeologist. If the find is determined to be a Historical Resource or Unique Archaeological Resource, avoidance measures should be implemented, or appropriate mitigation should be available.

Native American Historic Resource Protection Act

In addition to historical and archaeological resources, PRC Section 21074 recognizes TCRs under the Native American Historic Resource Protection Act, commonly referred to as its legislative bill number Assembly Bill (AB) 52, passed in 2014. This act amended CEQA to address California Native American tribal concerns regarding how cultural resources of importance to tribes are treated under CEQA and created the new TCR category. CEQA identifies a TCR as a separate and

distinct category of resource, separate from, but related to, a historical resource or archaeological resource. CEQA specifies that a project that may cause a substantial adverse change in the significance of a TCR (as defined in CEQA Statute or PRC Section 21074[a]) is a project that may have a significant effect on the environment. To help determine whether a project may have such an effect, the CEQA Statute requires a lead agency to consult with any California Native American tribe that requests consultation and is traditionally and culturally affiliated with the geographic area of the proposed project. According to AB 52, tribes may have expertise in tribal history and "tribal knowledge about land and TCR at issue should be included in environmental assessments for projects that may have a significant impact on those resources."

CEQA Section 21074(a) defines a TCR as a site, feature, place, or cultural landscape that is geographically defined in terms of size and scope, sacred place, and object with cultural value to a California Native American tribe that is either included or eligible for inclusion in the CRHR or included in a local register of historical resources, or if Lake County, acting as the lead agency, supported by substantial evidence, chooses at its discretion to treat the resource as a TCR. Because these criteria also meet the definition of a historical resource under CEQA, a TCR may also require additional consideration as a historical resource. A TCR may or may not exhibit archaeological, cultural, or physical indicators.

PRC Sections 21080.3.1 and 21080.3.2 state that lead agencies must consult with California Native American tribes that are traditionally and culturally affiliated with the project area and have requested notification. The goal of consultation is to identify potential project effects on TCRs and to develop mutually agreed-upon measures for avoidance, minimization, or mitigation. PRC Section 21080.3.2 provides that the tribal consultation process includes, but is not limited to, discussing the type of environmental review necessary, the significance of a TCR, the significance of the project impacts on the TCR, and alternatives and mitigation measures recommended by the tribe. If the California Native American tribe requests consultation to include project alternatives, mitigation measures, or significant effects, the consultation would be required to cover those topics. PRC Section 21082.3 provides that any mitigation measures agreed upon during this consultation "shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring program" if determined to avoid or lessen a significant impact on a TCR. Consultation is considered concluded when:

1. The parties agree to measures to avoid or reduce a significant impact on a TCR if such a significant impact exists, or
2. When a party concludes that mutual agreement cannot be reached.

If no formal agreement on the appropriate mitigation has been established, mitigation measures that avoid or substantially lessen potential significant impacts should be implemented.

California Register of Historic Resources

The California Register of Historic Resources (CRHR) establishes a list of properties to be protected from substantial adverse change (PRC Section 5024.1). A historical resource may be listed in the California Register if it is historically or archaeologically significant, is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, or cultural annals of California, or is a site, place, or landscape of cultural significance to California Native American tribes, and 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 people who were 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; or
- It has yielded, or is likely to yield, information important in prehistory or history.

For many TCRs, integrity is reflected not only in physical form but also in the continuity of cultural use, spiritual association, or traditional knowledge connected to the site. These values are best identified through consultation with the affected tribes and their THPOs.

The CRHR includes properties that are listed or have been formally determined eligible for listing in the NRHP, State Historical Landmarks, and eligible Points of Historical Interest. Other potential resources require nomination for inclusion in the CRHR.

For a property to be eligible for listing in the CRHR, it must possess integrity as well as be significant. Integrity is the authenticity of a property's historic identity, evidenced by the survival of physical characteristics that existed during the property's historic or prehistoric period. Loss of integrity, if sufficiently great, will render a resource ineligible for the CRHR. Integrity is determined through application of seven factors:

- **Location.** The place where the historic property was constructed or the place where the historic event occurred.
- **Design.** The combination of elements that create the form, plan, space, structure, and style of a property.
- **Setting.** The physical environment of the historic property.
- **Materials**. The physical elements that were combined or deposited during a particular period and in a particular pattern or configuration form a historic property.
- **Workmanship**. The physical evidence of the crafts of a particular culture or people during any given period in history or prehistory.
- **Feeling**. A property's expression of the aesthetic or historic sense of a particular period.

- **Association**. The direct link between an important historic event or person and a historic property.

Historical Building Code

The California Historical Building Code (Code of California Regulations [CCR] Title 24 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 a 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 the California Historical Building Code.

Government Code Section 65352.3-5

California Government Code Section 65352.3-5, commonly known by its legislative bill number, 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. Tribal consultation under Government Code Section 65362.3-5 is a government-to-government process where the city or county must engage in meaningful consultation with culturally affiliated tribes. The intent of this legislation is to preserve or mitigate impacts on places, features, and objects, as defined in PRC Section 5097.9 and PRC Section 5097.993, that are within the city's or county's jurisdiction but that may not be visible or formally recorded. Tribes provide the most reliable information regarding the location, significance, and appropriate treatment of their cultural resources. Government Code Section 65362.3-5 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.

Public Resources Code and Health and Safety Code

PRC Section 5097.5(a) specifies that a person shall not knowingly and willfully excavate upon, or remove, destroy, injure, or deface any historic or prehistoric ruins; burial grounds; archaeological sites; or Native American sanctified cemeteries, places of worship, and cultural sites, which can include fossilized footprints, inscriptions made by human agency, rock art, or any other archaeological or historical feature situated on public lands, except with the express permission of the public agency having jurisdiction over the lands. *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. County and city lands are exempt from this provision, except for parklands larger than 100 acres. PRC Sections 5097.9–5097.991 protect Native American sanctified cemeteries, places of worship, and cultural sites. The NAHC is the State authority responsible for identifying and protecting sacred sites and burial locations.

Health and Safety Code Section 7052 states that disturbance of Native American cemeteries is a felony. Health and Safety Code Section 7050.5(b) specifies protocols for the discovery of human remains during project activities. The unauthorized disturbance of Native American sites can violate both state and federal laws protecting tribal cultural heritage.

If human remains are discovered or identified in any location other than a dedicated cemetery, there should be no further disturbance or excavation nearby until the county coroner has determined that the area is not a crime scene that warrants further investigation into the cause of death and has made recommendations to the persons responsible for the work in the manner provided in PRC Section 5097.98 (the California Native American Historical, Cultural, and Sacred Sites Act). This section, which applies to both State and private lands, provides guidance for proceeding when human remains associated with Native American burials and associated items are encountered. If the remains are of a Native American, the coroner must notify the NAHC within 24 hours of making that determination (Health and Safety Code Section 7050[c]). The NAHC then notifies the person or persons most likely to be descended (MLD), as determined by the NAHC, from the Native American remains. This act stipulates the procedures that the MLD may follow for treating or disposing of the remains and associated grave goods. Accordingly, the treatment and disposition of Native American remains and associated cultural items are determined in consultation with the MLD and the affiliated Tribe, not solely by the lead agency. Specifically, the role of the NAHC and the MLD are identified under PRC Section 5097.98. That these laws recognize the cultural and spiritual importance of ancestral remains and require their respectful handling consistent with tribal customs.

California Code of Regulations

Archaeological resources on lands that are administered by the California Department of Parks and Recreation (CDRP) are addressed in CCR Title 14, Division 3, Chapter 1. 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. Additionally, many archaeological features on California Department of Parks and Recreation land may also be TCR as defined under PRC Section 21074, as they are of tribal origin and hold ongoing cultural and spiritual importance. The CDPR has an obligation to consult with culturally affiliated California Native American tribes when management or ground-disturbing activities could affect such resources. TCRs, as defined under PRC Section 21074, may also occur within State Parks and require protection under CEQA and related laws.

LOCAL

Code of Ordinances

The Lake County Code of Ordinances (LCCO) includes various directives that pertain to cultural resources. The LCCO is organized by chapter, article, and section. Most provisions related to cultural resources are included in Chapter 5, *Building Regulations*; Chapter 21, *Zoning*; Chapter 23, *Clear Lake Shoreline*; and Chapter 30, *Grading Ordinance*, as follows:

- **Chapter 5, *Building Regulations*.** Section 5-4J, *Adoption of California Historical Building Code*: This section adopts the 2022 California Historical Building Code.
- **Chapter 21, *Zoning.*** Article 38, *Historic Preservation or "HP" Combining District*: This article is relevant to the protection, enhancement, perpetuation, and use of places that have special character or special historical value. This designation may be used for sites, structures, or districts that have been officially designated as significant by local, state, or federal agencies; or other sites, buildings, or structures having a special character or special historic value. The alteration of a structure on a landmark site or in a historic district may require a major use permit or be reviewed by the Cultural Resource Commission.
- **Chapter 23, *Clear Lake Shoreline.*** Section 23-5, *Standards for Regulating Uses, Operations, Construction, and Alterations, and Activities on the Lake*: This section stipulates that it will withhold an encroachment permit for any activities that will cause significant harm to archaeological or historical resources of state-wide significance.
- **Chapter 30, *Grading Ordinance.*** Section 8, *Cultural Resources*: This section outlines procedures during grading activities for historical, archaeological, paleontological, and Native American sites. This section provides procedures in the event human remains are found, as well as when historical resources, archaeological and paleontological sites, and Native American sites are encountered.

It is important to note that TCRs exist within the county, including areas regulated under zoning, grading, shoreline, or building regulations. As previously described under the "State" regulations, TCRs can include archaeological sites, historical sites, sacred places, cultural landscapes, or locations of ongoing cultural practices. Because tribal significance may not be evident through typical land-use or zoning reviews, and that cultural or spiritual values may extend beyond physical structures or sites, the State recognizes that local ordinances can affect TCRs and that compliance requires coordination and consultation with tribes as an important and required part of the project approval and entitlement process. Accordingly, there are State mandated requirements to ensure that TCRs are considered as part of the County's entitlement processes, which have been summarized under the subheading "State" in the previous section.

With respect to these sections and how they relate to TCRs, regulated under State procedures in coordination with the lead agency and the tribes, the following should be noted:

- **Zoning**
  - TCRs may exist within or near these districts and that their significance often extends beyond architectural or visual features.
  - TCRs may not be formally designated by local, state, or federal agencies but still have cultural, spiritual, or historical importance.
  - Consultation with culturally affiliated Tribes and THPOs is essential before any alteration, grading, or construction activity affecting TCRs.
  - Tribal significance includes traditional, ceremonial, and ancestral associations, which may not be evident from the physical appearance of the site or structure.
  - Protection measures should incorporate Tribal knowledge and cultural protocols alongside standard historic preservation requirements.
- **Clear Lake Shoreline**
  - TCRs along the lake and the lake itself may be significant, even if not formally designated as state or federally recognized.
  - Tribal significance may not be captured solely by NRHP or CRHR status—many sites are culturally or spiritually important to tribes.
  - Tribal consultation is required before approving encroachments, construction, or alterations that could affect TCRs, in accordance with PRC Sections 21074, 5097.9, and AB 52.
  - Traditional use areas, sacred sites, and ancestral landscapes along the shoreline and in the lake may require protection even if they lack visible structures or archaeological features.
  - Permitting decisions should incorporate Tribal knowledge and cultural protocols to avoid inadvertent disturbance of these resources.
- **Grading Ordinance**
  - TCRs may include sacred sites, traditional use areas, cultural viewsheds and ancestral landscapes, which may not be apparent or recorded in existing databases.
  - Discovery protocols for human remains must prioritize tribal consultation in accordance with Health and Safety Code Sections 7050.5 and 7052, and PRC Sections 5097.98 and 5097.9.
  - All grading and excavation activities should avoid or minimize impacts to TCRs whenever feasible.
  - Tribal knowledge and guidance are critical for identifying and evaluating cultural significance, determining appropriate treatment, and implementing mitigation measures.
  - Confidentiality of tribal site locations and sensitive information must be maintained throughout grading and reporting processes.

3.5.2 Existing Conditions

METHODS

Cultural resources data was obtained via a records search at the Northwest Information Center (NWIC) of the California Historical Resources Information System at California State University, Sonoma. A records search request was sent on April 1, 2025, and the results were received on May 15, 2025.

The County understands that records searches alone are not sufficient for identifying TCRs since, as stated previously, many TCRs, sacred sites, and traditional use areas may not be recorded in NWIC or other historical/archaeological databases, reliance solely on previously documented resources risks overlooking sites of ongoing cultural, spiritual, or ancestral significance. This could be due to a variety of reasons including NWIC records may be outdated or incomplete, and additional field surveys or oral histories provided by Tribes may reveal new or previously undocumented resources and information provided by Tribes about TCRs must be protected and not publicly disclosed, which may not be addressed by a standard records search. Tribal consultation is essential and direct engagement with culturally affiliated Tribes and their THPOs is necessary to identify resources that may not appear in public records, which is consistent with the requirements outlined under Section 3.5.1, *Regulatory Framework*; specifically, federal NHPA Section 106 guidance and PRC Sections 21074 and 5097.9, AB 52. Accordingly, tribal consultation was conducted as part of the proposed project to support existing conditions as described further in Section 3.18, *Tribal Cultural Resources,* of this Draft EIR.

COUNTYWIDE AREA

Lake County is named after the largest natural body of fresh water, Clear Lake, which is situated in the heart of the county and at the base of the grandeur of the dominant volcano Mount Konocti. The Eastern Pomo, Southeastern Pomo, and Lake Miwok have lived in present-day Lake County and the surrounding area for thousands of years. Following the arrival of European Americans, Lake County's largest industries became agriculture, lumber, and mining.

Today, visitors are drawn to Lake County to visit campgrounds and hiking trails, as well as enjoy water-based activities and the numerous mineral and geothermal hot springs in the area. Several historic markers, such as the first adobe in Lake County, Old Lake County Courthouse, Lower Lake Stone Jail, and many others, provide visitors with information about the history of Lake County and surrounding areas.

Archaeological and Historical Resources

As previously stated, national and State registers do not capture the full range of resources important to California Native American tribes, including sacred sites, traditional use areas, and ancestral landscapes. Direct consultation with culturally affiliated tribes and THPOs is essential to identify, evaluate, and protect these resources, and all sensitive information must be treated confidentially. Therefore, it is acknowledged that the following information is limited to what is known in the EIR Study Area and there may be unknown resources in the EIR Study Area.

Archaeological Resources

Many cultural resource surveys have been completed within Lake County, and as a result numerous cultural resources have been recorded. Significant portions of the county have not been previously surveyed, and there is the potential for significant prehistoric and historic cultural resources to be located within these areas.

Historical Resources

Seven Historic Properties are listed in the NRHP and seven historical resources, as shown in Table 3.5-1, *Federal- and State-Recognized Historic Resources*. One resource, the Old Lake County Courthouse, is listed in both registers.

Table 3.5-1 Federal- and State-Recognized Historic Resources

Resource	Location	Planning Area	NRHP	California State Landmark
Anderson Marsh Archaeological District	Address Restricted	Lower Lake	N656	–
Archaeological Site No. CA-LAK-711	Address Restricted	Middletown	N780	–
Borax Lake-Hodges Archaeological Site	Address Restricted	Lower Lake	N1738	–
Cache Creek Archaeological District	Address Restricted	Lower Lake	N2001	–
Old Lake County Courthouse	255 North Main Street	Lakeport	N59	897
Lakeport Carnegie Library	200 Park Street	Lakeport	N2406	–
Patwin Indian Site	Address Restricted	East Lake Communities	N152	–

Table 3.5-1 Federal- and State-Recognized Historic Resources

Resource	Location	Planning Area	NRHP	California State Landmark
Stone and Kelsey Home	Intersection of Main Street and Bell Hill Road, Kelseyville	Kelseyville	–	450
Battle of Bloody Island	Intersection of SR-20 and Reclamation Road, 1.7 miles southeast of Upper Lake	North Lake Communities	–	427
Sulphur Bank Mine	Intersection of State Hwy SR-20 (P.M. 29.5) and Sulphur Bank Rd, 1.5 miles south of Clearlake Oaks	East Lake Communities	–	428
Lower Lake Stone Jail	0.1 mi south of intersection of State SR-29 and SR-53, 16118 Main Street, Lower Lake	Lower Lake	–	429
Stone House	Northeast corner SR-29 and Hidden Valley Road, 5.3 miles north of Middletown	Middletown	–	450
Helena Toll Road And Bull Trail	Northwest corner of State SR-29 (P.M. 5.5) and Hill Avenue, Middletown	Middletown	–	467

Sources: NPS 2023; OHP 2023.

Notes: Hwy = Highway; N = North; NRHP = National Register of Historic Places; NW = Northwest; P.M. = Post Mile; Rd. = Road; S = South; SE = Southeast; St. = Street

PLANNING AREAS

A summary of the results of the records search of the NWIC are presented in Table 3.5-2, *Cultural Resources in Lake County*. The counts below total more than the total number of resources because some of the resources are listed as multiple resource types (i.e., built environment and multi-component) and some resources span multiple communities.

Table 3.5-2 Cultural Resources in Lake County

Planning Area	Number of Pre-Contact Resources	Number of Historic-Era Resources	Number of Multi-Component Resources (Pre-contact and Historic-era)	Number of Built Environment Resources	Totals
Cobb Mountain	219	101	21	28	302
East Lake Communities	278	79	30	30	332
Kelseyville	193	34	12	18	223
Lakeport	72	13	7	6	83
Lower Lake	184	70	16	13	239
Middletown	296	141	33	40	409
North Lake Communities	150	112	32	42	238
Rivieras	81	40	2	5	119

Source: NWIC Search No. 24-1457. Letter dated May 9, 2025.

Cobb Mountain Planning Area

- **Pre-contact Environment.** The Upland Areas of Cobb Mountain was used by over five linguistically different tribal groups: Northern Wappo, Western Wappo, Eastern Pomo, Southeastern Pomo, and Lake Miwok.
- **Archaeological Resources.** There are more than 200 recorded pre-contact and historic-era archaeological resources within the Cobb Mountain Planning Area. Pre-contact archaeological resources include major villages, hunting camps, resource gathering and processing sites, and obsidian quarries. Historic-era resources represent logging, mining, residential, resort, and agricultural activities.
- **Built Environment Resources.** There are 28 recorded built environment resources within the Cobb Mountain Planning Area. As shown in Table 3.5-1, *Federal- and State-Recognized Historic Resources,* no listed NRHP or State Landmark resources are in the Cobb Mountain Planning Area. However, the Cobb Valley School was nominated as a California Point of Historical Interest.

East Lake Communities Planning Area

- **Pre-contact Environment.** The Clear Lake Basin is within the East Lake Communities Planning Area. Many of the sites within the Clear Lake Basin are part of the ancestral homeland of the Lake Pomo, Lake Miwok, Hill Patwin, and Wappo Tribes, most of whose people have lived in the area since time immemorial. The Clear Lake Basin includes traditional village locations, ceremonial areas, and resource gathering sites that remain culturally and spiritually significant to the Tribes today. The Elem Indian Colony recognizes these areas as part of a living cultural landscape (Geary 2025).

- **Archaeological Resources.** Within the East Lake Communities Planning Area, Rattlesnake Island is approximately 800 feet away from the shore of the Sulfur Bank Mine. There are recorded archaeological sites on Rattlesnake Island, known to local Pomo people as the original village of *Elem*. It is a sacred site and part of the Tribe's ancestral homeland. It remains central to the Tribe's cultural and spiritual traditions. Archaeological sites in the Planning Area are part of a connected cultural landscape, not isolated artifacts. Protection efforts should include Tribal consultation, cultural monitoring, and respect for traditional knowledge and cultural values that are still practiced today in this Planning Area (Geary 2025). Additionally, over 300 archaeological resources are located elsewhere within the Planning Area. Two archaeological resources are listed on the NRHP or CRHR:
  - Patwin Indian Site is listed on the NRHP and is estimated to be between 200 to 300 hundred years old.
  - Sulphur Bank Mine is listed on the CRHR. It is an inactive mine located on the shoreline of Clear Lake. The mine produced sulfur from 1865 to 1871, then produced mercury until 1957.
- **Built Environment Resources.** Approximately 30 built environment resources have been recorded within the East Lake Communities Planning Area.

Kelseyville Planning Area

- **Pre-contact Environment.** The Kelseyville Planning Area was inhabited primarily by the Eastern Pomo. The Planning Area lies within the ancestral homeland of the Big Valley Band of Pomo Indians. The Big Valley Band maintains deep cultural, spiritual, and historical connections to this landscape, which includes traditional village sites, seasonal camps, and areas used for fishing, hunting, and plant gathering. The Big Valley Band of Pomo recognizes these places as part of an interconnected cultural landscape that continues to hold meaning for the tribe today. Additionally, Wappo tribes lived in the area temporarily, though their ancestral land is along the Napa River.
- **Archaeological Resources.** The Kelseyville Planning Area contains more than 200 pre-contact and historic-era cultural resources.
- **Built Environment Resources.** There are more than 75 recorded historic cultural resources within the Kelseyville Planning Area. Built environment resources include the Stone and Kelsey Home, which is listed as a California State Landmark, as presented in Table 3.5-1, *Federal- and State-Recognized Historic Resources.*

Lakeport Planning Area

- **Pre-contact Environment.** The Lakeport Planning Area was inhabited primarily by the Eastern Pomo; however, a small area in Big Valley was occupied by the Wappo and the most northern part of the Planning Area, near Lake Pillsbury, was occupied by the Wialaki/Round Valley Tribes. The Scotts Valley Band of Pomo Indians, Wialaki, and Round Valley Tribes have

land within the Lakeport Planning Area. The Wappo tribes do not consider this area as their ancestral land.

- **Archaeological Resources.** There are more than 75 recorded cultural resources within the Lakeport Planning Area. This area was intensively inhabited, and development should be investigated before approval.
- **Built Environment Resources.** The Lakeport Planning Area contains six previously recorded built environment resources. As shown in Table 3.5-1, *Federal- and State-Recognized Historic Resources*, the Lakeport Carnegie Library and the Lake County Courthouse are both in the Lakeport Planning Area. The Lakeport Carnegie Library is on the CRHR; the Lake County Courthouse is on both the NRHP and CRHR.

Lower Lake Planning Area

- **Pre-contact Environment.** The area around Lower Lake was inhabited by two ethnographic groups, the Southeastern Pomo and Lake Miwok. The territory of the Southeastern Pomo was located north of Cache Creek and Lower Lake; the territory of Lake Miwok was located to the south of Lower Lake. This region contains traditional village sites, resource gathering areas, and sacred places that remain important to descendant Tribal communities today.
- **Archaeological Resources.** Over 300 archaeological resources have been recorded in the Lower Lake Planning Area. Three pre-contact archaeological resources are listed on either the NRHP or CRHR within the Lower Lake Planning Area:
  - Anderson Marsh Archaeological District
  - Borax Lake-Hodges Archaeological Site
  - Cache Creek Archaeological District

  All development requiring a discretionary permit should be investigated before getting approved given the density of resources within this Planning Area.

- **Built Environment Resources.** There are 13 recorded built environment resources in the Lower Lake Planning Area. As shown in Table 3.5-1, *Federal- and State-Recognized Historic Resources*, the Lower Lake Stone Jail is listed on the CRHR. Additionally, the Lower Lake Schoolhouse and Konocti Grange Hall are listed as California Points of Historical Interest. Other properties in Lower Lake that may require evaluation include the Methodist Church, the Old Locker Plant, the HeadStart building site, Magoon's building site, the Link property (flour mill), the Vernon House, the Parks House, and the Babe Smith House.

Middletown Planning Area

- **Pre-contact Environment.** The area around Middletown was inhabited by three ethnographic groups: the Wappo, the Lake Miwok and the Patwin. The territory of the Wappo was divided into two portions, one small (the southern portion of the City of Clearlake) and one large, encompassing the south, central and western portions of the

Middletown Planning Area. The Lake Miwok were hunters and gatherers who had permanent dwelling areas along the drainages of several small creeks and stream valleys south of Clear Lake. The Patwin inhabited the easternmost portion of the Middletown Planning Area.

- **Archaeological Resources.** The Middletown Planning Area contains the highest number of pre-contact and historic-era resources in Lake County. Archaeologically, the Middletown Planning Area contains high densities of prehistoric sites and is considered an extremely sensitive area. Among the more than 300 archaeological sites with pre-contact components is resource CA-LAK-711, which is listed on the NRHP.
- **Built Environment Resources.** There are 40 recorded built environment resources in the Middletown Planning Area. Two of these are listed in the CRHR: the Stone House and the Helena Toll Road and Bull Trail.

North Lake Communities Planning Area

- **Pre-contact Environment.** The North Lake Communities Planning Area lies within the ancestral homeland of the Habematolel Pomo of Upper Lake and Robinson Rancheria. This area contains traditional village sites and culturally important places that remain significant to the tribes.
- **Archaeological Resources.** There are more than 250 known archaeological sites in the vicinity of this Planning Area, including 150 pre-contact resources, 112 historic-era archaeological resources, and 32 with both pre-contact and historic-era components. One of the historic-era resources is listed on the CRHR: Battle of Bloody Island.
- **Built Environment Resources.** Historic archaeological resources may include artifacts from Spanish soldiers, Kelsey and Stone, and U.S. troops, as well as agriculture. A total of 42 built environment resources have been recorded within the North Lake Communities Planning Area. Built environment resources may include Scotts Dam, hotels and tourist resorts, and residential subdivisions.

Rivieras Planning Area

- **Pre-contact Environment.** The Rivieras Planning Area is part of the ancestral homelands of the Southeastern Pomo, Eastern Pomo, and Wappo people, whose ancestors established villages, seasonal camps, and resource gathering areas throughout the region. The Southeastern Pomo and Eastern Pomo occupied most of the territory surrounding the southern end of Clear Lake and the Wappo primarily lived on about five square miles near Mount Konocti. Many of these sites retain cultural, historical, and spiritual significance to descendant Tribes today.

- **Archaeological Resources.** The Rivieras Planning Area contains over 100 archaeological resources. The Rivieras Planning Area lies within the ancestral homeland of the Southeastern Pomo, Eastern Pomo, and Wappo peoples, whose descendants continue to maintain cultural, spiritual, and historical connections to this region. Archaeological sites in the area are part of a broader living cultural landscape that includes villages, ceremonial areas, and resource gathering locations. The Southeastern Pomo followed an annual subsistence cycle and lived in circular, tule-reed houses. These houses were situated around a central ceremonial house or sweathouse. Pre-contact resources within the Rivieras Planning Area may include remnants of these houses and villages, as well as areas of resource procurement (Geary 2025).
- **Built Environment Resources.** There are five recorded built environment resources within the Rivieras Planning Area. Although there are properties within the area listed on the NRHP or CRHR, several unevaluated properties are assumed eligible for listing on either or both lists.

3.5.3 Standards for Analysis

Appendix G, *Environmental Checklist Form*, of the CEQA Guidelines states that the proposed project would result in a significant impact on cultural resources if it would:

a) Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5.

c) Disturb any human remains, including those interred outside of dedicated cemeteries.

3.5.4 Project Impact Discussion

a) Would the project cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5?

The types of cultural resources that meet the definition of historical resources under CEQA Section 21084.1 generally consist of districts, sites, buildings, structures, and objects that are significant for their traditional, cultural, and/or historical associations. Under CEQA, both prehistoric and historic-period archaeological sites may qualify based on historical associations. As such, the two main historical resources that are subject to impact, and that may be impacted by implementation of the proposed project, are historical architectural resources and historical archaeological deposits. Impacts on archaeological resources are described in impact discussion (b), and human remains are addressed under impact discussion (c).

As described in Section 3.5.2, *Existing Conditions*, several known historical resources exist in the EIR Study Area, and there remains the potential for unknown resources to exist or to be identified over the course of the 25-year buildout horizon of the proposed project. Therefore, implementation of the proposed project could have the potential to directly impact known and unknown historic resources by altering land use regulations that govern these properties or surrounding sites. Potential future development in the EIR Study Area could cause a significant impact on historical resources if new construction were incompatible with the existing historical resources' site relationships that contribute to the significance of the existing property, or if the massing (height and bulk) of new construction were incompatible with the historical resource. Lastly, the design characteristics and materials of new construction could impact adjoining or nearby historical buildings. If new development near historic properties is not compatible, impacts on historical resources could be significant. Additionally, if new development were to directly impact existing resources, impacts on historical resources could be significant.

Section 5-4J of LCCO Chapter 5, *Building Regulations,* adopted the California State Historic Building Code, which provides regulations for permitting repairs, alterations, and additions necessary for the preservation, rehabilitation, relocation, related construction, change of use, or continued use of a qualified historical building or structure. LCCO Chapter 21, *Zoning*, Article 38, *Historic Preservation or "HP" Combining District,* is in place to protect, enhance, and regulate use of places that have special character or special historical value. The alteration of a structure on a landmark site or in a historic district may require a major use permit or be reviewed by the Cultural Resource Commission. In addition, tribal consultation may be required to determine the appropriate means required for both review and significance.

Furthermore, the proposed General Plan 2050 contains policies and actions that require local planning and development decisions to consider impacts on historic resources and that would serve to minimize those impacts to historic resources. These are shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation CUL. In particular, the following key policies and actions would serve to minimize potential impacts to historic resources in the EIR Study Area:

- Policies CM-LU-3.9, EL-LU-3.9, K-LU-3.9, L-LU-3.9, LL-LU-3.9, M-LU-3.9, NL-LU-3.9, and R-LU-3.9 require the County to maintain the character of established neighborhoods by preserving buildings and areas with special and recognized historic, architectural, or aesthetic value. Ensure the design of new development and remodels of existing structures are compatible with the character of surrounding and adjacent buildings, public spaces, and cultural and historic resources and require new development to complement architecturally and historically significant buildings to protect the overall historic integrity of the area.
- Policies CM-LU-3.12, L-LU-3.13, NL-LU-3.12, and R-LU-3.12 require the County to encourage and support efforts to promote a greater public awareness of the county's architectural, urban design, and Tribal cultural heritage.

- Actions CM-LU-3.a, K-LU-3.a, L-LU-3.a, LL-LU-3.a, M-LU-3.a, NL-LU-3.a, and R-LU-3.a require coordination with local nonprofit and other non-governmental organizations to install or maintain public art and gateway, wayfinding, and interpretive signage in Cobb, Loch Lomond, Pine Grove, Seigler Springs, and Whispering Pines to support each area's sense of place; foster an understanding and appreciation for local history and culture, including Tribal culture; promote inclusivity; and improve the visual quality of each community.
- Actions CM-LU-3.d, EL-LU-3.g, K-LU-3.d, L-LU-3.e, LL-LU-3.d, M-LU-3.d, NL-LU-3.e, and R-LU-3.d require work with local preservation groups and community property owners to improve building facades and exteriors, consistent with the historic and visual character of the surrounding area.
- Actions CM-LU-3.e, EL-LU-3.h, K-LU-3.e, L-LU-3.f, LL-LU-3.e, M-LU-3.f, NL-LU-3.f, and R-LU-3.e require the County to amend the Zoning Ordinance to allow adaptive reuse of historic resources that preserves the integrity of the resource while allowing for its ongoing use.
- Policies CM-OS-2.1*, EL-OS-2.1*, K-OS-2.1*, L-OS-2.1*, LL-OS-2.1*, M-OS-2.1*, NL-OS-2.1*, and R-OS 2.1* require review of proposed development projects in conjunction with the California Historical Resources Information System, Northwest Information Center, at Sonoma State University, to determine whether project areas contain known archaeological resources, both prehistoric and/or historic-era, and Tribal Cultural Resources, or if they have the potential to hold such resources, and if so, implement mitigation to protect the resource.
- Policies CM-OS-2.2*, EL-OS-2.2*, K-OS-2.2*, L-OS-2.2*, LL-OS-2.2*, M-OS-2.2*, NL-OS-2.2*, and R-OS 2.2* require, whenever possible, that new development preserve significant historical, archaeological, or paleontological resources on-site through project design. If on-site preservation is not feasible, mitigate impacts through techniques such as relocation of structures, adaptive reuse, preservation of facades, and thorough documentation and archival of records. Any documentation of historic resources shall be conducted in accordance with Historic American Building Survey Level III standards, as defined by the US Secretary of the Interior.
- Policies CM-OS-2.3*, EL-OS-2.3*, K-OS-2.3*, L-OS-2.3*, LL-OS-2.3*, M-OS-2.3*, NL-OS-2.3* and R-OS-2.3* require, upon discovery of significant archaeological, paleontological, historic, or Tribal Cultural Resources during site development, that all activity be halted within 100 feet of the find(s) and notify a professional archaeologist, paleontologist, historian, and/or local Tribal government representative (if appropriate) to evaluate the find(s) and recommend mitigation procedures, if necessary. Findings and mitigation measures are subject to review and approval by the Lake County Planning Commission prior to resuming site development work.
- Policies CM-OS-2.4*, EL-OS-2.4*, K-OS-2.4*, L-OS-2.4*, LL-OS-2.4*, M-OS-2.4*, NL-OS-2.4*, and R-OS-2.4* require, as a condition of approval for discretionary grading permits, that construction employees be trained in recognizing potentially significant archaeological, paleontological, historic, or Tribal Cultural Resources that may be discovered during ground-

disturbing activities. Requires project proponents to submit verification that all site workers have received sensitivity training prior to commencement of ground-disturbing activities.

- Policies CM-OS-2.5*, EL-OS-2.5*, K-OS-2.5*, L-OS-2.5*, LL-OS-2.5*, M-OS-2.5*, NL-OS-2.5*, and R-OS-2.5* require discretionary review for demolition permit applications on important historic sites to mitigate impacts.
- Policies CM-OS-2.6, EL-OS-2.6, K-OS-2.6, L-OS-2.6, LL-OS-2.6, M-OS-2.6, NL-OS-2.6, and R-OS-2.6 require the protection of cultural and archaeological sites with potential for placement on the National Register of Historic Places and/or inclusion in the California State Office of Historic Preservation's California Points of Interest and California Register of Historical Resources. Such sites may be of statewide or local significance and have anthropological, cultural, military, political, architectural, economic, scientific, religious, or other values.
- Policies CM-OS-2.7, EL-OS-2.7, K-OS-2.7, L-OS-2.7, LL-OS-2.7, M-OS-2.7, NL-OS-2.7, and R-OS-2.7 require following the Secretary of the Interior Standards for Preservation, Rehabilitation, Restoration, and Reconstruction for the treatment of historic properties.
- Policies CM-OS-2.8, EL-OS-2.8, K-OS-2.8, L-OS-2.8, LL-OS-2.8, M-OS-2.8, NL-OS-2.8, and R-OS-2.8 require the County to prioritize preservation and adaptive reuse of buildings, sites, and areas with identified archaeological, cultural, or historic significance.
- Policies CM-OS-2.11, EL-OS-2.11, K-OS-2.11, L-OS-2.12, LL-OS-2.11, M-OS-2.11, NL-OS-2.11, and R-OS-2.11 require the County to conduct education and outreach to the community about the various federal, Tribal, State, local, and private funding sources and economic mechanisms available to support historic resource preservation.
- Actions CM-OS-2.a, EL-OS-2.a, K-OS-2.a, L-OS-2.a, LL-OS-2.a, M-OS-2.a, NL-OS-2.a, and R-OS-2.a require contracting with a qualified cultural resource coordinator for the development of review procedures and ordinances for the protection of cultural heritage resources, including mechanisms for the protection of identified cultural sites from vandalism and instances when owners of designated historic properties assert economic hardship.
- Actions CM-OS-2.b*, EL-OS-2.b*, K-OS-2.b*, L-OS-2.b*, LL-OS-2.b*, M-OS-2.b*, NL-OS-2.b*, and R-OS-2.b* require contracting with an archaeologist(s) that meets the Secretary of the Interior's Professionally Qualified Standards to perform cultural resource studies for environmental analysis on discretionary projects where a cultural resource report is deemed necessary, including outreach to Tribal governments for input on Tribal Cultural Resources.
- Actions CM-OS-2.c, EL-OS-2.c, K-OS-2.c, L-OS-2.c, LL-OS-2.c, M-OS-2.c, NL-OS-2.c, and R-OS-2.c require establishing a process for considering the designation of structures older than 50 years as historic structures or landmarks eligible for special recognition and preservation protections.
- Action CM-OS-2.d engages the Cobb Mountain Area community to identify appropriate sites for the Historic Preservation Combining District and application of the District to identified sites.

- Action EL-OS-2.d supports an ongoing Lake County Historic Commission to review development projects that may impact historic resources.
- Action K-OS-2.d engages the Kelseyville Area community to identify appropriate sites for the Historic Preservation Combining District and application of the District to identified sites.
- Action L-OS-2.d engages the Lakeport Area community to identify appropriate sites for the Historic Preservation Combining District and application of the District to identified sites.
- Action M-OS-2.d engages the Middletown community to identify appropriate sites for the Historic Preservation Combining District and application of the District to identified sites.
- Action NL-OS-2.d engages the North Lake Area community to identify appropriate sites for the Historic Preservation Combining District and application of the District to identified sites.
- Action R-OS-2.d engages the Rivieras Area community to identify appropriate sites for the Historic Preservation Combining District and application of the District to identified sites.
- Actions CM-OS-2.e, EL-OS-2.f, K-OS-2.e, L-OS-2.e, LL-OS-2.e, M-OS-2.e, NL-OS-2.e, and R-OS-2.e supports continued operation of the Lake County Heritage Commission to review development projects that may impact historic resources.
- Action EL-OS-2.e requires engagement of the East Lake community to identify appropriate sites for the Historic Preservation Combining District and application of the District to identified sites.
- Actions CM-OS-2.f, K-OS-2.f, L-OS-2.f, LL-OS-2.f, M-OS-2.f, NL-OS-2.f, and R-OS-2.f require preparation of a historical resources inventory for the Planning Area, using State and federal standards to evaluate their significance.
- Actions CM-OS-2.g, EL-OS-2.g, K-OS-2.g, L-OS-2.g, LL-OS-2.g, M-OS-2.g, NL-OS-2.g, and R-OS-2.g require application to the State to become a Certified Local Government, making the County eligible for historic preservation programs.
- Policies CM-OS-3.3, EL-OS-3.3, K-OS-3.3, L-OS-3.3, LL-OS-3.3, M-OS-3.3, NL-OS-3.3, and R-OS-3.3 require the County to respect and protect Tribal Cultural Resources, including historic, cultural, and sacred sites; cultural landscapes; views of or access to resources; and objects with cultural value to California tribes, recognizing that protecting Tribal Cultural Resources supports both cultural preservation and environmental health outcomes.
- Policies CM-OS-3.5, EL-OS-3.5, K-OS-3.5, L-OS-3.5, LL-OS-3.5, M-OS-3.5, NL-OS-3.5, and R-OS-3.5 require protection of cultural resource sites in subdivision projects by avoiding identification of sites on maps, relying instead on other techniques, including establishing building envelopes.
- Policies CM-OS-3.6*, EL-OS-3.6*, K-OS-3.6*, L-OS-3.6*, LL-OS-3.6*, M-OS-3.6*, NL-OS-3.6*, and R-OS-3.6* require consultation with culturally affiliated Tribal governments when developing mitigation measures to avoid or minimize impacts on Tribal Cultural Resources. Mitigation could include notification of culturally affiliated Tribal governments prior to and tribal monitoring during ground-disturbing activities.

Potential impacts from future development on historical resources could lead to (1) demolition, which by definition results in the material impairment of a resource's ability to convey its significance; (2) inappropriate modification, which may use incompatible materials, designs, or construction techniques in a manner that alters character-defining features; (3) inappropriate new construction, which could introduce incompatible new buildings that clash with an established architectural context; and (4) conflict with Tribal cultural or spiritual values that extend beyond physical structures. Any of these scenarios have the potential to change the historic fabric, setting of an architectural resource, or TCRs, including, but not limited to, traditional use areas, sacred sites, and ancestral landscapes such that the resource's ability to convey its significance may be materially impaired. Compliance with existing federal and State regulations, including Tribal consultation in place to protect known and unknown historical resources within the EIR Study Area are intended to ensure that development would not result in adverse impacts to identified historic and cultural resources. Consultation with Tribes and their THPO may be required when planning or development activities may affect ancestral sites or Traditional Cultural Properties, ensuring that Tribal knowledge and cultural values are incorporated into resource protection and management. However, because future development under the proposed General Plan 2050 has the potential to occur where historic resources may exist, known and yet to be classified, impacts from the proposed General Plan 2050 are **potentially significant.**

Impact CUL-1: Impacts to known or yet to be classified historic resources could occur from potential future development under the proposed General Plan 2050.

Significance with Mitigation: Implementation of the proposed General Plan 2050 policies and actions, as well as compliance with federal, State, and local regulations pertaining to the protection of historic resources would ensure that potential future development under the proposed project would not create a substantial adverse change in the significance of a historical resource. Specifically, proposed General Plan 2050 Policies CM-OS-2.1*, EL-OS-2.1*, K-OS-2.1*, L-OS-2.1*, LL-OS-2.1*, M-OS-2.1*, NL-OS-2.1*, and R-OS-2.1* require the review of proposed development projects in conjunction with the California Historical Resources Information System, Northwest Information Center, at Sonoma State University to determine if the EIR Study Area contains or has the potential to contain known archaeological resources, both prehistoric and/or historic-era, and TCRs; Policies CM-OS-2.2*, EL-OS-2.2*, K-OS-2.2*, L-OS-2.2*, LL-OS-2.2*, M-OS-2.2*, NL-OS-2.2*, and R-OS-2.2* requires new development to preserve significant historical, archaeological, or paleontological resources on-site through project design whenever possible; Policies CM-OS-2.3*, EL-OS-2.3*, K-OS-2.3*, L-OS-2.3*, LL-OS-2.3*, M-OS-2.3*, NL-OS-2.3* and R-OS-2.3* require all activity to be halted within 100 feet if a historic resource is found on a project site and requires notifying a professional archaeologist, paleontologist, historian, and/or local Tribal government representative (if appropriate) to evaluate the find(s) and recommend mitigation procedures, if necessary; Policies CM-OS-2.4*, EL-OS-2.4*, K-OS-2.4*, L-OS-2.4*, LL-OS-2.4*, M-OS-2.4*, NL-OS-2.4*, and R-OS-2.4* require construction employees to be trained in recognizing historic resources; Policies CM-OS-2.5*, EL-

OS-2.5*, K-OS-2.5*, L-OS-2.5*, LL-OS-2.5*, M-OS-2.5*, NL-OS-2.5*, and R-OS-2.5* require discretionary review for demolition permit applications on important historic sites to ensure impacts are mitigated; Actions CM-OS-2.b*, EL-OS-2.b*, K-OS-2.b*, L-OS-2.b*, LL-OS-2.b*, M-OS-2.b*, NL-OS-2.b*, and R-OS-2.b* require cultural resource studies for environmental analysis on discretionary projects where a cultural resource report is deemed necessary; and Policies CM-OS-3.6*, EL-OS-3.6*, K-OS-3.6*, L-OS-3.6*, LL-OS-3.6*, M-OS-3.6*, NL-OS-3.6*, and R-OS-3.6* require consultation with culturally affiliated Tribal governments when developing mitigation measures to avoid or minimize impacts on TCRs. Accordingly, implementation of the proposed General Plan 2050 would require the protection of historic resources and require new development to analyze and avoid any potential impacts to designated historic resources through record searches, Tribal consultation, preconstruction field surveys, ground-disturbance monitoring, and implementation of appropriate measures or project alternatives to avoid identified significant impacts. Finally, CEQA would require that future potential projects in the EIR Study Area with the potential to significantly impact historical resources be subject to project-level CEQA review wherein the future potential project's potential to affect the significance of a surrounding historical resource would be evaluated and mitigated to the extent feasible. The requirement for subsequent CEQA review, pursuant to State law, would minimize the potential for new development to indirectly affect the significance of existing historical resources to the maximum extent practicable. Therefore, impacts would be **less than significant.**

b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?

Historical and pre-contact archaeological deposits that meet the definition of archaeological resources under CEQA Guidelines Section 15064.5 could be damaged or destroyed by ground-disturbing activities associated with potential future development in Lake County. A substantial adverse change in the significance of an archaeological resource would occur from its demolition, destruction, relocation, or alteration such that the significance of the resource would be materially impaired per CEQA Guidelines Section 15064.5(b)(1). Should this occur, the ability of the deposits to convey their significance, either through containing information important in prehistory or history, or through possessing traditional or cultural significance to Native American or other descendant communities, would be materially impaired.

As described in Section 3.5.2, *Existing Conditions,* many cultural resource surveys have been completed within Lake County, and numerous archaeological resources have been recorded; however, significant portions of the county have not been previously surveyed, so there is the potential for significant prehistoric and historic archaeological resources to be located within these areas. These resources could also be identified as TCRs upon discovery.

Implementation of the proposed project could result in development on a number of vacant, rural, or agricultural sites that may not have been as extensively disturbed as urbanized areas.

The potential remains that archaeological deposits could be discovered because implementation of the proposed project could result in development on or in the vicinity of areas with the potential to contain significant resources. Ground-disturbing construction activities (e.g., site preparation, grading, excavation, and trenching for utilities) associated with the proposed project may result in unanticipated discoveries of cultural resources or the damage or destruction of previously undiscovered resources.

The proposed General Plan 2050 contains policies and actions that require local planning and development decisions to consider impacts on archaeological resources and that would serve to minimize impacts to archaeological resources. These are shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation CUL and/or TCR. In particular, the following key policies and actions would serve to minimize potential impacts on archaeological resources in the EIR Study Area:

- Policies CM-OS-2.1*, EL-OS-2.1*, K-OS-2.1*, L-OS-2.1*, LL-OS-2.1*, M-OS-2.1*, NL-OS-2.1*, and R-OS 2.1* require review of proposed development projects in conjunction with the California Historical Resources Information System, Northwest Information Center, at Sonoma State University, to determine whether project areas contain known archaeological resources, both prehistoric and/or historic-era, and Tribal Cultural Resources, or if they have the potential to hold such resources, and if so, implement mitigation to protect the resource.
- Policies CM-OS-2.2*, EL-OS-2.2*, K-OS-2.2*, L-OS-2.2*, LL-OS-2.2*, M-OS-2.2*, NL-OS-2.2*, and R-OS 2.2* require, whenever possible, that new development preserve significant historical, archaeological, or paleontological resources on-site through project design. If on-site preservation is not feasible, mitigate impacts through techniques such as relocation of structures, adaptive reuse, preservation of facades, and thorough documentation and archival of records. Any documentation of historic resources shall be conducted in accordance with Historic American Building Survey Level III standards, as defined by the US Secretary of the Interior.
- Policies CM-OS-2.3*, EL-OS-2.3*, K-OS-2.3*, L-OS-2.3*, LL-OS-2.3*, M-OS-2.3*, NL-OS-2.3*, and R-OS-2.3* require, upon discovery of significant archaeological, paleontological, historic, or Tribal Cultural Resources during site development, that all activity be halted within 100 feet of the find(s) and notify a professional archaeologist, paleontologist, historian, and/or local Tribal government representative (if appropriate) to evaluate the find(s) and recommend mitigation procedures, if necessary. Findings and mitigation measures are subject to review and approval by the Lake County Planning Commission prior to resuming site development work.
- Policies CM-OS-2.4*, EL-OS-2.4*, K-OS-2.4*, L-OS-2.4*, LL-OS-2.4*, M-OS-2.4*, NL-OS-2.4*, and R-OS-2.4* require, as a condition of approval for discretionary grading permits, that construction employees be trained in recognizing potentially significant archaeological, paleontological, historic, or Tribal Cultural Resources that may be discovered during ground-

disturbing activities. Policies require project proponents to submit verification that all site workers have received sensitivity training prior to commencement of ground-disturbing activities.

- Policies CM-OS-2.6, EL-OS-2.6, K-OS-2.6, L-OS-2.6, LL-OS-2.6, M-OS-2.6, NL-OS-2.6, and R-OS-2.6 require the protection of cultural and archaeological sites with potential for placement on the National Register of Historic Places and/or inclusion in the California State Office of Historic Preservation's California Points of Interest and California Register of Historical Resources. Such sites may be of statewide or local significance and have anthropological, cultural, military, political, architectural, economic, scientific, religious, or other values.
- Policies CM-OS-2.8, EL-OS-2.8, K-OS-2.8, L-OS-2.8, LL-OS-2.8, M-OS-2.8, NL-OS-2.8, and R-OS-2.8 require the County to prioritize preservation and adaptive reuse of buildings, sites, and areas with identified archaeological, cultural, or historic significance.
- Actions CM-OS-2.b*, EL-OS-2.b*, K-OS-2.b*, L-OS-2.b*, LL-OS-2.b*, M-OS-2.b*, NL-OS-2.b*, and R-OS-2.b* require contracting with an archaeologist(s) that meets the Secretary of the Interior's Professionally Qualified Standards to perform cultural resource studies for environmental analysis on discretionary projects where a cultural resource report is deemed necessary, including outreach to Tribal governments for input on Tribal Cultural Resources.
- Policies CM-OS-3.3, EL-OS-3.3, K-OS-3.3, L-OS-3.3, LL-OS-3.3, M-OS-3.3, NL-OS-3.3, and R-OS-3.3 require the County to respect and protect Tribal Cultural Resources, including historic, cultural, and sacred sites; cultural landscapes; views of or access to resources; and objects with cultural value to California Tribes, recognizing that protecting Tribal Cultural Resources supports both cultural preservation and environmental health outcomes.
- Policies CM-OS-3.4, EL-OS-3.4, K-OS-3.4, L-OS-3.4, LL-OS-3.4, M-OS-3.4, NL-OS-3.4, and R-OS-3.4 require formal and early government-to-government consultation with culturally affiliated Tribes on all projects with potential cultural, environmental, or scenic impacts to identify and protect recorded and unrecorded Tribal Cultural Resources through the discretionary development review process.
- Policies CM-OS-3.6*, EL-OS-3.6*, K-OS-3.6*, L-OS-3.6*, LL-OS-3.6*, M-OS-3.6*, NL-OS-3.6*, and R-OS-3.6* require consultation with culturally affiliated Tribal governments when developing mitigation measures to avoid or minimize impacts on Tribal Cultural Resources. Mitigation could include notification of culturally affiliated Tribal governments prior to and tribal monitoring during ground-disturbing activities.

Because future development under the proposed General Plan 2050 may occur where there is the potential for archaeological resources, known and unknown, impacts from the proposed General Plan 2050 are **potentially significant.**

Impact CUL-2: Impacts on known and unknown archaeological resources could occur from potential future development under the proposed General Plan 2050.

Significance with Mitigation: Future development would be required to follow local, State, and federal regulations, including consultation with Tribes and their THPO for any projects that may affect ancestral sites, ensuring that traditional knowledge, cultural values, and Tribal protocols guide the protection and management of these resources. Implementation of the proposed General Plan 2050 policies and actions would ensure that new development in the EIR Study Area reduces and mitigates potential impacts to archaeological resources. Specifically, those described under Impact CUL-1 includes proposed Policies CM-OS-2.4*, EL-OS-2.4*, K-OS-2.4*, L-OS-2.4*, LL-OS-2.4*, M-OS-2.4*, NL-OS-2.4*, and R-OS-2.4*, which require construction employees to be trained in recognizing potentially significant archaeological, paleontological, historic, or TCRs that may be discovered during ground-disturbing activities and Policies CM-OS-2.3*, EL-OS-2.3*, K-OS-2.3*, L-OS-2.3*, LL-OS-2.3*, M-OS-2.3*, NL-OS-2.3*, and R-OS-2.3,* which would then require all activity to be halted within 100 feet if a significant archaeological, paleontological, historic, or TCR is discovered on a project site. A professional archaeologist, paleontologist, historian, and/or local Tribal government representative (if appropriate) would be required to be notified to evaluate the find(s) and recommend mitigation procedures, if necessary. Compliance with federal and State laws, as described in Section 3.5.1, *Regulatory Framework,* and the proposed General Plan 2050 policies and actions listed previously, would protect recorded and unrecorded archaeological deposits in the EIR Study Area by providing for the early detection of potential conflicts between development and resource protection, and by preventing or minimizing the material impairment of the ability of archaeological deposits to convey their significance through excavation or preservation would ensure that potential impacts from implementation of the proposed project would be **less than significant.**

c) Would the project disturb any human remains, including those interred outside of dedicated cemeteries?

Previously undiscovered human remains associated with pre-contact archaeological deposits may exist in the EIR Study Area, as ground-disturbing activities sometimes uncover such previously unrecorded remains. As described under impact discussion (b), ground-disturbing activities and excavation for the project would have the potential to uncover buried resources. It is possible that human remains may be present in the EIR Study Area. Descendant communities may ascribe religious or cultural significance to such remains, making any such disturbances a potentially significant impact.

As described under Impact Discussion (b) and shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation CUL and/or TCR, the proposed General Plan 2050 includes policies and actions that require local planning and development decisions to minimize impacts on archaeological resources, including human

remains. In particular, the following key policies would serve to minimize potential impacts to human remains:

- Policies CM-OS-3.7*, EL-OS-3.7*, K-OS-3.7*, L-OS-3.7*, LL-OS-3.7*, M-OS-3.7*, NL-OS-3.7*, and R-OS-3.7,* require that upon discovery of a burial, human remains, or suspected human remains, an immediate halt to all work within 100 feet and notify the Sheriff's Department, the culturally affiliated Tribal governments, and a qualified archaeologist for proper internment and Tribal rituals according to Public Resources Code Section 5097.98 and Health and Safety Code Section 7050.5.

These policies require compliance with PRC Section 5097.98. As described in Section 3.5.1, *Regulatory Framework,* if human remains are discovered during grading or construction activities, compliance with California Health and Safety Code Section 7050.5, PRC Section 5097.98, and the CCR Section 15064.5(e) (CEQA), which includes specific provisions for the protection of human remains in the event of discovery, would be required. According to the provisions in CEQA, in the event a human burial or skeletal element is identified during excavation or construction, work in that location shall stop immediately until the find can be properly treated. The Lake County Coroner shall be notified immediately. The Coroner shall then determine whether the remains are Native American. If the Coroner determines the remains are Native American, the Coroner shall notify the NAHC within 24 hours, who will, in turn, notify the person the NAHC identifies as the Most Likely Descendant (MLD) of any human remains. Further actions shall be determined, in part, by the desires of the MLD. The MLD has 48 hours to make recommendations regarding the disposition of the remains following notification from the NAHC of the discovery. If the MLD does not make recommendations within 48 hours, the owner shall, with appropriate dignity, reinter the remains in an area of the property secure from further disturbance. If the NAHC is unable to identify an MLD, the MLD fails to make a recommendation within 48 hours after being notified, or the landowner rejects the recommendation of the MLD, and mediation by the NAHC fails to provide measures acceptable to the landowner, the owner shall, with appropriate dignity, reinter the remains in an area of the property secure from further disturbance.

Therefore, compliance with the mandatory regulatory procedures described and the proposed General Plan 2050 policies and actions, impacts related to the potential discovery or disturbance of any human remains accidentally unearthed during construction activities associated with future development in the EIR Study Area would be **less than significant.**

Significance without Mitigation: Less than significant.

3.5.5 Cumulative Impact Discussion

As discussed in Chapter 3, *Environmental Analysis,* of this Draft EIR, the cumulative setting includes growth within the EIR Study Area in combination with projected overall growth trends within Lake County and adjacent counties. The cumulative setting for cultural resources includes potential future development under the proposed project, combined with effects of development on lands adjacent to the EIR Study Area and surrounding region.

Would the project have a cumulative effect related to cultural resources?

The impacts of potential future development under implementation of the proposed project on cultural resources tend to be site specific, and cumulative impacts 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 for the district overall. For example, changes to the setting or atmosphere of an area 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.

Potential future development under the proposed project in conjunction with buildout of the county and the region, has the potential to cumulatively impact cultural resources. As previously discussed, impacts to historical resources, archaeological resources, and human remains in the EIR Study Area would be less than significant with implementation of the proposed General Plan 2050 policies and actions described in impact discussions (a) through (c) and Mitigation Measures CUL-1 and CUL-2. Additionally, the existing federal, State, and local regulations and the proposed General Plan 2050 policies and actions described throughout this section serve to protect cultural resources in the EIR Study Area. Continued compliance with these regulations substantially decreases potential impacts to historical resources, archaeological resources, and human remains to the maximum extent practicable. Cumulative impacts would be **less than significant**.

Significance without Mitigation: Less than significant.

3.5.6 References

Geary, Robert (Cultural Resources Administrator, Habematolel Pomo Cultural Resources). 2025, October 30. Edits to PlaceWorks.

NPS (National Park Service). 2023. National Register of Historic Places. https://www.nps.gov/subjects/nationalregister/database-research.htm.

OHP (Office of Historic Preservation). 2023. California Historical Resources. California State Parks. https://ohp.parks.ca.gov/ListedResources/?view=county&criteria=41.

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3.6 ENERGY

This section of the Draft EIR describes the potential impacts related to energy associated with the adoption and implementation of the proposed project. This section describes the regulatory framework and existing conditions, identifies criteria used to determine impact significance, and provides an analysis of the potential impacts related to energy. The proposed General Plan 2050 policies and actions that would minimize any potentially significant impacts are shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, and denoted with the abbreviation ENE.

CEQA Guidelines Section 21100(b)(3) requires that an EIR include a detailed statement with mitigation measures proposed to minimize significant effects on the environment, including, but not limited to, measures to reduce the wasteful, inefficient, and unnecessary consumption of energy. Appendix F of CEQA Guidelines states that, to ensure that energy implications are considered in project decisions, the potential energy implications of a project shall be considered in an EIR, to the extent relevant and applicable to the project. Appendix F further states that a project's energy consumption and proposed conservation measures may be addressed, as relevant and applicable, in the project description, environmental setting, and impact analysis portions of technical sections, as well as through mitigation measures and alternatives.

In accordance with Appendix F and Appendix G of the CEQA Guidelines, this Draft EIR includes relevant information and analyses that address the energy implications of the proposed project. This section summarizes the anticipated energy needs, impacts, and conservation measures associated with future development and activities under the proposed project. The information in this chapter and other aspects of the proposed project's energy implications are also discussed in Chapter 2, *Project Description*; Section 3.3, *Air Quality;* Section 3.8, *Greenhouse Gas Emissions*; and Section 3.17, *Transportation*, of this Draft EIR. The energy usage and transportation fuel usage are included in Appendix C, *Air Quality and Greenhouse Gas Emissions Data,* of this Draft EIR.

3.6.1 Regulatory Framework

FEDERAL

Federal Energy Policy and Conservation Act

The Energy Policy and Conservation Act of 1975 created the Strategic Petroleum Reserve, established vehicle fuel economy standards, and prohibited the export of United States crude oil (with a few limited exceptions). It also created Corporate Average Fuel Economy (CAFE)

standards for passenger cars that are updated periodically to account for changes in vehicle technologies, driver behavior, and/or driving conditions.

On March 30, 2020, the United States Environmental Protection Agency (USEPA) finalized an updated CAFE and greenhouse gas (GHG) emissions standards for passenger cars and light trucks and established new standards known as the Safer Affordable Fuel Efficient (SAFE) Vehicles Final Rule for Model Years 2021 through 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 would be a 10 mpg increase relative to model year 2021 (NHTSA 2022).

On June 7, 2024, National Highway Traffic Safety Administration (NHTSA) announced final CAFE standards for passenger cars and light trucks built in model years 2027 to 2031 and final fuel efficiency standards for heavy-duty pickup trucks and vans built in model years 2030 to 2035. The final rules establish standards that would require an industry fleetwide average of approximately 50.4 mpg for passenger cars and light trucks in model year 2031, by increasing fuel economy by 2 percent year over year for passenger cars (model years 2027–2031) and for light trucks (model years 2029–2031). For heavy-duty pickup trucks and vans, the final rule would increase fuel efficiency at a rate of 10 percent per year (model years 2030–2032) and 8 percent per year (model years 2033–2035) (NHTSA 2024a).

In June 2025, NHTSA published a final rule, “Resetting the Corporate Average Fuel Economy Program.” The rule identifies factors statutorily prohibited from consideration when setting maximum feasible fuel economy standards under the Energy Policy and Conservation Act of 1975, the Energy Independence and Security Act of 2007, and other applicable laws. It also describes NHTSA’s authority to bring the CAFE program into compliance with relevant statutory requirements, in accordance with the President Trump’s “Unleashing American Energy” Execute Order and the Secretary’s “Fixing the CAFE Program” Memorandum. The rule also describes NHTSA’s interpretation of its authority for a commercial medium- and heavy-duty on-highway vehicle and work truck fuel efficiency improvement program, to establish the necessary legal foundation to bring that program into compliance with law. This rule does not itself change existing CAFE or medium- and heavy-duty standards. During the rulemaking process for replacement standards, NHTSA will exercise its enforcement authority regarding all existing CAFE and medium- and heavy-duty standards in accordance with the interpretation set forth in this rulemaking (NHTSA 2024b).

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 CAFE 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

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

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 United States 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

Warren-Alquist Act

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 2023.

California Energy Commission

The CEC was created as the State's principal energy planning organization to meet the energy challenges facing the state. The CEC is charged with six basic responsibilities when designing state energy policy:

- Forecast statewide electricity needs
- License power plants to meet those needs
- Promote energy conservation and efficiency measures
- Develop renewable energy resources and alternative energy technologies
- Promote research, development and demonstration
- Plan for and direct the state's response to energy emergencies

Long-Term Energy-Efficiency Strategic Plan

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;
- Heating, Ventilation and Air Conditioning (HVAC) will be transformed to ensure that its energy performance is optimal for California's climate; and
- 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 natural gas use. In 2006, schools and colleges were in the top five facility types for electricity and natural gas consumption, accounting for approximately 10 percent of state's electricity and natural gas use (CPUC 2011).

[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.

The CPUC and CEC have adopted the following goals to achieve zero net energy 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; and Goal 3: Transform the commercial lighting market through technological advancement and innovative utility initiatives.

Renewable Portfolio: Carbon Neutrality Regulations

Senate Bill 100

SB 100 was signed into law to replace the Clean Energy and Pollution Reduction Act (SB 350) requirements. Under SB 100, the RPS for public owned facilities and retail sellers consist of 44 percent renewable energy by 2024, 52 percent by 2027, and 60 percent by 2030. Additionally, SB 100 also established a new RPS requirement of 50 percent by 2026. Furthermore, the bill also 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 SB 100, the State cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

Clean Energy, Jobs, and Affordability Act of 2022

The Clean Energy, Jobs, and Affordability Act of 2022, commonly known by its legislative bill number, SB 1020, requires renewable energy and zero-carbon resources to supply 90 percent of all retail electricity sales by 2035 and 95 percent by 2040. Additionally, this Act requires all state agencies to procure 100 percent of electricity from renewable energy and zero-carbon resources by 2035.

Energy-Efficiency Regulations

Appliance Efficiency Regulations

California's Appliance Efficiency Regulations 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 [CCR] Title 20, Parts 1600–1608). These standards are updated regularly to allow consideration of new energy efficiency technologies and methods (CEC 2017).

California Building Energy Code: Title 24, Part 6, Energy-Efficiency Standards

Energy conservation standards for new residential and non-residential buildings were adopted by the CEC (CCR Title 24, Part 6). Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods. 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 requires 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). The 2025 Building Energy Efficiency Standards will replace the 2022 Building Energy Efficiency Standards and will become effective on January 1, 2026.

California Building Code: Title 24, Part 11, Green Building Standards

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 (CBSC). It includes mandatory requirements for new residential and nonresidential buildings throughout California. CALGreen is intended to (1) reduce GHG emissions from buildings; (2) promote environmentally responsible, cost-effective, healthier places to live and work; (3) reduce energy and water consumption; and (4) respond to the directives by the Governor. CALGreen contains requirements for construction site selection, stormwater control during construction, construction waste reduction, indoor water use reduction, material selection, natural resource conservation, site irrigation conservation, and more. The code provides for design options allowing the designer to determine how best to achieve compliance for a given site or building condition. The code also requires building commissioning, which is a process for verifying that all building systems (e.g., heating and cooling equipment and lighting systems) are functioning at their maximum efficiency (24 CCR Part 11). The 2025 Green Building Standards will replace the current version of CALGreen and will become effective on January 1, 2026.

Off-road Equipment and Transportation-Related Regulations

Assembly Bill 1493 (Pavley Law)

California vehicle GHG emission standards were enacted under Assembly Bill (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 USEPA. In 2012, the USEPA 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 California's Advanced Clean Car program new automobiles will emit 34 percent fewer global warming gases and 75 percent fewer smog-forming emissions (CARB 2017).

Title 13, Chapter 9, Article 4.8, Section 2449

Section 2449 of the CCR, Title 13, Chapter 9, Article 4.8 limits non-essential idling of fleets to no more than five consecutive minutes at any location. This idling restriction applies to all vehicles in California with a diesel-fueled or alternative diesel-fueled off-road engine, unless a waiver provides sufficient justification that such idling is necessary.

Sustainable Communities and Climate Protection Act

In 2008, the Sustainable Communities and Climate Protection Act, commonly known as its legislative bill number SB 375, was adopted to connect the GHG emissions reductions 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 vehicle-miles traveled (VMT) and vehicle trips. Specifically, this act required CARB to establish GHG emissions reduction targets for each of the 18 metropolitan planning organizations (MPOs). While Lake County is not an MPO and is therefore not subject to the requirements of SB 375 (CARB 2018), regional planning in the County is guided by the Lake County/City Area Planning Council (Lake APC), which acts as the Regional Transportation Planning Agency for the County.

Executive Order N-79-20

On September 23, 2020, EO 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 zero-emission vehicles (ZEVs) sold in 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 USEPA, and local air districts.

On August 25, 2022, CARB adopted the Advanced Clean Cars II regulations that codify the EO goal of 100 percent of in-state sales of new passenger vehicles and trucks be ZE by 2035. Starting in year 2026, Advanced Clean Cars II requires that 35 percent of new vehicles sold be ZE or plug-in hybrids.

Advanced Clean Fleets Regulation

In April 2023, CARB released the Advanced Clean Fleets (ACF) regulation to accelerate the transition to zero-emission medium- and heavy-duty vehicles (CARB 2023). In conjunction with the Advanced Clean Trucks regulation, the ACF regulations helps to ensure that medium- and heavy-duty ZEVs are brought to the market, by requiring certain fleets to purchase ZEVs. The ACF ZEV phase-in approach which provides initial focus where the best fleet electrification opportunities exist, sets clear targets for regulated fleets to make a full conversion to ZEVs, and creates a catalyst to accelerate development of a heavy-duty public infrastructure network. The ACF regulations would also establish requirements that transform the medium- and heavy-duty vehicle sector and demonstrate independent utility.

The ACF regulations cover four main elements:

- **Manufacturer sales mandate.** Manufacturers may sell only zero-emission medium- and heavy-duty vehicles starting in 2036.
- **Drayage fleets.**[2] Trucks must be registered in the CARB Online System to conduct drayage activities in California. Non-zero-emission “legacy” drayage trucks were able to register in the CARB Online System through December 31, 2023. Legacy drayage trucks can continue to operate through their minimum useful life. Beginning January 1, 2024, only zero-emission drayage trucks may register in the CARB Online System. All drayage trucks entering seaports and intermodal railyards would be required to be zero-emission by 2035.

[2] Drayage trucks are in-use class 7 and 8 on-road vehicles that transport containers and bulk goods to and from seaports and intermodal railyards. Land ports of entry, which provide controlled entry to or departure from the United States, are not considered seaports or intermodal railyards.

- **High priority and federal fleets.** High priority and federal fleets must comply with the Model Year Schedule or may elect to use the optional ZEV Milestones Option to phase-in ZEVs into their fleets:
  - Model Year Schedule: Fleets must purchase only ZEVs beginning 2024 and, starting January 1, 2025, must remove internal combustion engine vehicles at the end of their useful life as specified in the regulation.
  - ZEV Milestones Option (Optional): Instead of the Model Year Schedule, fleets may elect to meet ZEV targets as a percentage of the total fleet starting with vehicle types that are most suitable for electrification.
- **State and local agencies.** State and local government fleets, including city, county, special district, and State agency fleets, would be required to ensure 50 percent of vehicle purchases are zero-emission beginning in 2024 and 100 percent of vehicle purchases are zero-emission by 2027. Small government fleets (those with 10 or fewer vehicles) and those in designated counties would start their ZEV purchases beginning in 2027. Alternately, State and local government fleet owners may elect to meet ZEV targets using the ZEV Milestones Option. State and local government fleets may purchase either ZEVs or near-ZEVs, or a combination of ZEVs and near-ZEVs, until 2035. Starting in 2035, only ZEVs will meet the requirements.

Energy Storage

California has set ambitious long-term goals for energy storage beyond 2026 to support its clean energy and climate goals. The state aims to reach 100 percent carbon-free electricity by 2045, which will require significant investment in renewable energy sources like wind and solar, as well as energy storage technologies to balance the variability of these sources.

The California Independent System Operator (CAISO) has a total energy storage capacity of more than 3,160 megawatts (MW) as of June 2022 (CAISO 2022). This includes both large-scale and distributed energy storage systems, such as batteries, pumped hydroelectric storage, and thermal storage. CAISO is responsible for managing the electricity grid for much of California, and it has set a target of adding 3,300 MW of additional energy storage capacity by 2024 to support the integration of more renewable energy sources like wind and solar. As part of SB 100, load serving entities (LSEs) were required to procure no less than 1.3 gigawatts (GW) of energy storage capacity by 2020, and 3 GW by 2030. Additionally, the CPUC has established a target of 15 GW of energy storage capacity by 2030 (CPUC 2022).

The Integrated Resource Plan

CAISO develops a coordinated grid management plan to integrate the generation and storage capacities of LSEs, called the Integrated Resource Plan (IRP). The IRP is a comprehensive planning document that outlines CAISO's forecasts for electricity demand, supply, and transmission needs over a 20-year planning horizon, as well as its strategies for integrating

renewable energy resources and other grid services to meet those needs. The plan is developed in collaboration with LSEs, regulators, and other stakeholders, and is updated periodically to reflect changes in the energy landscape and evolving policy goals. Overall, the IRP plays a critical role in ensuring the reliability and resilience of California's electricity grid as the state continues to transition to a cleaner and more sustainable energy system. When an individual Battery Energy Storage (BES) facility or generation infrastructure (i.e., solar panels) comes online in California, it is typically included in the IRP through a process known as the Interconnection Queue. The Interconnection Queue is managed by CAISO, which oversees the operation of the State's electricity grid.

The Interconnection Queue

The Interconnection Queue is an application process that functions as a waiting list of proposed electricity generation and storage projects that are seeking to connect to the grid. When a new BES facility or generation infrastructure is proposed, the developer applies to CAISO to request an interconnection to the grid. CAISO evaluates the application to ensure that the facility meets technical and operational requirements, such as voltage regulation and frequency response, and that it can be integrated effectively into the grid. Once the BES facility or generation infrastructure is approved by CAISO, it is assigned a point of interconnection on the grid, and its output is added to the IRP as a resource that can provide electricity and other grid services, such as frequency regulation or ramping support. The facility is then dispatched by CAISO based on its bids into the day-ahead and real-time electricity markets, and its output is used to help balance supply and demand on the grid in real-time. Overall, the Interconnection Queue is an important mechanism for integrating new BES facilities and other electricity resources into the California grid, and for ensuring that the grid remains reliable and resilient as the state continues to transition to a cleaner and more sustainable energy system.

LOCAL

Code of Ordinances

The Lake County Code of Ordinances (LCCO) includes various directives pertaining to energy conservation. The LCCO is organized by chapter, article, and section. Most provisions related to energy conservation are included in Chapter 5, *Building Regulations*, as follows:

- Section 5-4G, *Adoption of California Green Building Code,* adopts the California Green Building Code with modifications to the CALGreen standards with respect to light pollution. CALGreen is established to reduce construction waste, make buildings more efficient in the use of materials and energy, and reduce environmental impact during and after construction.
- Section 5-4H, *Adoption of California Energy Code*, adopts various the 2022 Energy Code with no modifications, which sets for the requirements for the design of building shells and building components to conserve energy.

Regional Transportation Plan

The Regional Transportation Plan (RTP) is a long-range planning document developed by the Lake Area Planning Council (LAPC), which functions as the Regional Transportation Planning Agency (RTPA) for the Lake County region. It is updated every four years, most recently in May 2022. The RTP covers a 20-year horizon with an overall goal of promoting the safe and efficient management, operation and development of a multi-modal transportation system to reduce greenhouse gas emissions and VMT and therefore reduce energy demand. Among other transportation topics, the RTP addresses strategies and funding for active transportation improvements in the county and programs for improving transit ridership and experience in coordination with Lake Transit Authority (LTA). LAPC and LTA have also coordinated on transit-specific plans including the Transit Development Plan, last updated in May 2023, which address the County's long-term plans for providing transit service, and the Transit Energy Use Reduction Plan published in 2015 which outlines LTA's strategies for increasing the energy efficiency of their fleet, including by converting the fleet to alternative fuels. This goal also aligns with the County's 2030 Regional Blueprint Plan which in addition to encouraging investment in alternative fuel buses, also directs the County to develop renewable energy resources, such as solar, wind, and geothermal (LAPC 2010).

3.6.2 Existing Conditions

COUNTYWIDE AREA

Electricity and Natural Gas Consumption

Electricity is quantified using kilowatts (kW) and kilowatt-hours (kWh), and heating fuels (e.g., natural gas, propane) is measured in therms or kilo-British thermal units (kBTU). A therm is a measurement of the amount of heat energy in heating fuels, equal to 100 kBTU. A kW is a measure of 1,000 watts of electrical power and a kWh is a measure of electrical energy equivalent to a power consumption of 1,000 watts for one hour. The kWh is commonly used as a billing unit for energy delivered to consumers by electric utilities. According to the CEC's Electricity Consumption Database, total energy usage in California was 276,213 gigawatt-hours of electricity and 11,964 million therms in 2023, the latest year of available information (CEC 2025a; CEC 2025b). A gigawatt-hour is equal to one million kilowatt-hours.

The existing electricity and natural gas consumption attributable to nonresidential and residential land uses in the EIR Study Area is shown in Table 3.6-1, *Estimated Existing Electricity and Propane Demand.* No natural gas utility services are provided in Lake County; therefore, existing electricity and estimated propane consumption is identified in Table 3.6-1, *Estimated Existing Electricity and Propane Demand*.

Table 3.6-1 Estimated Existing Electricity and Propane Demand

Parameter	Electricity Usage (kWh/year) [a]	Propane Usage (MMBTU/year) [b]
Residential	191,635,906	2,242,123
Nonresidential	87,560,991	314,419
Total	**279,196,898**	**2,242,123**
2024 Service Population [c]		62,870
Per Service Population Consumption	**4,441**	**36**

Notes:

a. Based on 5-year average electricity and natural gas usage data provided by PG&E.

b. Residential propane use is based on statewide average household propane estimates from the United States Energy Information Administration and the percentage of households in Lake County that use propane as a heating fuel, based on American Community Survey estimates. Non-residential propane use is based on 2022 California Emissions Estimator Model (CalEEMod) User's Guide natural gas consumption factors (used in the absence of non-residential propane consumption data).

c. Service population = residents + jobs.

Source: See Appendix C, *Air Quality and Greenhouse Gas Emissions Data*, of this Draft EIR.

Transportation Fuel Consumption

California has traditionally been one of the top producers of petroleum in the nation, with drilling operations throughout the state. A network of crude oil pipelines connects production areas to oil refineries in the Los Angeles area, the San Francisco Bay Area, and the Central Valley. California oil refineries also process Alaskan and foreign crude oil received in ports in Los Angeles, Long Beach, and the San Francisco Bay Area. Crude oil production in California and Alaska is in decline, and California refineries have become increasingly dependent on foreign imports (CEC 2025c). According to the United States Energy Information Administration, California's field production of crude oil has steadily declined since the mid-1980s with a total production of approximately 104 million barrels in 2024 (EIA 2025). In Lake County, including all incorporated cities therein, approximately 19 million gallons of gasoline and 6 million gallons of diesel fuel were sold in 2023, the latest year of available data (CEC 2024). Table 3.6-2*, Existing Operation-Related Annual Fuel Consumption,* shows the estimated annual fuel consumption currently generated under existing baseline conditions. Fuel consumption is based on VMT from external/internal trips (i.e., trips that either begin or end in the EIR Study Area).

Table 3.6-2 Existing Operation-Related Annual Fuel Consumption

Gas (gal/year)	Diesel (gal/year)	Compressed Natural Gas (gal/year)	Electricity (kWh/year)
16,158,573	2,667,279	0	3,949,837

Source: See Appendix C, *Air Quality and Greenhouse Gas Emissions Data*, of this Draft EIR.

Energy Providers

Electricity

Pacific Gas and Electric Company (PG&E) is a publicly traded utility company which generates, purchases, and transmits energy and natural gas under contract with CPUC. PG&E's service territory is 70,000 square miles, roughly extending north to Eureka, south to Bakersfield, west to the Pacific Ocean, and east to the Sierra Nevada mountain range.

PG&E's electricity distribution system consists of 106,681 circuit-miles of electric distribution lines and 18,466 circuit-miles of interconnected transmission lines (PG&E 2024). PG&E owns and maintains above-ground networks of electric 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, also known as solar farms. The bulk electric grid (collectively referred to as "The 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.

Natural Gas

The County has no natural gas utility providers. It is anticipated that heating fuels used in the county consist primarily of propane purchased from local private businesses.

PLANNING AREAS

The predominant uses generating energy demand in each planning area are as follows:

- *Cobb Mountain Planning Area.* hotel and resort, residential, and recreational
- *East Lake Communities Planning Area*. residential, hotel and resort, commercial, and recreational
- *Kelseyville Planning Area.* agriculture, recreational, transportation, and residential
- *Lakeport Planning Area.* residential, commercial, office, hotel and resort, and recreational
- *Lower Lake Planning Area.* recreational, hotel and resort, and residential
- *Middletown Planning Area.* hotel and resort, residential, agriculture, commercial, and recreational
- *North Lake Communities Planning Area.* hotel and resort, residential, recreational, and commercial
- *Rivieras Planning Area.* residential, commercial, and recreational

3.6.3 Standards for Analysis

SIGNIFICANCE CRITERIA

Appendix G, *Environmental Checklist Form*, of the CEQA Guidelines states that the proposed project would result in a significant impact related to energy if it would:

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

Methodology

The following analysis accounts for energy consumption associated with transportation fuels and building electricity and propane use under the proposed project. The following describes the methodology associated with estimating energy consumption for these sources:

- **Transportation** energy consumption was modeled using fuel consumption data from CARB's EMFAC2021 V1.0.2 web database. Consistent with CARB's methodology within the Climate Change Scoping Plan Measure Documentation Supplement, daily VMT was multiplied by 347 days per year to account for reduced traffic on weekends and holidays to determine annual fuel consumption. The VMT estimates included in Appendix B, *Transportation Data*, reflect OD VMT that were updated after the emissions calculations for this section and Appendix C, *Air Quality and Greenhouse Gas Emissions Data*, were prepared. As a result, the OD VMT utilized in the emissions analysis, provided in Section 3.6.4, *Project Impact Discussion,* reflects a higher daily VMT for the proposed project of 1,474,570 miles instead of the updated daily OD VMT of 1,470,343 miles when accounting for the RTAC adjustment, as shown in Appendix B, *Transportation Data*. Therefore, the emissions analysis herein utilizes VMT estimates that are higher than those contained in Appendix B, *Transportation Data*, thereby representing a conservative assessment of potential mobile source emissions impacts from implementation of the proposed project.
- **Building Electricity Use**. Energy associated with electricity use for residential and nonresidential land uses in the County were calculated based on data provided by the Pacific Gas and Electric Company (PG&E). Due to the 15/15 Rule, electricity use data for industrial land uses was aggregated with the nonresidential land uses in the data provided by PG&E. Existing 2024 emissions are based on the 2019-2023 annual average electricity use. Forecasts for year 2050 are adjusted for increases in population for residential electricity use and nonresidential square footage for nonresidential electricity use in the County. Carbon intensity for year 2024 and 2050 are based on the carbon intensity for PG&E identified in the 2022 CalEEMod User's Guide, Appendix G (CAPCOA 2022). Because there

are no natural gas pipelines in the County and natural gas infrastructure is highly dispersed, natural gas consumption is not accounted for within these calculations.

- **Building Propane Use.** The proportion of households using propane in the County was identified using US Census Bureau data. US Energy Information Administration data was used to estimate propane consumption, and was applied to the growth in residential units through 2050. Nonresidential propane consumption was estimated using 2022 CalEEMod User's Guide consumption factors for natural gas as a proxy for propane consumption. The consumption factors were applied to the growth in non-residential square footage through 2050. Please refer to Appendix C, *Air Quality and Greenhouse Gas Emissions Data,* for propane source emission calculations.

3.6.4 Project Impact Discussion

a) Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Short-Term Construction Impacts

Development projects constructed under the proposed General Plan 2050 would create temporary demand 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.

Construction of development projects facilitated by the proposed General Plan 2050 would also temporarily increase demands for energy associated with transportation fuels. 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 gasoline or diesel powered. In addition, operation of construction equipment would cease upon completion of construction for individual development projects.

Furthermore, the construction contractors would be required to minimize nonessential idling of construction equipment during construction in accordance with the CCR Title 13, Chapter 9, Article 4.8, Section 2449. Such required practices would limit wasteful and unnecessary energy

consumption. Also, future projects within the EIR Study Area would be similar to projects currently in development within Lake County. Overall, the proposed General Plan 2050 does not envision any unusual development or project characteristics that would necessitate the use of construction equipment that would be less energy efficient than at comparable construction sites in other parts of California. Therefore, short-term construction activities that occur as a result of implementation of the proposed project would not result in inefficient, wasteful, or unnecessary fuel consumption.

Long-Term Impacts During Operation

Operation of potential future development accommodated under the proposed General Plan would create additional demands for energy resources compared to existing conditions. Operational use of electricity and heating fuels (e.g., propane) would include heating, cooling, and ventilation of buildings; water heating; operation of electrical systems; use of on-site equipment and appliances; lighting; and charging electric vehicles. Land uses accommodated under the proposed General Plan would also result in additional demands for transportation fuels (e.g., gasoline, diesel, compressed natural gas, and electricity) associated with on-road vehicles.

Decreasing Overall per Capita Energy Consumption

Building Electricity

Electrical service to future individual development projects in the county would be provided by PG&E through connections to existing off-site electrical lines and new on-site infrastructure. As shown in Table 3.6-3, *Year 2050 Forecast Electricity Consumption*, by horizon year 2050, electricity use in the EIR Study Area is estimated to increase by 54,738,026 kWh/year, or approximately 20 percent, from existing conditions. As a result, the per service population electricity consumption is estimated to increase from 4,441 kWh per person per year in existing baseline to 4,439 kWh per person per year in 2050, or an increase of approximately 283 kWh per person annually.

Table 3.6-3 Year 2050 Forecast Electricity Consumption

Area	Electricity Usage, kWh per Year (Subtotal)		
	Existing Baseline [a]	Year 2050 Forecast [b]	Net Change
Nonresidential	87,560,991	103,760,028	16,199,037
Residential	191,635,906	230,174,896	38,538,989
Total	**279,196,898**	**333,934,924**	**54,738,026**
Service Population	62,870	75,235	12,365
Per Service Population Annual Consumption	4,441	4,439	2

Notes.

a. Electricity usage is provided by PG&E.

b. Residential and nonresidential energy forecasts are adjusted for increases in housing in the EIR Study Area and does not account for future building fuel switching.

All new development facilitated by the proposed General Plan 2050 would be required to demonstrate compliance with the current Energy Code and CALGreen standards in effect at the time the individual development applications are submitted and can therefore be expected to be more energy-efficient than the current uses being replaced, resulting in reductions in electricity consumption on a per dwelling unit and per square foot basis when compared to existing development. It should be noted that it is unknown how much more energy-efficient future iterations of the Energy Code and CALGreen standards would be in 2050 compared to existing conditions as those code updates are released on a three-year cycle.

Moreover, the proposed General Plan 2050 includes policies and actions that would serve to improve energy efficiency and reduce energy consumption in new development facilitated by the proposed General Plan, as shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation ENE. The following key policies and actions would serve to prevent wasteful, inefficient, or unnecessary consumption of energy resources:

- Policy AR-3.11 encourages and supports the development of alternative energy production (e.g., ethanol) as new agriculture-related industries and for the use of agricultural waste.
- Policy GR-1.1 requires support for the use of new technological and operational measures that better conserve geothermal resources, increase efficiencies in power generation, and/or otherwise expand geothermal energy development potential.
- Action GR-1.d requires work with the geothermal industry and appropriate State agencies to develop public education materials that will inform and encourage the public to implement direct-use geothermal technologies in private construction.

- Action GR-2.a requires providing information on the County's website about geothermal resources, including details about opportunities for direct use of geothermal resources in both residential and nonresidential settings, as well as up-to-date information about geothermal applications.
- Policies CM-C-3.6, EL-C-3.6, K-C-3.6, L-C-3.6, LL-C-3.6, M-C-3.6, NL-C-3.6, and R-C-3.6 support transitioning on-road vehicles, including personal, business, government, and public transit fleets, to electric power from renewable sources or other zero-emission fuels.
- Policies CM-C-3.7, EL-C-3.7, K-C-3.7, L-C-3.7, LL-C-3.7, M-C-3.7, NL-C-3.7, and R-C-3.7 support efforts to build electric vehicle charging stations at employment and community destinations, as allowed by market conditions.
- Policies CM-C-6.2, EL-C-6.2, K-C-6.2, L-C-6.2, LL-C-6.2, M-C-6.2, NL-C-6.3, and R-C-6.2 require the County to incorporate facilities for non-motorized users, such as sidewalks and bike routes, when constructing or improving roadway facilities and when reviewing new development proposals.
- Policies CM-C-6.3, EL-C-6.3, K-C-6.3, L-C-6.3, LL-C-6.3, M-C-6.3, NL-C-6.4, and R-C-6.3 require the County to require bicycle lanes, multiuse paths, and sidewalks in conjunction with road improvement projects, as feasible, and to develop, as funds become available, Class II bicycle lanes and multiuse paths on new collector and arterial streets.
- Policies CM-C-6.4, EL-C-6.4, K-C-6.4, L-C-6.4, LL-C-6.4, M-C-6.4, NL-C-6.5, and R-C-6.4 require the County to require facilities for nonmotorized users, such as sidewalks and bike routes, for subdivisions with a density of one or more dwelling units per acre, with facilities that are commensurate with the project's impacts, consistent with local and regional plans, and integrate circulation and recreational use.
- Policies CM-OS-4.1, EL-OS-4.1, K-OS-4.1, L-OS-4.1, LL-OS-4.1, M-OS-4.1, NL-OS-4.1, and R-OS-4.1 require the use of energy conservation features and encourage renewable and carbon-free energy generation and storage systems in new construction and renovation of existing structures.
- Policies CM-OS-4.2, EL-OS-4.2, K-OS-4.2, L-OS-4.2, LL-OS-4.2, M-OS-4.2, NL-OS-4.2, and R-OS-4.2 support efforts to increase renewable and carbon-free energy generation, including wind, solar, and biomass.
- Policies CM-OS-4.3, EL-OS-4.3, K-OS-4.3, L-OS-4.3, LL-OS-4.3, M-OS-4.3, NL-OS-4.3, and R-OS-4.3 promote and incentivize small-scale, on-site renewable energy and storage systems for existing residential units, nonresidential buildings, and in the agricultural sector.
- Policies CM-OS-4.4, EL-OS-4.4, K-OS-4.4, L-OS-4.4, LL-OS-4.4, M-OS-4.4, NL-OS-4.4, and R-OS-4.4 require participation in local and State programs that reduce the consumption of energy.

- Policies CM-OS-4.6, EL-OS-4.6, K-OS-4.6, L-OS-4.6, LL-OS-4.6, M-OS-4.6, NL-OS-4.6, and R-OS-4.6 require construction of all new or remodeled County buildings and retrofit of existing buildings to be energy efficient and rely on renewable and carbon-free energy resources where feasible.
- Policies CM-OS-4.8, EL-OS-4.8, K-OS-4.8, L-OS-4.8, LL-OS-4.8, M-OS-4.8, NL-OS-4.8, and R-OS-4.8 require coordination with energy providers to place transmission systems in locations that minimize environmental and other impacts.
- Actions CM-OS-4.a, EL-OS-4.a, K-OS-4.a, L-OS-4.a, LL-OS-4.a, M-OS-4.a, NL-OS-4.a, and R-OS-4.a require exploration of opportunities to purchase and install solar panels and battery storage in bulk to serve homes and businesses in the community, prioritizing Equity Priority Populations, including establishment and subsidization of community solar programs.
- Actions CM-OS-4.c, EL-OS-4.c, K-OS-4.c, L-OS-4.c, LL-OS-4.c, M-OS-4.c, NL-OS-4.c, and R-OS-4.c require coordination with local utility providers and educational institutions to develop informational brochures that promote energy conservation and the use of renewable and carbon-free energy sources.
- Actions CM-OS-4.d, EL-OS-4.d, K-OS-4.d, L-OS-4.d, LL-OS-4.d, M-OS-4.d, NL-OS-4.d, and R-OS-4.d require work with local agencies and nonprofits to retrofit and upgrade homes for energy efficiency and climate resiliency.

As a result of compliance with Title 24 energy-efficiency standards and implementation of the proposed General Plan policies and actions listed, per service population building electricity consumption is expected to decrease in 2050 compared to existing conditions.

Building Heating Fuels

As shown in Table 3.6-4, *Year 2050 Forecast Propane Consumption*, existing propane use in the EIR Study Area totals 2,242,123 million British thermal units (MMBTU) annually. By 2050, propane use in the EIR Study Area is estimated to increase by 509,071 MMBTU annually, or approximately 23 percent, from existing conditions to a total of 2,693,025 MMBTU per year. The proportion of households using propane and the amount of propane consumed annually by dwelling unit and nonresidential square foot is conservatively assumed to remain the same between existing conditions and buildout conditions, thereby not accounting for potential reduction resulting from proposed policies or compliance with the Energy Code and CALGreen.

As a result, the per service population propane consumption is estimated to increase by 0.13 MMBTU per person per year in 2050 due to the increase in the number of residential units in the EIR Study Area.

Table 3.6-4 Year 2050 Forecast Propane Consumption

Area	Propane Usage, MMBTU per Year [a]		
	Existing Baseline	Year 2050 Forecast [b]	Net Change
Nonresidential	314,419	372,587	58,168
Residential	2,242,123	2,693,025	450,903
Total	**2,242,123**	**2,693,025**	**509,071**
Service Population	62,870	75,235	12,365
Per Service Population Annual Consumption	35.66	35.79	0.13

Notes.

a. Residential propane use is based on statewide average household propane estimates from the United States Energy Information Administration and the percentage of households in Lake County that use propane as a heating fuel, based on American Community Survey estimates. Non-residential propane use is based on 2022 California Emissions Estimator Model (CalEEMod) User's Guide natural gas consumption factors (used in the absence of non-residential propane consumption data). The proportion of households using propane and the amount of propane consumed per dwelling unit and nonresidential square foot is conservatively assumed to remain the same between existing conditions and buildout conditions.

b. Residential and nonresidential energy forecasts are adjusted for increases in housing and employment, respectively, in the EIR Study Area and do not account for reductions in consumption due to compliance with energy efficiency from compliance with the Building Energy Efficiency Standards and CALGreen.

Similar to electricity consumption, all new development facilitated by the proposed General Plan 2050 would be required to demonstrate compliance with the current Energy Code and CALGreen standards in effect at the time and would result in reductions in heating fuel (i.e., propane) consumption on a per dwelling unit and per square foot basis when compared to existing development in the county. As stated previously, proposed General Plan 2050 policies and actions would serve to improve energy efficiency and reduce energy consumption in new development facilitated by the proposed General Plan 2050. However, per service population heating fuel consumption is expected to increase slightly in 2050 compared to existing baseline conditions.

Transportation Energy

The growth accommodated under the proposed General Plan would consume transportation energy from the use of motor vehicles (e.g., gasoline, diesel, compressed natural gas, and electricity). Table 3.6-5, *Operation-Related Annual Fuel Usage: Net Change from Existing,* shows the net change in VMT, fuel usage, and fuel efficiency under forecast year 2050 proposed General Plan conditions from existing baseline year conditions.

As shown in Table 3.6-5, *Operation-Related Annual Fuel Usage: Net Change from Existing,* when compared to existing baseline-year conditions, the proposed General Plan would result in a decrease in VMT for gasoline, compressed natural gas, and diesel vehicles; however, electric vehicles would see an increase in VMT. The decrease in fuel usage for gasoline-powered vehicles and large increase in VMT and energy 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 current regulatory (e.g., Advanced Clean Cars) and consumer trends. Furthermore, per service population VMT generation would decrease by an estimated 1,047 VMT/Service Population from baseline conditions.

Table 3.6-5 Operation-Related Annual Fuel Usage: Net Change from Existing

Fuel Type	Existing Baseline Year	Forecast Year 2050	Net Change from Existing Baseline
Gasoline			
VMT [a]	359,976,039	439,642,020	79,665,981
Gallons	16,158,573	14,107,744	-2,050,829
Miles Per Gallon	22.28	31.16	8.89
Diesel			
VMT [a]	29,696,766	13,838,355	-15,858,412
Gallons	2,667,279	1,455,208	-1,212,071
Miles Per Gallon	11.13	9.51	-1.62
Compressed Natural Gas			
VMT [a]	0	0	0
Gallons	0	0	0
Miles Per Gallon	0	0	0
Electricity			
VMT [a]	10,724,249	58,195,589	47,471,340
kWh	3,949,837	27,825,125	23,875,287
Miles Per kWh	2.72	2.09	-0.63
Total VMT	400,397,054	511,675,964	111,278,910
Service Population (SP)	62,870	75,235	12,365
VMT/SP	6,369	5,322	-1,047

Source: EMFAC 2021 (v.1.0.2); see Appendix C, *Air Quality and Greenhouse Gas Emissions Data.*

Notes:

a. Based on daily VMT provided by Fehr and Peers. VMT per year based on a conversion of VMT x 347 days per year to account for less travel on weekends, consistent with CARB statewide GHG emissions inventory methodology (CARB 2008).

The overall VMT as shown in the table would be primarily attributable to the overall growth associated with the proposed General Plan 2050 compared to existing conditions. As identified in Section 3.17, *Transportation*, and as shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation TRAN, the proposed General Plan 2050 includes policies and actions to minimize VMT and therefore reduce emissions from automobiles. Additionally, fuel efficiency of vehicles under year 2050 conditions would improve compared to existing baseline year conditions. The improvement in fuel

efficiency would be attributable to regulatory compliance (e.g., CAFE standards), resulting in new cars that are more fuel efficient and the attrition of older, less fuel-efficient vehicles. The CAFE standards are not directly applicable to residents or land use development projects, but to car manufacturers. Thus, Lake County and its residents 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 county more fuel-efficient vehicle options.

While the demand in electricity would increase under the proposed General Plan 2050, in conjunction with the regulatory (i.e., Renewables Portfolio Standard, SB 350, and SB 100) 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 electric vehicles would be from renewable sources in future years (e.g., individual photovoltaic systems, 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 proposed General Plan includes policies that will contribute to minimizing overall VMT, and thus associated fuel usage (see Section 3.17, *Transportation*). In combination with improvements in fuel economy standards through 2050, the proposed General Plan 2050 would result in a decrease in transportation energy consumption. As a result, the proposed General Plan would result in an overall decrease in energy consumption through 2050.

Decreasing Reliance on Fossil Fuels

The proposed General Plan 2050 would be considered to conflict with this criterion if it did not take steps to decrease the reliance on fossil fuels. As discussed in Section 3.8, *Greenhouse Gas Emissions*, individual development projects accommodated by the proposed General Plan would be required to comply with the CBSC that is in effect at the time of their building application submittal. As the current CBSC is the 2022 CBSC, individual development projects going through the application process today would result in greater energy efficiency than the current performance of existing structures in the EIR Study Area. In addition, the 2022 CBSC currently includes provisions for development projects to include rooftop photovoltaic systems and BES infrastructure or demonstrate energy efficiency performance equivalent to including photovoltaic and BES features. The 2025 CBSC is the next version of the code update and will go into effect January 1, 2026, and result in greater efficiency and energy consumption reduction in new development.

In addition to improvements in energy efficiency and on-site renewable energy generation and energy storage requirements, SB 100 requires that LSEs incrementally increase their energy procurement sources to include eligible renewable and carbon-free sources. By January 1, 2046, all LSEs in California (e.g., PG&E) are required to source 100 percent of their in-state electricity

sales from renewable and carbon-free sources. As a result, individual development projects accommodated by the proposed General Plan would improve their energy efficiency through compliance with the CBSC current at the time of their building application submittal and LSEs would supply electricity that is increasingly sourced from carbon-free sources.

Moreover, consistent with Executive Order N-79-20 and CARB's Advanced Clean Cars II Regulation, which aims for 100 percent of new passenger vehicles sold in-state being ZE (i.e., battery electric, hybrid plug-in electric, and fuel cell electric vehicles) by 2035, vehicles utilized by future residents and employees accommodated by the proposed General Plan are expected to consist more of EVs than what is experienced under existing conditions. Because these are not currently enforceable statewide policies, they are not accounted for in the estimates included in Table 3.6-5, *Operation-Related Annual Fuel Usage: Net Change from Existing*. In addition, the proposed General Plan 2050 includes policies that are intended to reduce the use of nonrenewable energy. As a result, the proposed General Plan 2050 would incrementally decrease reliance on fossil fuel energy resources through 2050.

Increasing Reliance on Renewable Energy

As previously discussed, the 2022 CBSC currently requires a variety of development projects that don't meet specific exceptions or exemptions to include rooftop photovoltaic systems and BES infrastructure or otherwise match or exceed the energy-efficiency performance experienced by including photovoltaic and BES systems, as applicable. In addition, it is anticipated that each new code cycle for the CBSC will improve on the last one by requiring higher performance for energy efficiency and incorporating additional requirements for on-site renewable energy and EV charging infrastructure. Future development projects accommodated by the proposed General Plan would therefore result in a net increase from existing conditions in on-site photovoltaic electricity generation and EV charging stations and associated infrastructure, further supporting and accelerating the adoption of EVs and the use of renewable energy in future years.

Similarly, LSEs that serve future development projects accommodated by the proposed General Plan, such as PG&E, would be required to incrementally increase their energy procurement sources to include eligible renewable and carbon-free sources through 2050 under SB 100, as previously discussed. As a result, electricity consumed by individual development projects under the proposed General Plan, as well as existing structures in the county, would rely more on renewable and carbon-free sources for electricity in future years than is experienced under existing conditions.

Moreover, the proposed General Plan 2050 includes various policies that are intended to support the use of renewable energy beyond compliance with the CBSC, including creating a walkable urban environment to encourage future residents and employees in the county to use active modes of transportation instead of motorized vehicles.

Summary

Compliance with federal, State, and local regulations (e.g., Energy Code, CALGreen, Renewables Portfolio Standard, CAFE standards) would improve building energy efficiency and vehicle fuel efficiency in future years. Additionally, the proposed General Plan includes policies related to land use and transportation planning, energy efficiency, promotion of housing near public and active transit, and renewable energy generation that will contribute to minimizing building and transportation-related energy demands overall. As stated, development that could occur under the proposed General Plan 2050 would reduce the per capita transportation VMT and subsequent energy consumption, decrease reliance on fossil fuels, and increase reliance on renewable energy sources.

With implementation of policies under the proposed General Plan 2050, in conjunction with and complementary to regulatory requirements, energy demand associated with growth under the proposed General Plan is expected to result in an overall decrease in per-capita energy consumption, decreased reliance on fossil fuels, and increased reliance on renewable energy. As such, the energy consumption under the proposed General Plan would not be considered inefficient, wasteful, or unnecessary. Therefore, energy impacts associated with implementation and operation of land uses accommodated under the proposed General Plan would be **less than significant**.

Significance without Mitigation: Less than significant.

b) Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

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. In general, California has RPS requirements of 52 percent of electricity delivered in the state to be generated from eligible renewable sources by 2027, 60 percent by 2030, and 100 percent eligible renewable and carbon-free sources by 2045.

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's objective of transitioning to renewable energy. By 2030, PG&E is set to meet the State's new 60 percent renewable energy mandate set forth in SB 100.

The land uses accommodated under the proposed General Plan would be required to comply with the current and future iterations of the CBSC and CALGreen. Furthermore, as described under impact discussion (a), the proposed General Plan includes policies that would support the statewide goal of transitioning the electricity grid to renewable sources. The net increase in energy demand associated with implementation of the proposed General Plan 2050 would be

within the service capabilities of PG&E and would not impede their ability to implement California's renewable energy goals. Therefore, implementation of the proposed General Plan would not conflict with or obstruct implementation of California's Renewables Portfolio Standard program, and the impact would be **less than significant**.

Significance without Mitigation: Less than significant.

3.6.5 Cumulative Impact Discussion

As this analysis assesses whether energy consumption from the proposed project would result in wasteful, inefficient, or unnecessary consumption of resources, the geographic area relevant to cumulative energy impacts includes the EIR Study Area. Analysis of whether the proposed project's energy demand would be within PG&E's service capacity and require new or expanded facilities is provided in Section 3.19, *Utilities and Service Systems*, of this Draft EIR.

Would the project have a cumulative effect related to energy?

Cumulative impacts would occur if a series of actions lead to a wasteful, inefficient, or unnecessary consumption of energy resources or a conflict with or obstruction of a State or local plan for renewable energy and energy efficiency.

All the development projects within the vicinity of the project's EIR Study Area are within the service area of PG&E. These projects would result in a long-term increase in operational energy demand for electricity and natural gas use associated with population growth. In addition, construction activities would require the use of energy for purposes such as the operation of construction equipment and tools, and construction of development projects may overlap. However, all projects developed within the PG&E service area would implement the requirements of the CBSC and CALGreen. Furthermore, new buildings would use new energy-efficient appliances and equipment, pursuant to the Appliance Efficiency Regulations.

Future development would also increase annual VMT, and thus fuel consumption. However, vehicles would be subject to the EPA CAFE standards for vehicular fuel efficiency, and average corporate fuel economy continues to increase as a result of State and federal laws, including the Pavley Advanced Clean Cars program. Vehicle turnover also improves the overall fuel economy of California's vehicle fleets. The proposed project also includes goals and policies to reduce energy use as well as aligning with the state's goals for carbon neutrality. Cumulative impacts would therefore be **less than significant.**

Significance without Mitigation: Less than significant.

3.6.6 References

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3.7 GEOLOGY AND SOILS

This section of the Draft EIR describes the potential impacts to geology and soils associated with the adoption and implementation of the proposed project. This section describes the regulatory framework and existing conditions, identifies criteria used to determine impact significance, and provides an analysis of the potential impacts to geology and soils. The proposed General Plan 2050 policies and actions that would minimize any potentially significant impacts are shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, and denoted with the abbreviation GEO. Where policies and actions are required for mitigation, those policies and actions are described in this section and denoted with an asterisk (*).

3.7.1 Regulatory Framework

FEDERAL

Earthquake Hazards Reduction Act

The intent of the Earthquake Hazards Reduction Act of 1977 is 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 Act

The federal Paleontological Resources Preservation Act of 2002 limits the collection of vertebrate fossils and other rare and scientifically significant fossils to qualified researchers who have obtained a permit from the appropriate state or federal agency. Additionally, it specifies these researchers must agree to donate any materials recovered to recognized public institutions, where they will remain accessible to the public and to other researchers. This act incorporates key findings of a report, *Fossils on Federal Land and Indian Lands*, issued by the Secretary of Interior in 2000, which establishes that most vertebrate fossils and some invertebrate and plant fossils are considered rare resources (USDI 2000).

STATE

Alquist-Priolo Earthquake Fault Zoning Act

The 1972 Alquist-Priolo Earthquake Fault Zoning Act mitigates the hazard of surface fault rupture to structures used for human occupancy (CGS 2023). The main purpose of this act is to prevent the construction of buildings used for human occupancy on the surface trace of active

faults. This act only addresses the hazard of surface fault rupture and no other earthquake hazards, such as earthquake-induced liquefaction or landslides (CGS 2023). This act requires the State Geologist to establish regulatory zones (known as Earthquake Fault Zones [EFZs] or Alquist-Priolo Zones) around surface traces of active faults, and to issue appropriate maps (CGS 2023). The maps, developed using existing United States Geological Survey's (USGS) 7.5-minute quadrangle map bases, are then distributed to all affected cities, counties, and State agencies for their use in planning and controlling new or renewed construction. Structures within mapped EFZs require geological investigations to demonstrate that the structures will not be constructed across active faults. If an active fault is identified within the boundaries of a project site, the proposed structures must be set back from the EFZ, usually a distance of 50 feet on either side of the identified fault location.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act, passed in 1990, addresses seismic hazards such as liquefaction and seismically induced landslides (CGS 2023). Under this act, the State Geologist maps seismic hazard zones to assist local governments in land use planning. Section 2691(c) of this 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 states 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."

California Building Code

The State of California provides a minimum standard for building design through Title 24 of the California Code of Regulations (CCR), commonly referred to as the California Building Code (CBC). The CBC is in Part 2 of Title 24. 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. The CBC includes standards for 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. They also regulate grading activities, including drainage and erosion control.

California General Plan Law

Government Code Section 65302(g) requires cities and counties to adopt a comprehensive long-term general plan that includes a safety element. The safety element provides guidance for protecting the community from any unreasonable risks associated with the effects of seismically induced surface rupture, ground shaking, ground failure, tsunami, seiche, and dam failure; slope instability leading to mudslides and landslides; subsidence; liquefaction; other seismic hazards identified by Public Resources Code Sections 2691 et seq.; and other geological hazards known to the legislative body. The safety element must also include mapping of known seismic and

geologic hazards from the California Geological Survey and a series of responsive goals, policies, and implementation programs to improve public safety.

California Water Code

Part 6, Chapter 4.5, Section 13290 of the California Water Code requires owner and operators of new, rehabilitated, or leaking on-site wastewater treatment systems (OWTS) to determine whether soils at a project site would be capable of supporting the use of septic systems. The California Water Code adopts minimum operating requirements related to the siting, construction, and performance of OWTS.

California Environmental Quality Act

Paleontological resources are afforded protection under the California Environmental Quality Act (CEQA). The Society of Vertebrate Paleontology has set significance criteria for paleontological resources (SVP 2010). Most practicing professional vertebrate paleontologists adhere closely to the Society of Vertebrate Paleontology's assessment, mitigation, and monitoring requirements as specifically provided in its standard guidelines. Most State regulatory agencies with paleontological laws, ordinances, regulations, and standards accept and use the professional standards set forth by the Society of Vertebrate Paleontology.

Public Resources Code Section 5097.5 and Section 30244

Public Resources Code (PRC) Section 5097.5 and Section 30244 include State requirements for management of paleontological resources. These statutes prohibit the removal of any paleontological site or feature from public lands without permission of the jurisdictional agency, define the removal of paleontological sites or features as a misdemeanor, and require reasonable mitigation of adverse impacts on paleontological resources from developments on public (e.g., state, county, city, or district) lands.

California Penal Code Section 622.5

California Penal Code Section 622.5 details the penalties for damage or removal of paleontological resources, whether from private or public lands.

REGIONAL

Central Valley Regional Water Quality Control Board

In 2023, the State Water Resources Control Board (SWRCB) adopted the Water Quality Control Policy for Siting, Design, Operation, and Maintenance of OTWS (OTWS Policy). The goal of the OWTS Policy is to allow the continued use of OWTS, while protecting water quality and public health and preventing excessive OWTS densities. The OWTS Policy establishes a statewide, risk-based, tiered approach for the regulation of OWTS installations and replacements and sets the level of performance and protection expected from OWTS. This OWTS Policy waives the

requirements of OWTS owners to apply for and receive Waste Discharge Requirements to operate their systems as long as they meet the conditions set forth in the policy. Implementation of this policy is delegated to Local Agency Management Programs (LAMPs). For Lake County, the LAMP is the Environmental Health Department. However, the Central Valley Regional Water Quality Control Board (RWQCB) provides oversight of the local agencies.

There are five risk tiers requiring increasing RWQCB oversight of local agencies.

- Tier 0 covers properly functioning, existing OWTS with up to 10,000 gallons per day of projected flow. These require no change in local codes and ordinances.
- Tier 1 covers low-risk new and replacement OTWS with up to 3,500 gallons per day of projected flow and the OWTS Policy provides conservative, largely prescriptive default standards.
- Tier 2 covers new and replacement OWTS with up to 10,000 gallons per day of projected flow that do not meet Tier 1 standards.
- Tier 3 includes OWTS less than 600 feet from Clean Water Act Section 303(d) impaired water bodies that are listed for nitrates and pathogens. For these OWTS, the LAMP must include Advanced Protection Management Programs.
- Tier 4 covers failing OWTS and specifies minimum corrective actions.

Pursuant to the OWTS Policy, all LAMPs must submit annual reports to the RWQCB in their jurisdiction, summarizing (1) the number, location, and description of permits issued for new and replacement OWTS; (2) applications and registrations for the local septic tank cleaning companies; and (3) the number and location of complaints pertaining to OWTS operation and maintenance and how they were resolved. Lake County is regulated under Tier 1 by the Central Valley RWQCB (Central Valley RWQCB 2024).

LOCAL

Code of Ordinances

The Lake County Code of Ordinances (LCCO) includes various directives pertaining to geology and soils. The LCCO is organized by chapter, article, and section. Most provisions related to geology and soils are included in Chapter 5, *Building Regulations;* Chapter 9, *Health and Sanitation;* Chapter 17, *Subdivision Regulation;* Chapter 23, *Clear Lake Shoreline*; Chapter 24, *Surface Mining and Reclamation*; and Chapter 30, *Grading Ordinances*, as follows:

- **Chapter 5, *Building Regulations.***
  - Section 5-4a, *Adoption of California Green Building Code*, adopts the 2022 CBC, with amendments, as the County's Building Code (Ordinance No. 3131). As such, all new construction within the county is required to adhere to its seismic safety standards.

  - Article 5, *Excavating and Filling*, describes the requirements for excavating and filling and addresses where these activities are prohibited including where land is unstable or in a condition that it may slip, slide, or flow when dry or saturated.
- **Chapter 9, *Health and Sanitation.*** Article 3, *Sanitary Disposal of Sewage,* outlines the requirements to obtain a sanitary permit for a conventional septic/leach field OWTS or an alternative sewage disposal system.
- **Chapter 17, *Subdivision Regulation*.** Upon approval of the tentative map for any subdivision, the subdivider shall furnish the Department of Public Works with a soils report on filled areas or areas to be filled and for all street and alleyways with any change in soil conditions. The soils report shall include methods approved by the State of California for "R" values, sieve analysis, and sand equivalent, unless the Director of Public Works waives the report.
- **Chapter 23, *Clear Lake Shoreline*.** This chapter establishes minimum standards for the construction, alteration, removal, or maintenance of structures and other activities in the area in and around Clear Lake. The intent of the provisions in the chapter is to prevent erosion or flooding impacts that will affect Clear Lake.
- **Chapter 24, *Surface Mining and Reclamation.*** This chapter includes financial assurances and performance standards for reclamation plans to ensure that slope stability, erosion and drainage control are included in the plan upon closure of the mine.
- **Chapter 30, *Grading Ordinance*.** This chapter includes the County's grading ordinance, which sets forth rules and regulations to control activities involving excavation, grading and earthwork construction, including fills and embankments; establishes the administrative procedure for the issuance of permits; provides for approval of plans and inspection of grading construction and provides for enforcement and penalties for violation. The ordinance also requires if serpentine material is used as fill, then an Asbestos Dust Mitigation Plan must be prepared, and the import of serpentine fill requires a Lake County Air Quality Management District-issued plan.

Multi-Jurisdictional Hazard Mitigation Plan

The Lake County Multi-Jurisdictional Hazard Mitigation Plan (MJHMP) serves to reduce injury, loss of life, property damage, and loss of services from natural disasters. This plan provides a comprehensive analysis of the natural and human-caused hazards that threaten the County, with a focus on hazard mitigation, allowing the County to remain eligible to receive additional federal and State funding to assist with emergency response and recovery, as permitted by the federal Disaster Mitigation Act of 2000 and California Government Code Sections 8685.9 and 65302.6. It also complements the efforts undertaken by the 2008 General Plan Safety Element. The MJHMP complies with all requirements set forth under the federal Disaster Mitigation Act of 2000. Lake County updated its MJHMP in 2025, which has been approved by FEMA.

The MJHMP includes hazard mitigation actions to support the goals and objectives. Actions related to geology and soils include revising the LCCO grading ordinance to better address hazards related to landslides (Action 30), seismic monitoring for dams (Action 8), and a seismic retrofit feasibility study (Action 56). The hillside stabilization of New Long Valley Road (Action 37) and the implementation of debris flow mechanisms for the Anderson Springs Slide (Action 42) are currently in progress (SOES 2023).

Rules and Regulations for On-site Sewage Disposal

The Land Development Program under the Lake County Environmental Health Division (EHD) covers on-site wastewater treatment/disposal services, water well construction permits, and inspections. The Lake County Rules and Regulations for On-site Sewage Disposal provide the general standards, prohibitions, and requirements for on-site sewage disposal systems, as well as site evaluation procedures (Lake County EHD 2010). The applicant for a new OTWS system must first provide an application to the Lake County EHD with site maps and plans, as well as the preparation of two holes on the property for the percolation testing. A qualified inspector from Lake County EHD will conduct an on-site evaluation of site conditions and perform the percolation testing. Lake County EHD will prepare a site evaluation report that specifies the approved leachfield area, the type and size of the septic system required, and any other special requirements. The applicant then applies for a septic permit with detailed specifications for the installation of the system. Once the permit has been obtained, the OWTS is installed by a licensed C42 sanitation contractor. After installation, Lake County EHD will inspect the system and issue a Certificate of Satisfactory Completion.

3.7.2 Existing Conditions

COUNTYWIDE AREA

Regional Geology

Lake County is within the Coast Ranges Geomorphic Province, which consists of a northwest-trending series of elongated ridges and valleys that are the result of folding and faulting. The northern Coast Ranges are underlain by a basement of Mesozoic, consolidated to weakly metamorphosed sedimentary and crystalline rocks of the Franciscan complex, the Great Valley sequence, and Coast Range ophiolite (mafic and ultramafic igneous rocks). Ultramafic and serpentine rocks are commonly associated with naturally occurring asbestos (NOA). Basement rocks are exposed to the surface throughout much of the Coast Ranges but also underlie valleys and coastal plains. The basement rocks are buried beneath thick accumulations of Tertiary marine and continental sediments and volcanic rocks, which in turn are overlain by thin Quaternary alluvial deposits (Padre 2025).

Lake County geology is defined by its volcanic history and the Clear Lake Volcanic Field, which is the northernmost and youngest of several volcanic fields in the California Coast Ranges. Near Clear Lake, the volcanic field consists of lava domes, cinder cones, and maars (broad, low-relief volcanic craters). A significant geological feature is Mount Konocti, a composite dacitic lava dome, which last erupted around 11,000 years ago. Lake County "diamonds," or moon tears, are a unique type of quartz formed from the heat of Mount Konocti's volcanic eruptions. The magma chamber beneath the volcanic field is the source of geothermal power for the Geysers, the world's largest geothermal energy facility (Padre 2025). Lake County also has an abundance of obsidian, onyx, agate, jade, petrified wood, and clamshell fossils, which are mostly the result of the Clear Lake Volcanic Field.

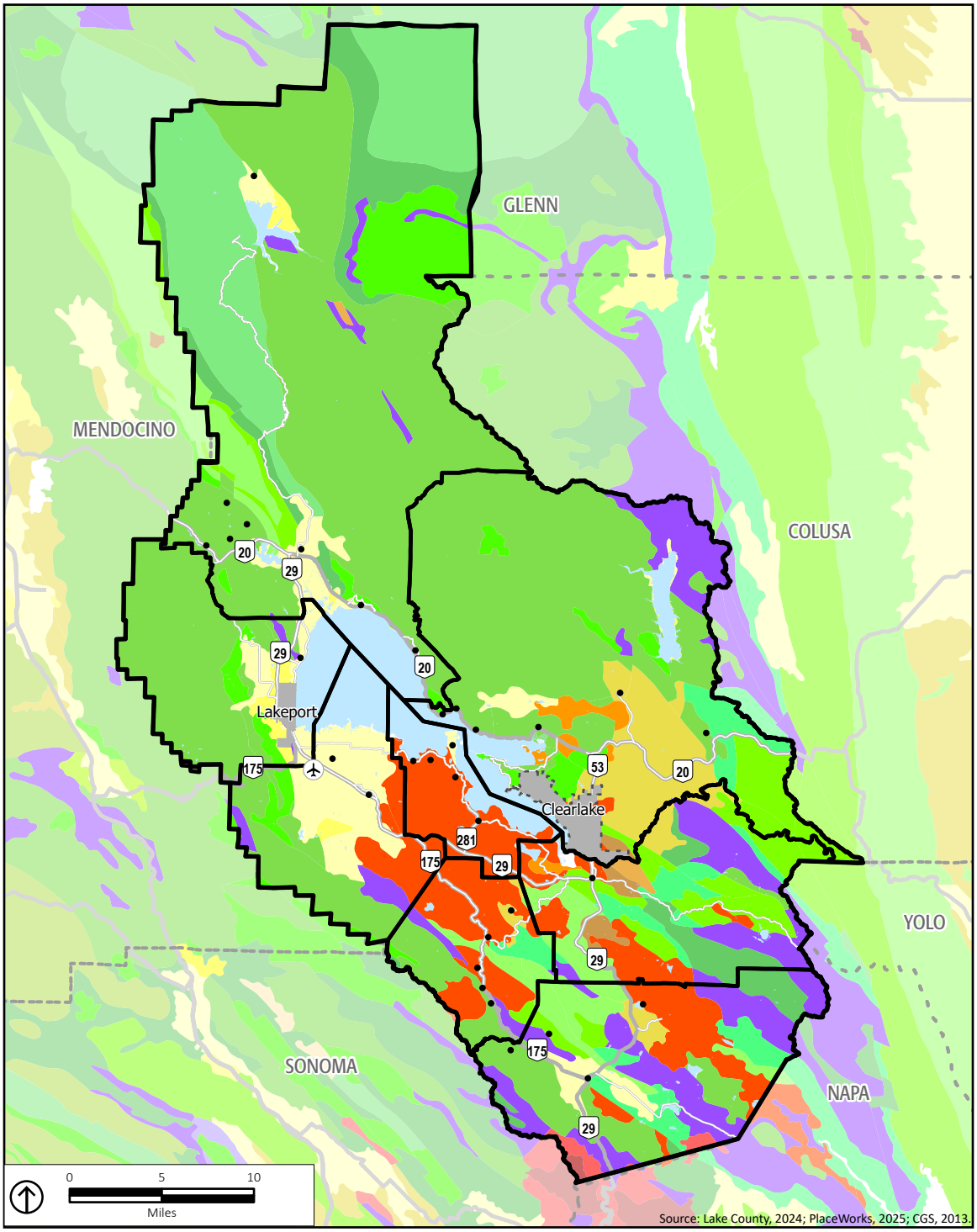
Figure 3.7-1, *Geologic Formations,* shows the geologic map of Lake County. The yellow portions of the map are marine and non-marine sedimentary rocks; the red areas are Quaternary volcanic rocks; the green areas are sedimentary rocks, primarily sandstone of the Franciscan complex; and the dark purple areas designated as "um" on the map are ultramafic rocks that typically contain NOA.

Lake County contains a mixture of rugged mountains, rolling hills, and broad valleys. Alluvial plains are present in Coyote Valley, Callayomi Valley, Long Valley, and Guenoc Valley surrounded by foothills and steep, mountainous terrain. A dominant feature is Clear Lake, the largest natural lake in California, which is approximately 2 million years old. Clear Lake has more than 100 miles of shoreline and is at an elevation of 1,325 feet above mean sea level (msl). Elevations within Lake County range from 640 to 7,046 feet above msl.

Soils

The soils in Lake County can be grouped into four broad categories: hillside soils formed on volcanic materials, hillside soils formed on sandstone and shale, terrace alluvial soils, and valley alluvial soils (Lake County Winegrowers 2025). The Natural Resources Conservation Service's website, Web Soil Survey, provides soil maps for Lake County that describe the soil types, soil profiles, properties and qualities, and erosion potential (Natural Resources Conservation Service 2025).

The hillside volcanic soils are typically gravelly loams and very gravelly loams with a deep red color. Hillside soil formed on sandstone and shale are gravelly loams and very gravelly sandy loams that are typically shallow, with underlying sandstone at depths of two to four feet. These soils are yellowish-brown in color. Alluvial terrace soils occur throughout Lake County, around the perimeter of valleys and Clear Lake. These soils are fine sandy loam and many of the soils have weathered to a deep reddish brown. The valley alluvial soils vary in the amount of gravel, sand, silt, and clay and mainly consist of loam to clay loam. Clear Lake clay may be present near Clear Lake (Lake County Winegrowers 2025; Natural Resources Conservation Service 2025). Many of the soil types in Lake County meet the criteria for prime farmland and/or the criteria for farmland of statewide importance, as described further in Section 3.2, *Agriculture and Forestry Resources*.



Planning Area Boundary
Incorporated City
Incorporated City Sphere of Influence
Unincorporated Community or Landmark Area
Airport
Serpentine (SSURGO)
Serpentine (AQMD)
Serpentine (SSURGO)
Serpentine (AQMD)
Generalized Rock Types
Q
Qls
Qoa
QPc
Qrv
Qv, Qv?
P
E, E-Ep
Ep
Tv
Tvp
TK
K, K?
Ku, Ku?
Kl, Kl?
KJf
KJfm
KJfs
J, J?
Mzv
um
gb

Figure 3.7-1
Geologic Formations

There are some soil-related limitations for future development within Lake County. Limiting factors include slope percentage, depth to bedrock, flooding potential, high erosion potential, poor soil strength, and expansive soils. Problems with low percolation rates, steep slopes, and high groundwater have precluded the use of conventional septic systems in some areas.

Erosion

Soils have varying levels of susceptibility to erosion, which can occur because of intensive land use, wind, or water. 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. Wildfires can increase erosion due to the loss of vegetation and the intense heat can change in soil properties. High rates of erosion may have several negative impacts, including degradation and loss of agricultural land, and increased sediment loads in streams and Clear Lake.

As shown in Figure 3.7-2, *Slope and Terrain Map,* most of Lake County has slopes ranging from 10 to greater than 30 percent, excluding the valleys and areas around Clear Lake. The steepness of these slopes makes them very susceptible to erosion. In addition, there are areas of Lake County that encounter high rainfall (i.e., Cobb and the mountainous areas) as compared to the lake communities. Heavy rainfall increases the potential for erosion.

Expansive Soils

Expansive soils have the potential to undergo significant changes in volume, either shrinking or swelling, with changes in moisture content. 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 and are not considered expansive. Soils containing clays have variable potential for volume changes and are generally considered expansive. Expansive clay soils can be recognized in the dry season by the deep cracks, generally in polygonal patterns, in the ground surface. 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.

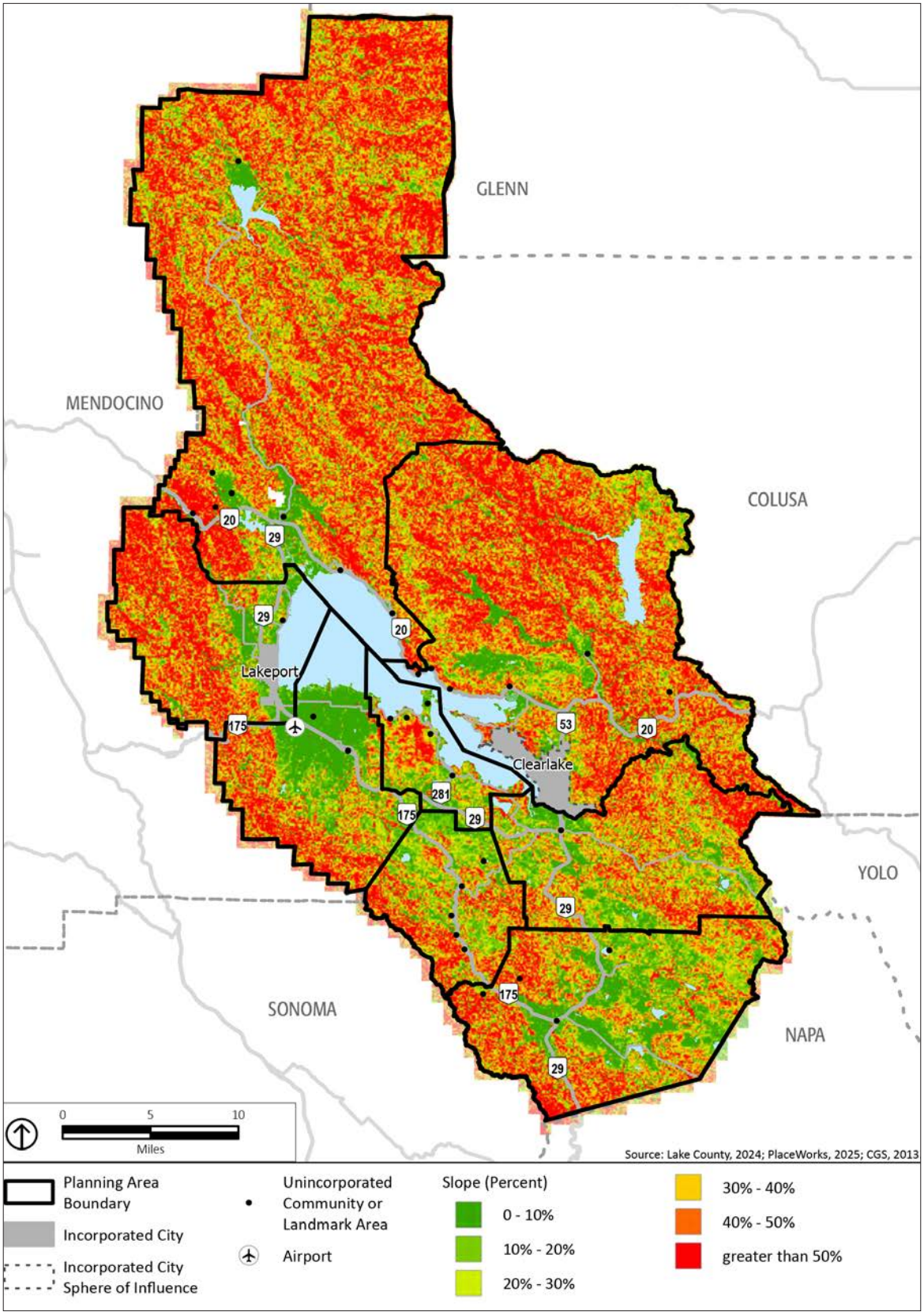


Figure 3.7-2
Slope and Terrain Map

Periodic shrinking and swelling of expansive soils can cause extensive damage to buildings, other structures, and roads. The CBC states that in areas likely to have expansive soil, soil testing shall be required to determine if the soils meet the following criteria:

- Plasticity index (PI) of 15 or greater;
- More than 10 percent of the soil particles passing a No. 200 sieve;
- More than 10 percent of the soil particles are less than 5 micrometers in size; and
- Expansion index greater than 20l.

The soils in Lake County considered expansive are the Clear Lake clay series, Cole clay loam, Maxwell clay loam, and Asbill clay loam, among others (Natural Resources Conservation Service 1989). Most of these soils are found in and around Clear Lake and Big Valley. Although the mountainous areas in Lake County have very limited amounts of clay soil, all the Planning Areas have the potential for expansive soils.

Seismic Hazards

Lake County has a complex fault system, primarily due to its location near the San Andreas Fault and its own active faults. 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. While the San Andreas Fault doesn't run through the County, this fault, which is about 30 miles to the west, and the Hayward Fault and Healdsburg/Rogers Fault extensions into the Maacama fault (10 miles to the west), create a seismically active environment. Lake County also has several small active faults with most centered in the Cobb Mountain area. A map of the faults in Lake County is provided as Figure 3.7-3, *Fault Map of Lake County.*

Active Faults within Lake County

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. 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.

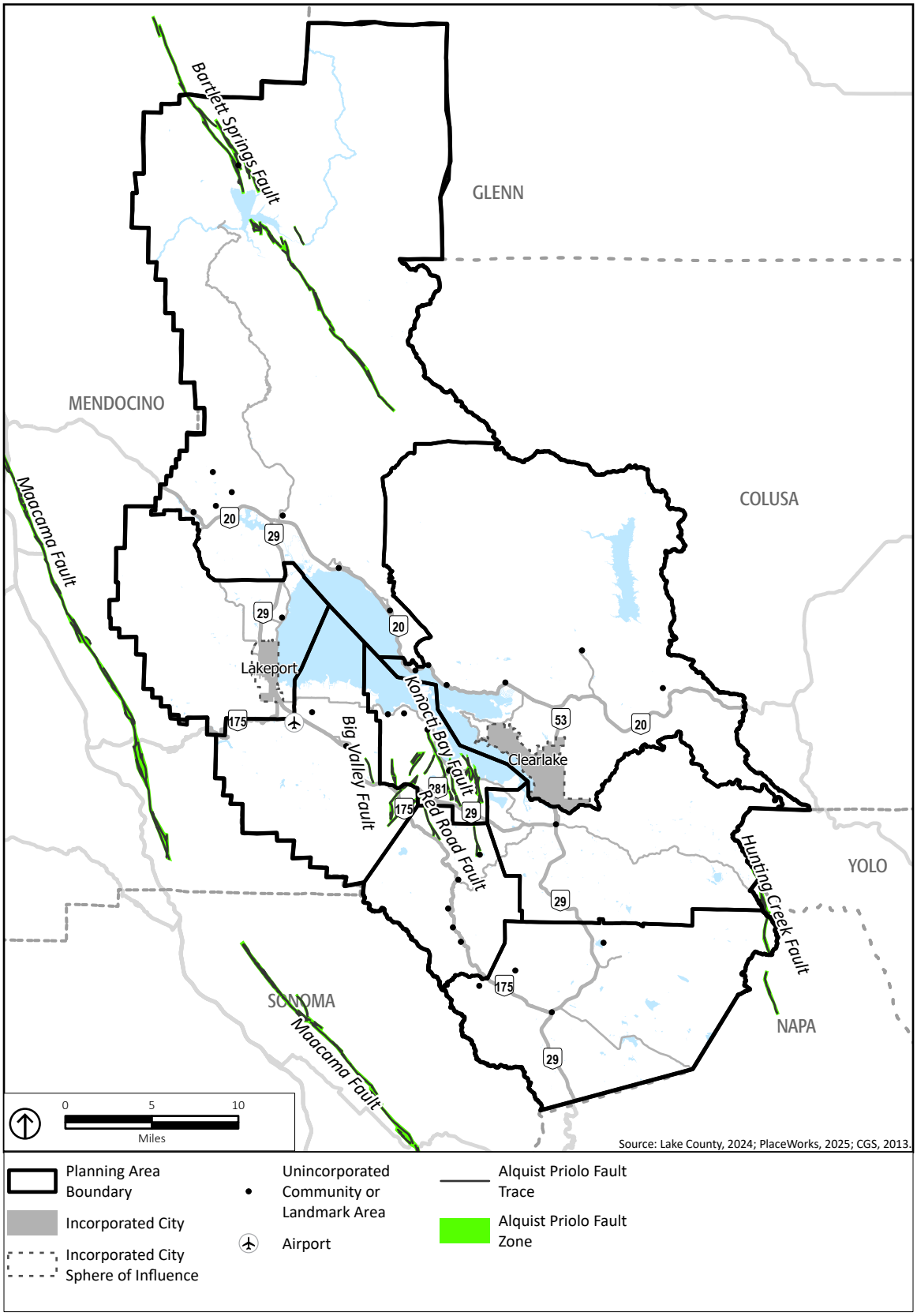


Figure 3.7-3
Fault Map of Lake County

The following is a summary of the active faults that are within or near Lake County:

- **Bartlett Springs Fault.** This fault system is a northwest-trending zone of steeply dipping active faults, grouped into four sections from north to south: the Lake Mountain section, the Round Valley section, the Elk Creek section, and the Bartlett Springs section. It is estimated to be as much as two miles wide and 100 miles long and is associated with the San Andreas fault system. The most recent rupture occurred between 300 and 1,000 years ago (Bryant 2017a). Based on its length, it is possible to host a magnitude 7.5 earthquake. The fault moves, or creeps about 6 millimeters per year, which is a way to release strain that otherwise could build up and cause an earthquake. However, the area around Newman Springs, one mile north of Bartlett Springs, shows very little creep, which is one place where a big earthquake could occur (Lienkaemper 2015).
- **Konocti Bay Fault Zone.** The Konocti Bay Fault Zone consists of a series of short fault segments just southwest of Clear Lake. This fault zone is likely responsible for three historic earthquakes: a magnitude 4.4 earthquake in 1954 with minor damage at Lakeport and two earthquakes with magnitudes of 3.6 and 4.8 in 1955 near Kelseyville. Microearthquake activity has also been observed in this area.
- **Big Valley Fault.** The Big Valley Fault is in the west-central portion of Lake County and is also part of the broader San Andreas Fault system. It is northwest of the Konocti fault zone and extends about 12 miles along the west side of Clear Lake. The movement of the fault has created a basin-like shape with a gentle slope, which is conducive for viticulture. Some portions of the faults have shown displacement within the last 200 years. A 2-kilometer long part of the fault is thought to have ruptured in response to the 1906 San Francisco earthquake (Bryant 2017b).
- **Hunting Creek Fault.** This is a segment within the Hunting Creek-Berryessa fault zone, west of Lake Berryessa and east of Clear Lake. The fault is considered recently active, with evidence of surface rupture in the last 2,700 years. It is part of a larger fault system that includes the Bartlett Springs fault to the north and the Berryessa fault to the south. It is considered a potential source of a significant earthquake with a magnitude of 6.5 to 6.75 in the Lake Berryessa area within a lifetime (Bryant 2000).
- **The Geysers.** Although there is not a coherent fault in this area, the geothermal steam field is in a seismically active area. The underground stress associated with underground steam injection is attributed to the Geyser's microearthquakes and seismic activity.

As shown on Figure 3.7-3, *Fault Map of Lake County,* there are several other faults within Lake County, such as the Collayomi Fault Zone, but they are not considered active (i.e., movement occurred before or during the Quaternary period).

According to the California Earthquake Hazards Zone Application interactive map (EQ-ZAPP), the following EFZs have been identified within Lake County, specifically the Cobb Mountain, Kelseyville, Lower Lake, Middletown, North Lake Communities, and Rivieras Planning Areas.

- The Bartlett Springs EFZ runs in a northwest-southeast direction through most of North Lake Communities Planning Area. Most of the EFZ is in mountainous terrain but it does bisect Lake Pillsbury and could impact resorts and campgrounds in this area. The lower portion of the Bartlett Springs EFZ does run along the very eastern border of the Lower Lake and Middletown Planning Areas, which consists primarily of open space and undeveloped land. However, the EFZ is within the Knoxville OHV Recreation Area.
- The Konocti Bay EFZ is primarily in the Rivieras Planning Area, north of Highway 29, and includes the area around Clearlake Rivieras, Riviera Estates, and Riviera West. There are several traces of the EFZ south of Highway 29, in the Cobb Mountain Planning Area, mainly in agricultural land and open space.
- The Big Valley EFZ is in the eastern portion of the Kelseyville Planning Area and is approximately 1.5 miles long. It is primarily in an undeveloped area with limited agricultural activity north of Highway 29.
- Hunter Creek EFZ – Hunter Creek/Berryessa Fault Zone, Middletown Planning Area (located in the far northeast corner of the Planning Area)

There are no records of major earthquakes centered in Lake County, and only four large earthquakes have been instrumentally recorded in the county. The most significant structural damage resulted from earthquakes centered outside of the county, such as the San Francisco Earthquake of 1906.

Although microearthquakes occur frequently in Lake County, there has been no significant damage from these earthquakes. Evidence now indicates a relationship between micro-seismic activity and geothermal production in the Geysers. However, microearthquakes have magnitudes of 4.0 or less, which does not result in dangerous ground shaking.

Overall, Lake County has a high earthquake risk score of 71 percent (severe) (Augurisk 2025). It is part of the Cascadia Subduction Zone, making it vulnerable to potentially large magnitude earthquakes (up to a magnitude of 9.0). An earthquake with a magnitude of 8.9 has a 2 percent probability of occurring within the next 50 years in Lake County, which would cause considerable damage and partial collapse to structures (Augurisk 2025).

Other Active Faults

There are several known active faults outside of Lake County that have the potential to cause seismic events that could be felt within the County:

- **San Andreas Fault System.** The San Andreas Fault 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 35 miles west of Lake County. The maximum credible earthquake is a Richter magnitude 8.3,

which is capable of resulting in serious damage and loss of life in northern California, including Lake County (Lake County OES 2025).

- **Maacama Fault.** Although this fault zone is about two miles west of Lake County at its nearest location, it has the potential impact to cause earthquake damage within the county. It is part of the Healdsburg/Rodgers Creek Fault Zone and is a northwest-trending strike-slip fault that runs from Ukiah in the north and ends north of Santa Rosa in the south, following Highway 101. It is a series of discontinuous, subparallel fault strands (Hart and Bryant 2001). Based on its length, it could host a 7.5 magnitude earthquake. At its southernmost extent, there is a stepover with the Rodgers Creek Fault. Therefore, it is possible for an earthquake originating on the Rodgers Creek Fault to rupture onto the Maacama Fault, or vice versa. The last major earthquake on this fault zone was in 1808 and there is a 25 percent chance of an earthquake of magnitude 7.0 or greater along this fault in the next 30 years (Lake County OES 2025).
- **Mendocino Triple Junction.** This is named for the location in Humboldt County where three plates and three faults meet and is considered the most seismically active area in California. In the past 100 years, at least 40 earthquakes of magnitude 6 or larger, including six earthquakes of magnitude 7.0 or larger, have occurred in this area. At this location off the coast of California near Cape Mendocino, three major faults meet: the Cascadia Subduction Zone, the San Andreas Fault, and the Mendocino Fracture Zone. Three tectonic plates are also bumping up against one another: the Pacific, North American, and Gorda Plates. The Gorda Plate is plunging, or subducting, beneath the North American Plate, which caused the Cascade Range. Simultaneously, the Pacific Plate is grinding past the North American Plate along the San Andreas Fault. The 1992 magnitude 7.1 Cape Mendocino earthquake occurred in this area (USGS 1993).

Ground Shaking

Ground shaking is the motion that occurs when energy is 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 within and near Lake County, all parts of Lake County are potentially subject to moderate to severe ground shaking. 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 geological and soil conditions. Because of the proximity of the Maacama Fault to Lake County, potential damage from a 7.0 magnitude earthquake on this fault would result in very strong to severe shaking in the western portions of Lake County with moderate to strong shaking in the northern and eastern areas of the County (Lake County OES 2025).

Volcanic and Geothermal Activity

One of the most striking features in Lake County is Mount Konocti, which is volcanic in origin and rises approximately 3,200 feet above the southwestern shore of Clear Lake. Subduction[1] ended near Clear Lake about three million years ago leaving behind an opening into the Earth's mantle through which mantle material rose and melted the earth's crust. As a result, the Clear Lake Volcanic Field formed approximately a million years after subduction ended. Volcanic activity was initially widespread but has focused near Clear Lake in the past million years, following the alignment of existing faults (USGS 2023b). The Clear Lake Volcanic Field includes the cities of Clearlake and Lakeport, communities reaching from Kelseyville to Lucerne, and approximately 43,000 acres of Clear Lake.

Clear Lake Volcanic Field is the youngest of several volcanic fields in the California Coast Ranges and is considered a high-threat volcanic system (Ewart, Guffanti, and Murray 2005). Boggs Mountain is an elongate, rolling highland capped with andesitic lavas which cover approximately five square miles. Cobb Mountain is formed largely of rhyolite which overlays Franciscan rocks forming the principal ridge of the Mayacamas Mountains. Flows of porphyritic lavas, of which Mount Konocti is most conspicuous, cover about 30 square miles south of Clear Lake. Five miles south of Clear Lake, similar flows from Mount Hannah, Seigler Mountain, and portions of the adjacent highlands, cover a total of about seven square miles. Obsidian outcrops cover another five square miles of the Cobb Mountain Area, most notably near Camel Back Ridge.

There are four main hazards that may accompany volcanic eruptions: ash and cinder falls, explosive blasts, lava flow, and mud flows. Although there have been no documented eruptions within the last few thousand years, intermittent seismic activity and the presence of heat at depth indicate that the system is still active and future eruptions are likely. Future eruptions would be signaled by heightened earthquake activity (USGS 2023a). 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.

The largest power-producing geothermal field in the world, the Geysers geothermal field, is southwest of Clear Lake Volcanic Field and can generate enough electricity for 850,000 homes. The heat that powers the geothermal system emanates from the magma chamber below the greater Clear Lake volcanic system (USGS n.d.). Geothermal gases may escape through natural cracks in the earth and may enter indoor spaces via foundation cracks and utility openings. High concentrations may cause health risks due to elevated levels of carbon dioxide and hydrogen sulfide. Methane gas can accumulate and cause explosions in confined spaces (Padre 2025).

[1] Subduction is the process of the oceanic plate colliding with and descending beneath the continental plate.

Liquefaction

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 temporary liquid state. 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. Liquefaction is a serious hazard because buildings in areas that experience liquefaction may sink or suffer major structural damage. In dry soils, seismic shaking may cause soil to settle rather than flow, a process known as densification.

Because there are no mapped liquefaction zones in Lake County (CGS 2025a), liquefaction has not been identified as a significant geologic hazard. However, it is not possible to eliminate the potential for liquefaction without additional subsurface exploration and laboratory analyses. Liquefaction could occur in limited areas of Lake County that have shallow groundwater and low density, water-saturated sediments near the surface, such as floodplains and areas around Clear Lake.

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.

There are many 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 firm, consolidated soils or hard bedrock.
- **Structure and Physical Properties of Materials:** 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.

Most of Lake County is susceptible to landslides, as shown in Figure 3.7-4, *Landslide Susceptibility,* based on past landslides, the relative strength of rock units, and the steepness of slopes. Most landslides occur on slopes greater than 15 percent and most new landslides occur in areas that have experienced previous landslides. The serpentine soil often is slippery and strongly fractured and slides very readily. The map does not include susceptibility to debris flows, which are a fast-moving, fluid form of landslide which is triggered by intense rainfall.

The areas around the east side of Clear Lake, the Cache Creek Wilderness Area, Mount Konocti, and Long Valley have had documented landslides (CGS 2025b). However, due to steep slopes throughout Lake County, landslides are possible in all the planning areas. The serpentine soil found in association with ultramafic rocks is slippery and strongly fractured and slides very readily. Climate change will likely increase landslides within the County as the area encounters more intense rainstorms, droughts that dry out vegetation, and wildfires that remove stabilizing vegetation from the mountains and hillsides

Naturally Occurring Asbestos

NOA, which is associated with serpentinite, and its parent material, ultramafic rock, is abundant in Lake County and is typically found in the foothills and mountainous regions of the county. The amount of asbestos present in these rocks ranges from less than 1 percent up to 25 percent and more. Ultramafic and serpentine rock release asbestos eroded, broken, or crushed. This can happen when cars drive over unpaved roads or driveways 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.

Figure 3.7-5, *Naturally Occurring Asbestos Locations*, shows the areas within Lake County that have ultramafic rocks considered to contain NOA. Most of the NOA is present within the Cobb Mountain, Middletown, and Lower Lake Planning Areas although some of the other planning areas have limited amounts of NOA. The Lake County Air Quality Management District (LCAQMD) has standards to reduce exposure to asbestos emissions during grading due to the present of NOA in several areas of the County. As written in Chapter 30 of Lake County's Grading Ordinance, any use of serpentine in fill materials requires preparation of an Asbestos Dust Mitigation Plan, which must be submitted to LCAQMD for approval.

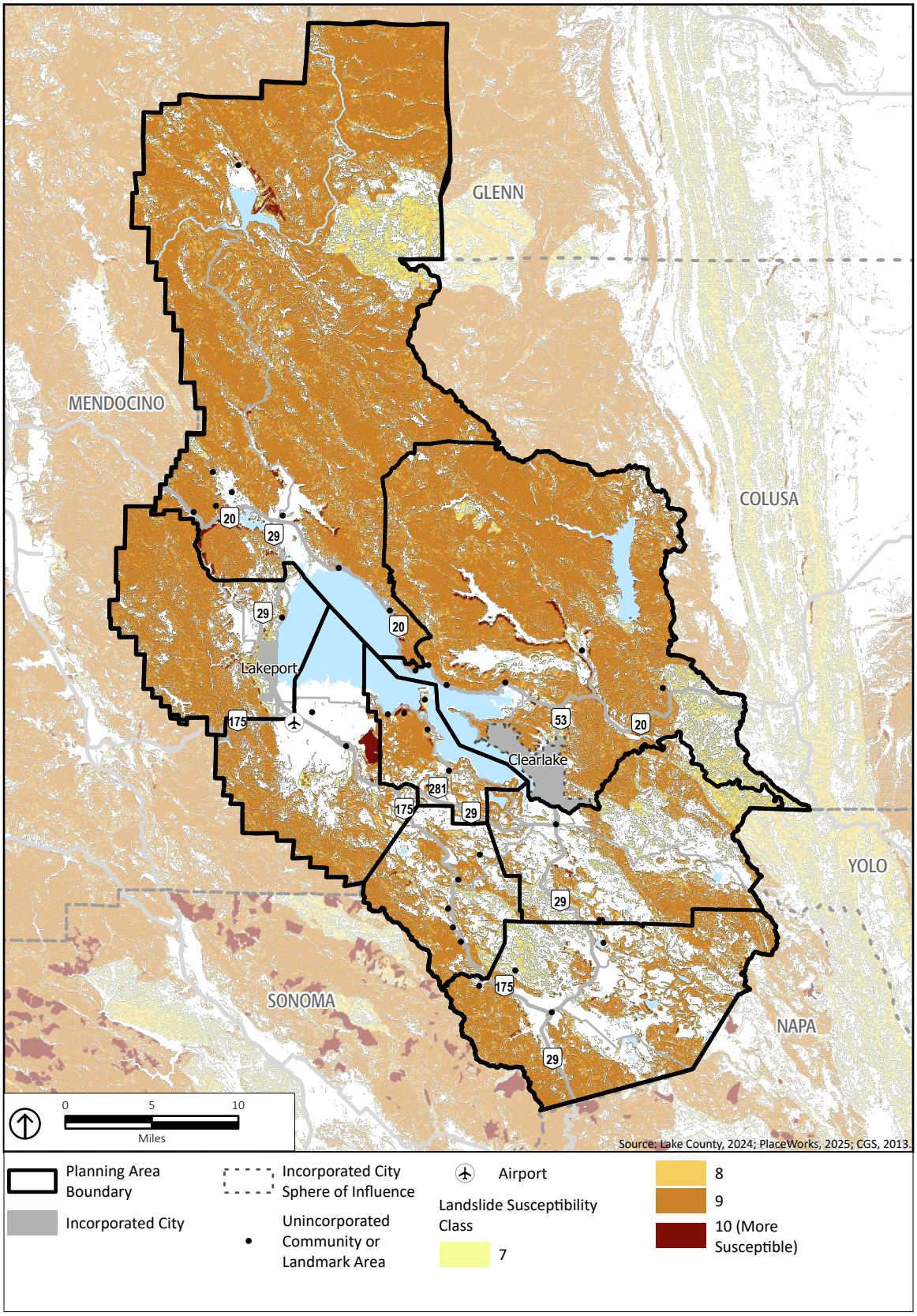


Figure 3.7-4
Landslide Susceptibility

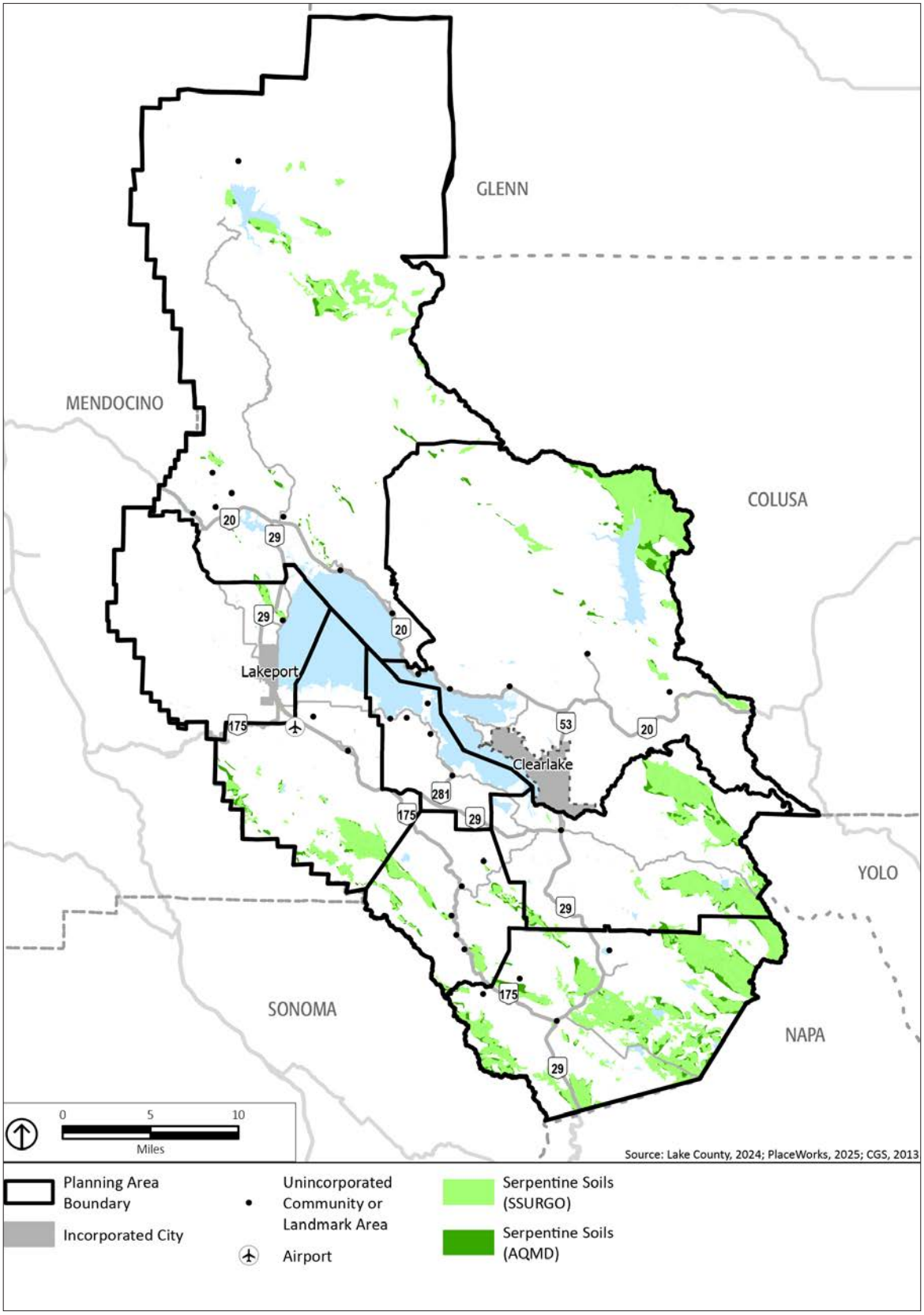


Figure 3.7-5
Naturally Occuring Asbestos Locations

On-Site Sewage Disposal Systems

Standard septic tank / leach field systems are commonly found in the unincorporated areas of the County where there is no access to a municipal sewer collection system. Onsite Wastewater Treatment Systems (OWTS) are installed and inspected under the jurisdiction of Lake County Environmental Health Department and the Central Valley RWQCB.

These systems become problematic during periods of heavy rainfall and runoff, with failures attributed to root intrusion, limited percolation capacity, and high groundwater levels. Residential septic systems contain nitrates and phosphates, which contribute to nutrient loading to Clear Lake (California Rural Water Association 2023). This is especially problematic for OTWSs that are located along the shoreline or near Clear Lake.

In addition, problems with soil conditions, steep slopes, and high groundwater levels have precluded the use of conventional septic systems in some areas. Soils can support OTWSs when the slopes do not exceed thirty percent and the groundwater table is at least 5 feet below the bottom of the leach field. Clay soils (Soil Group D) and saturated soils are not acceptable because of low percolation rates. Also, soils with rapid or very rapid permeability, such as very coarse sand, gravel, and cobbles, are problematic because of the potential to contaminate shallow groundwater. Alternative OWTSs have been approved by Lake County Environmental Health, including capped fill systems, sand filter systems, and steep slope systems.

Paleontological Resources

Lake County is underlain by several distinct geologic rock units (i.e., formations) with varying paleontological sensitivities. According to USGS, 15 percent of the county is underlain by quaternary volcanic rocks (Clear Lake Volcanic Field) and quaternary alluvium and marine deposits of the Pleistocene to Holocene eras, which generally have lower paleontological sensitivity due to their young age (USGS 2025). The Franciscan complex (Jurassic to Cretaceous eras) comprises 41 percent of the coverage in Lake County, followed by Franciscan schist (9.5 percent), ultramafic rocks (7.3 percent), and Franciscan mélange (4.8 percent) with lesser amounts of other rock units. These rock units range from Jurassic to Tertiary eras, which typically have higher paleontological sensitivity.

PLANNING AREAS

A summary of the potential geologic hazards in each of the Planning Areas is provided in Table 3.7-1, *Geologic Hazards Summary.*

Table 3.7-1 Geologic Hazards Summary

Planning Area	Fault Rupture Hazard (EFZ)	Liquefaction	Landslide and Slope Stability	Soil Erosion	Expansive Soils	Naturally Occurring Asbestos	Volcanic Activity	Geothermal Activity	Paleontological Resources
Cobb Mountain	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
East Lake Communities	No	No	Yes	Yes	Yes	Yes	Yes	No	Yes
Kelseyville	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lakeport	No	No	Yes	Yes	Yes	Yes	Yes	No	Yes
Lower Lake	No	No	Yes	Yes	Yes	Yes	Yes	No	Yes
Middletown	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
North Lake Communities	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes
Rivieras	Yes	No	Yes	Yes	Yes	No	Yes	No	Yes

Source: Padre 2025.

3.7.3 Standards for Analysis

Appendix G, *Environmental Checklist Form*, of the CEQA Guidelines states that the proposed project would result in a significant impact related to geology and soils if it would:

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: (i) 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.); (ii) Strong seismic ground shaking; (iii) Seismic-related ground failure, including liquefaction; and (iv) Landslides.

b) Result in substantial soil erosion or the loss of topsoil.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.

d) Be located 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.

e) 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.

f) Directly or indirectly destroy a unique paleontological resource, site, or unique geologic feature.

3.7.4 Project Impact Discussion

a) Would the project subject residents [or occupants, visitors, etc.] to potential seismic-related hazards, including the risk of loss, injury, or death involving: (i) 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.); (ii) Strong seismic ground shaking; (iii) Seismic-related ground failure, including liquefaction; and (iv) Landslides.

SURFACE RUPTURE OF A FAULT

As shown in Figure 3.7-3, *Fault Map of Lake County*, there are three Alquist-Priolo EFZs within Lake County associated with the Bartlett Springs Fault, the Konocti Bay Fault Zone, and Big Valley Fault. Rupture of these active earthquake faults could cause damage to structures along their traces.

As required by the Alquist-Priolo Act Fault Zoning Act, the approval of projects within EFZs must be in accordance with the policies and criteria established by the Surface Mining and Geology Board. These regulations require that fault investigation reports be prepared by a professional geologist registered in the State of California. Additionally, the Seismic Hazards Mapping Act requires projects that involve human occupancy within mapped fault zones to obtain a site-specific geotechnical report prior to the issuance of individual grading permits, and each new development would be required to retain a licensed geotechnical engineer to design new structures to withstand probable seismically induced ground shaking.

All new construction in Lake 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. The CBC standards require all new developments to be designed consistent with a site specific, design-level geotechnical report, which would be fully compliant with the seismic recommendations of a California-registered professional geotechnical engineer. To apply this code to site development, Lake County requires that new construction to meet building, grading, and erosion-control ordinances and include inspections during construction to ensure compliance with design standards. Additionally, the proposed General Plan 2050 contains

policies and actions that require local planning and development decisions to address potential fault rupture impacts as shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with abbreviation GEO. In particular, the following key policies and action would serve to minimize potential fault rupture impacts:

- Policy HS-12.2* prohibits the siting of critical facilities in areas within Alquist-Priolo Special Studies Zones, in mapped naturally occurring asbestos areas, in areas subject to seiches, liquefaction, in areas with a high landslide risk, or on seismically unstable soils, unless a geologic/seismic hazards geotechnical engineering study can be performed to identify potential impacts and engineering recommendations prior to siting or site acquisition.
- Policy HS-12.3 encourages continued studies by the United States Geological Survey and California Geological Survey on fault location, activity, and seismicity (including induced seismicity) within the county.
- Policy HS-12.9 prohibits new development on a hazardous fault trace, active landslide, or other geologic or seismic hazard area that poses a significant risk, including areas located downstream or downslope from such hazards, as shown on Figure HS-8 and Figure HS-9.
- Policy HS-12.10 requires structures in the Alquist-Priolo Special Studies Zones to be set back 50 feet from each side of a mapped active fault or fault zone except as provided in State statute. The setback may be reduced based on a geologic fault report that includes fault trenching.
- Action HS-12.d conducts a structural review of all County critical facilities and includes a detailed geologic/seismic site investigation and, if necessary, a review of access roads and utilities serving the sites. Require upgrading as determined by the reviews.

SEISMIC GROUND SHAKING

Lake County is considered a seismically active area and can experience moderate to severe ground shaking associated with seismic activity that could cause damage to structures and injury or death to inhabitants.

The proposed General Plan 2050 contains policies and actions that require local planning and development decisions to address potential ground-shaking hazards as shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with abbreviation GEO. In particular, the following key policies and action would serve to minimize potential seismic ground-shaking impacts:

- Policy GR-3.8* requires, prior to new development approval, where there are known geological hazards (as shown on current maps from the United States Geological Survey, California Geological Survey, California Department of Water Resources, and California Office of Emergency Services) or exploratory drilling for geothermal resources, the County shall ensure that these activities avoid or adequately mitigate seismic and geologic hazards through the preparation of site-specific geotechnical investigations prepared by a California Certified Engineering Geologist and/or Geotechnical Engineer and compliance with

identified measures. Prior to new development approval where there are known geological hazards (as shown on current maps from the United States Geological Survey, California Geological Survey, California Department of Water Resources, and California Office of Emergency Services) or exploratory drilling for geothermal resources, the County shall ensure that these activities avoid or adequately mitigate seismic and geologic hazards through the preparation of site-specific geotechnical investigations prepared by a California Certified Engineering Geologist and/or Geotechnical Engineer and compliance with identified measures.

- Policy GR-4.8 requires geothermal operations to use appropriate technologies and practices to minimize the impacts of induced seismicity on sensitive receptors.
- Policy GR-4.9 requires geothermal operators to monitor and analyze seismic data to determine the effects of geothermal production and injection on seismic activities associated with the development.
- Policy HS-12.3 encourages continued studies by the United States Geological Survey and California Geological Survey on fault location, activity, and seismicity (including induced seismicity) within the county.
- Policy HS-12.4 requires that new development be built to the latest siting, design, and construction standards to ensure buildings continue to be functional and useable after a seismic event.
- Policy HS-12.9* prohibits new development on a hazardous fault trace, active landslide, or other geologic or seismic hazard area that poses a significant risk, including areas located downstream or downslope from such hazards, as shown on Figure HS-8 and Figure HS-9.
- Policy HS-12.11 permits development on lands having soils sensitive to seismic activity only after adequate site analysis and appropriate siting and design of structure and foundation.
- Action HS-12.d conducts a structural review of all County critical facilities and include a detailed geologic/seismic site investigation and, if necessary, a review of access roads and utilities serving the sites. Require upgrading as determined by the reviews.

Furthermore, new construction in Lake County would be required to comply with the latest version of the CBC, which contains seismic building criteria and standards that are designed to reduce ground-shaking risks to acceptable levels.

LIQUEFACTION

There are no mapped liquefaction zones in Lake County, and therefore liquefaction has not been identified as a significant geologic hazard (CGS 2025a). There could be limited areas of Lake County that have shallow groundwater and low density, water-saturated sediments near the surface, such as floodplains and areas around Clear Lake, that may be subject to liquefaction. There are no policies in the Health and Safety Element that specifically address liquefaction, though the policies described under Impact GEO-1 would minimize potential impacts due to seismically induced liquefaction. The proposed General Plan 2050 contains policies and actions

that require local planning and development decisions to address potential ground-shaking hazards as shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with abbreviation GEO. In particular, the following key policy would serve to minimize potential liquefaction related impacts:

- Policy HS-12.2* prohibits the siting of critical facilities in areas within Alquist-Priolo Special Studies Zones, in mapped naturally occurring asbestos areas, in areas subject to seiches, liquefaction, in areas with a high landslide risk, or on seismically unstable soils, unless a geologic/seismic hazards geotechnical engineering study can be performed to identify potential impacts and engineering recommendations prior to siting or site acquisition.

LANDSLIDES

All Planning Areas within Lake County contain foothills and mountainous terrain with steep, potentially unstable slopes that could be subject to landslides. Figure 3.7-4, *Landslide Susceptibility*, shows the areas with the potential for landsliding in the county. The proposed General Plan 2050 contains policies and actions that require local planning and development decisions to address potential landslide hazards as shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with abbreviation GEO. In particular, the following key policies and action would require local planning and development decisions to address potential landslide impacts:

- Policy HS-12.1* requires areas with more than 30 percent slope or in areas mapped with naturally occurring asbestos to submit engineering plans and geotechnical studies for all construction and grading. These plans must address roads, utility corridors, and similar off-site improvements as well as erosion and dust control. Development in other areas possessing potential landslide risk, regardless of slope, shall require engineering plans and/or geotechnical study prior to discretionary approval or approval of grading or building permits.
- Policy HS-12.2* prohibits the siting of critical facilities in areas within Alquist-Priolo Special Studies Zones, in mapped naturally occurring asbestos areas, in areas subject to seiches, liquefaction, in areas with a high landslide risk, or on seismically unstable soils, unless a geologic/seismic hazards geotechnical engineering study can be performed to identify potential impacts and engineering recommendations prior to siting or site acquisition.
- Policy HS-12.9* prohibits new development on a hazardous fault trace, active landslide, or other geologic or seismic hazard area that poses a significant risk, including areas located downstream or downslope from such hazards, as shown on Figure HS-8 and Figure HS-9.
- Policy HS-12.12 prohibits in areas of high potential for landslides, avoid altering the land or hydrology in a way that is likely to increase the hazard potential, including:
  - Saturation due to drainage or septic systems.
  - Removal of vegetative cover.
  - Steepening of slopes or undercutting the base of a slope.

- Action L-SSA-4.g designates areas best suited for future residential development by studying development constraints, including agricultural soils, serpentine soils, slopes, and water and sewer availability.

However, because potential future development under the proposed General Plan 2050 has the potential to be constructed where there is the potential for geological hazards, impacts are considered **potentially significant.**

Impact GEO-1: Impacts from potential future development under the proposed General Plan 2050 where there are known geological hazards could occur over the buildout horizon of the proposed project.

> **Significance with Mitigation:** Implementation of the proposed General Plan 2050 policies and actions, as well as compliance with federal, State, regional, and local regulations pertaining to structural safety regarding fault rupture, ground shaking, liquefaction, and landslides, would ensure that potential future development under the proposed General Plan 2050 would not directly or indirectly cause or worsen the likelihood of or substantial adverse effects from seismic hazards related to earthquakes, including the risk of loss, injury, or death. Specifically, proposed General Plan 2050 Policy HS-12.1* requires all construction and grading projects on slopes of more than 30 percent or in NOAs to submit geotechnical studies prior to approval of building permits; Policy HS-12.2* prohibits the siting of critical facilities in areas with seismic and geologic hazards; and Policy HS-12.9* prohibits new development in geologic and seismic hazard areas that post significant risks. This includes prohibiting development that would be subject to geological hazard due to its location and/or design and that cannot be mitigated to safe levels. Compliance with the Lake County Code of Ordinance (LCCO) regulations and proposed General Plan 2050 policies and actions would mitigate impacts by permitting development only in areas where potential danger to the health, safety, and welfare of the community can be adequately mitigated. Because potential future development under the proposed project would be required to comply with both the California Building Code and the LCCO, as well as proposed General Plan 2050 policies and actions, implementation of the proposed project would not cause or worsen seismic ground shaking; therefore, impacts would be **less than significant.**

b) Would the project result in substantial soil erosion or the loss of topsoil?

Erosion hazards are of particular concern in the hilly and mountainous areas throughout the County, as shown in Figure 3.7-2, *Slope and Terrain Map.* 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. New construction that disturbs one or more acres of land would be subject to the requirements of the SWRCB Construction General Permit (Order WQ 2022-0057-DWQ). This requires the preparation of a Storm Water Pollution Prevention Plan (SWPPP), which includes the implementation of temporary and post-construction best management practices (BMPs) to provide erosion control. Additionally, construction activities during rain events would be required to comply with and implement a Rain Event Action Plan (REAP) no later than 24 hours prior to a forecasted rain event.

New construction in Lake County would be required to comply with the Lake County Grading Ordinance (Chapter 30 of the LCCO), which includes requirements for control of erosion due to construction activities. Section 30-7, *Erosion Hazard Ration,* of the LCCO has an erosion hazard rating system to classify the erodibility of soils based on the Lake County Soil Survey and the percent slope. Furthermore, Chapter 23, *Clear Lake Shoreline,* of the LCCO establishes standards for construction, alteration, removal, or maintenance of structures and other activities in the area in and around Clear Lake to prevent erosion and flooding impacts that would affect Clear Lake.

Furthermore, the proposed General Plan 2050 contains policies and actions that require local planning and development decisions to address potential soil erosion impacts as shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with abbreviation GEO. In particular, the following key policies and action would serve to minimize potential loss of topsoil impacts:

- Policy AR-4.1 promotes the use of cover crops to enrich soil.
- Policy AR-4.3 encourages the widespread use of erosion-control programs and techniques in erodible agricultural areas, in cooperation with the Lake County Resource Conservation District.
- Policy AR-4.4 supports landowners' participation in programs that reduce soil erosion and increase soil productivity, including programs through the Natural Resources Conservation Service, Resource Conservation Districts, UC Cooperative Extension, and other similar agencies and organizations.
- Policy GR-3.10* requires developers to implement and maintain erosion control and soil stabilization techniques throughout the life of geothermal development projects, including post-construction best management practices.
- Policy GR-3.11 requires revegetation of geothermal development sites using native plant species to minimize soil erosion and restore and enhance habitat.
- Action HS-5.d* requires development projects to implement dust suppression measures during excavation, grading, and site preparation activities. Techniques may include, but are not limited to:
    - Site watering or application of dust suppressants,

  - Phasing or extension of grading operations,
  - Covering of stockpiles,
  - Suspension of grading activities during high wind periods (typically winds greater than 25 miles per hour), and
  - Revegetation of graded site.
- Policy WR-1.11* continues to require development projects to control erosion and sediment and protect water quality during construction and post-construction through application of the County's Grading Ordinance and Stormwater Management Ordinance.
- Policy WR-5.1 promotes working with the University of California (UC) Cooperative Extension and the Lake County Resource Conservation District to promote best management practices for agriculture to reduce impacts related to algal blooms, including cover cropping, riparian buffers, nutrient management plans, and erosion-control techniques.

Implementation of these proposed General Plan 2050 policies and actions, as well as adherence to existing regulatory requirements that include, but are not limited to, the CBC and the LCCO building regulations, Clear Lake shoreline standards, and grading requirements for new developments, would ensure that impacts associated with substantial erosion and loss of topsoil from potential future development would be **less than significant.**

Significance without Mitigation: Less than significant.

c) Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

Due to the mountainous terrain and steep slopes throughout Lake County, there are unstable soil conditions in all the Planning Areas. Development on unstable soil could result in adverse impacts such as landslides or soil collapse. Subsidence and liquefaction are not significant geologic hazards in Lake County (Lake County OES 2025). Lateral spreading is a type of ground failure that occurs when saturated, loose soil loses strength due to liquefaction. Since liquefaction is not a significant geologic hazard in Lake County, lateral spreading is also not a significant geologic hazard.

The potential for landslides is present throughout Lake County and typically occurs during periods of excessive rainfall. Landslides and debris flows can also occur as a result of wildfires since the vegetation that holds hillsides together during rainstorms is burned and removed. The USGS mapped areas in and around Cobb, Middletown, Coyote Valley, and Long Valley as susceptible to debris flows after the 2015 Valley Fire (USGS 2015). Additionally, areas that have historically experienced landslides include Clearlake Oaks, Lucerne, Clearlake Riviera, Cobb Mountain, and Bartlett Springs (Lake County OES 2025).

New construction in Lake County is required to comply with the CBC, which contains building criteria and standards that are designed to reduce geologic risks to acceptable levels. These include standard geotechnical engineering procedures, soil testing, proper design, and quality construction controls that identify and mitigate for unstable soils during site development. Additionally, the proposed General Plan 2050 contains policies and actions that require local planning and development decisions to address potentially unstable soil impacts as shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with abbreviation GEO. In particular, the following key policies and action would serve to minimize potential unstable soil related impacts:

- Policy GR-3.6 requires geothermal operators to monitor subsidence detection networks and establish other monitoring programs to determine the extent of induced subsidence in areas that could be affected by permitted geothermal project activities.
- Policy GR-3.7* requires consultation with informed parties, such as the California Geologic Energy Management Division, Bureau of Land Management, and other experts, as appropriate, require subsidence monitoring and mitigation as a condition of approval for proposed geothermal operations. Requires corrective measures if monitoring indicates that the geothermal operation has caused land subsidence creating a hazard or significant adverse impact on the local environment.
- Policy HS-12.2* prohibits the siting of critical facilities in areas within Alquist-Priolo Special Studies Zones, in mapped naturally occurring asbestos areas, in areas subject to seiches, liquefaction, in areas with a high landslide risk, or on seismically unstable soils, unless a geologic/seismic hazards geotechnical engineering study can be performed to identify potential impacts and engineering recommendations prior to siting or site acquisition.
- Policy HS-12.9* prohibits new development on a hazardous fault trace, active landslide, or other geologic or seismic hazard area that poses a significant risk, including areas located downstream or downslope from such hazards, as shown on Figure HS-8 and Figure HS-9.
- Policies CM-LU-1.4, EL-LU-1.4, K-LU-1.4, L-LU-1.4, LL-LU-1.4, M-LU-1.4, NL-LU-1.4, and R-LU-1.4 ensure future amendments to the General Plan Land Use map only allow development where it has access to adequate water supply, wastewater treatment, and public roadways; avoids steep terrain, sensitive natural resources, and natural hazards; and provides appropriate buffers with agricultural land and other incompatible uses.
- Policies CM-LU-7.3, EL-LU-7.3, K-LU-7.3, L-LU-7.3, LL-LU-7.3, M-LU-7.3, NL-LU-7.3, and R-LU-7.3 require new industrial or heavy commercial uses to be sited appropriately, on land with average slopes not exceeding 20 percent and outside of a hazard zone, preferably served by public sewer and water facilities and within a Community Growth Boundary.
- Action L-SSA-4.g designates areas best suited for future residential development by studying development constraints, including agricultural soils, serpentine soils, slopes, and water and sewer availability.

However, because potential future development under the proposed General Plan 2050 has the potential to be constructed where there are unstable soils or soils that could become unstable over the buildout horizon of the proposed project, impacts are considered **potentially significant.**

Impact GEO-2: Impacts from potential future development under the proposed General Plan 2050 where there are potentially unstable soils could occur over the buildout horizon of the proposed project.

> **Significance with Mitigation:** As determined under impact discussions GEO-1 and GEO-2, potential future development from implementation of the proposed project would be required to comply with the California Building Code, as adopted in Lake County Code of Ordinances (LCCO) Chapter 5, which provides regulations for building design and construction to ensure geologic and soil stability. In addition to protections afforded by State laws, the proposed General Plan 2050 policies and actions listed under impact discussions GEO-1 and GEO-2 would require local planning and development decisions to consider potential risks of development on unstable soils or geologic units. Additionally, LCCO Chapter 5 Article 5, *Excavating and Filling*, Chapter 17, *Subdivision Regulations,* and Chapter 30, *Grading Ordinance,* as well as proposed General Plan 2050 Policy GR-3.7*, which requires corrective measures for land subsidence due to geothermal operations and Policy HS-12.2* and Policy HS-12.9*, which prohibits the siting critical facilities or new development in geologic or seismic hazard zones without a geotechnical report that identifies and mitigates impacts related to unstable soils.
>
> All potential future development under the proposed project would be required to comply with State, regional, and local regulations, including LCCO provisions and the proposed General Plan 2050 policies and actions, to ensure that potential future development that results from implementation of the proposed project would not directly or indirectly cause substantial adverse effects. Therefore, impacts would be **less than significant.**

d) Would the project be located 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?

The General Plan 2050 would allow new development in areas with 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 cracking, foundation uplift, uneven floors, and other structural problems.

As discussed under impact discussion (a), future development under the proposed project would be required to comply with the CBC as adopted in LCCO Chapter 5, *Building Regulations*, which provides regulations for standards for seismic safety, excavation, foundations, retaining

walls, site demolition, and grading activities, including drainage and erosion control. Additionally, LCCO Chapter 17, *Subdivision* Regulations, requires preparation of a preliminary soils reports for areas with fill or for all streets and alleyways.

However, because potential future development under the proposed General Plan 2050 has the potential to be constructed where there are expansive soils in the EIR Study Area, impacts are considered **potentially significant.**

Impact GEO-3: Impacts from potential future development under the proposed General Plan 2050 where there are expansive soils could occur over the buildout horizon of the proposed project.

> **Significance with Mitigation:** Implementation of the proposed General Plan 2050 policies and actions would mitigate potential impacts as a result of developing on expansive soils. Specifically, proposed Policy HS-12.2* and Policy HS-12.9*prohibit the siting of critical facilities and new development in geologic or seismic hazard areas where geotechnical studies and recommendations cannot mitigate impacts to an acceptable level. Additionally, compliance with existing State, regional, and local regulations, would ensure that potential future development under the proposed project would not directly or indirectly cause substantial adverse effects, including the risks to life or property. Therefore, impacts would be **less than significant**.

e) Would the project 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?

Many areas of Lake County have soils unsuitable for wastewater disposal through septic systems. These include areas with shallow groundwater, impermeable clay soils, and/or steep slopes. Some areas are also incapable of supporting the use of alternative wastewater systems. Although most new development proposed under the General Plan 2050 will be in developed areas that are connected to a wastewater collection system, all new development in the Cobb Mountain Planning Area would require septic systems.

Any new development that would include the construction of a septic system or alternative wastewater disposal system would be required to comply with the Lake County EHD Rules and Regulations for On-Site Sewage Disposal, the SWRCB's OWTS Policy, and LCCO Chapter 9, *Health and Sanitation,* Article III, *Sanitary Disposal of Sewage* standards. As discussed above, the regulations require application for an OWTS permit, determination by the Lake County EHD of the feasibility of constructing an OWTS by conducting percolation tests, and final inspection of the OWTS after installation. Most of the soil in and around the community of Cobb consists of a well-drained gravelly loam, which should be conducive to the use of a conventional septic system. Actual site conditions would be determined during the development process by Lake County EHD and the results of percolation tests.

Furthermore, the proposed General Plan 2050 contains policies and actions that require local planning and development decisions to address on-site septic systems as shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with abbreviation GEO. In particular, the following key policies and actions would serve to minimize potential on-site septic systems related impacts:

- Policy HS-9.5* requires stringent controls on approvals of septic systems where there is a substantial likelihood of infiltration of floodwater into the systems, and/or the discharge from the systems into floodwaters.
- Policy HS-12.12 prohibits in areas of high potential for landslides, avoid altering the land or hydrology in a way that is likely to increase the hazard potential, including:
  - Saturation due to drainage or septic systems.
  - Removal of vegetative cover.
  - Steepening of slopes or undercutting the base of a slope.
- Actions CM-PF-4.c*, EL-PF-4.c*, K-PF-4.c*, L-PF-4.c*, LL-PF-4.c*, M-PF-4.c*, NL-PF-4.c*, and R-PF-4.c*, require the County to periodically review standards for septic tanks to ensure they continue to protect water quality and public health, consistent with current best practices.
- Action NL-PF-4.f updates the Lake County Code of Ordinances to prohibit use of septic on lakefront lots that are within reasonable distance to a municipal wastewater system.

Because potential future development under the proposed General Plan 2050 has the potential to be on septic systems with different soil types in the EIR Study Area, impacts are considered **potentially significant.**

Impact GEO-4: Impacts from potential future development under the proposed General Plan 2050 where development could use septic systems with soils incapable of supporting septic or alternative wastewater systems could occur over the buildout horizon of the proposed project.

> **Significance with Mitigation:** Implementation of the proposed General Plan 2050 policies and actions would mitigate potential impacts as a result of developing on expansive soils. Specifically, proposed Policy HS-9.5 requires stringent controls on approvals of septic systems where there is a likelihood of infiltration of floodwater into the system or discharge from the system leaking into stormwater systems. Additionally, Planning Area Elements Policies CM- PF-4.c*, EL- PF-4.c*, K- PF-4.c*, L- PF-4.c*, LL- PF-4.c*, M- PF-4.c*, NL- PF-4.c* and R- PF-4.c* require the County to review standards of septic tanks to ensure they continue to protect water quality. Additionally, compliance with existing State and local regulations, specifically Lake County Rules and Regulations for On-Site Sewage Disposal and LCCO Chapter 9, *Health and Sanitation,* would ensure that impacts related to adequate soils for supporting septic systems and alternative wastewater systems would be **less than significant.**

f) Would the project directly or indirectly destroy a unique paleontological resource, site, or unique geologic feature?

The most notable geological feature in Lake County is Mount Konocti, a dormant volcano located near the southwestern shore of Clear Lake and part of the Clear Lake Volcanic Field. This geologic resource is protected as a County Park and although the proposed project would allow for new development in the urbanized areas around Mount Konocti, the proposed project would not impact this unique geologic feature. Development under the proposed project would occur in areas of varying levels of paleontological sensitivity and would require site-specific investigations by a professional archaeologist/paleontologist to determine the potential of such resources to be present on development site. Excavations could occur in association with development that could uncover previously unknown paleontological resources. Unanticipated discoveries during project implementation have the potential to affect significant paleontological resources. However, the proposed General Plan 2050 contains policies and actions that require local planning and development decisions to address potential impacts to paleontological resources as shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with abbreviation GEO. In particular, the following key policies would serve to minimize potential paleontological resource-related impacts:

- Policies CM-OS-2.2*, EL-OS-2.2*, K-OS-2.2*, L-OS-2.2*, LL-OS-2.2*, M-OS-2.2*, NL-OS-2.2*, and R-OS-2.2* require that, whenever possible, new development preserve significant historical, archaeological, or paleontological resources on-site through project design. If on-site preservation is not feasible, impacts must be mitigated through techniques such as relocation of structures, adaptive reuse, preservation of facades, and thorough documentation and archival of records. Any documentation of historic resources must be conducted in accordance with Historic American Building Survey (HABS) Level III standards, as defined by the US Secretary of the Interior.
- Policies CM-OS-2.3*, EL-OS-2.3*, K-OS-2.3*, L-OS-2.3*, LL-OS-2.3*, M-OS-2.3*, NL-OS-2.3*, and R-OS-2.3* require that, upon discovery of significant archaeological, paleontological, historic, or tribal cultural resources during site development, all activity be halted within 100 feet of the find(s) and a professional archaeologist, paleontologist, historian, and/or local tribe representative (if appropriate) be notified to evaluate the find(s) and recommend mitigation procedures, if necessary. Findings and mitigation measures are subject to review and approval by the Lake County Community Development Director prior to resuming site development work.
- Policies CM-OS-2.4*, EL-OS-2.4*, K-OS-2.4*, L-OS-2.4*, LL-OS-2.4*, M-OS-2.4*, NL-OS-2.4*, and R-OS-2.4* require that, as a condition of approval for discretionary grading permits, construction employees be trained in recognizing potentially significant archaeological, paleontological, historic, or tribal cultural resources that may be discovered during ground-disturbing activities. Project proponents must submit verification that all site workers have received sensitivity training prior to commencement of ground-disturbing activities.

Adherence to these proposed policies and actions would preserve or document a resource in the event of its discovery. Furthermore, compliance with federal, State, regional, and local regulations pertaining to paleontological resources, such as Public Resources Code and California Penal Code, would ensure that potential future development under the proposed project would not directly or indirectly cause substantial adverse effects to paleontological resources. Therefore, this impact would be **less than significant**.

Significance without Mitigation: Less than significant.

3.7.5 Cumulative Impact Discussion

Geological impacts tend to be site-specific rather than cumulative in nature. For example, seismic events may damage or destroy a building on a project site, but the construction of a development project on one site would not cause any adjacent parcels to become more susceptible to seismic events, nor can a project affect local geology in such a manner as to increase risks regionally. The cumulative setting includes projected growth throughout Lake County as part of the General Plan 2050 implementation.

Would the project have a cumulative effect related to geological resources?

The proposed General Plan 2050 would have a significant impact on the environment and geological resources if it, in combination with other projects, would contribute to a significant cumulative impact.

All new development in the county would have to comply with the CBC, which requires stringent earthquake design parameters and common engineering practices requiring special design and construction methods that reduce or eliminate potential soil-related impacts. Furthermore, any development involving clearing, grading, or excavation that causes soil disturbance of one or more acres is subject to the SWRCB's Construction General Permit provisions. These requirements would significantly reduce the potential for substantial erosion or topsoil loss to occur in association with new development by requiring an approved SWPPP that provides a schedule for the implementation and maintenance of erosion control measures and a description of erosion control practices, including appropriate design details and a time schedule. Also, the installation of septic systems with new development in the Cobb Mountain Planning Area would require percolation testing to determine the feasibility of OWTS and the approval of Lake County EHS to ensure compliance with all applicable State and County regulations. Therefore, the proposed project's contribution to fault rupture, seismic shaking, erosion, expansive soil impacts, and septic systems would be less than cumulatively considerable, and thus less than significant.

While new development projects under the proposed General Plan 2050 could result in the loss of unique paleontological resources, the General Plan 2050 policies and actions to address potential impacts to paleontological resources would effectively avoid the potential loss of paleontological resources in the event of inadvertent discovery during construction. Federal, State, and local policies and regulations would address potential local and site-specific impacts associated with geology and soils. Therefore, the cumulative impact would be **less than significant.**

Significance without Mitigation: Less than significant.

3.7.6 References

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3.8 GREENHOUSE GAS EMISSIONS

This section of the Draft EIR describes the potential impacts to greenhouse gas (GHG) emissions associated with the adoption and implementation of the proposed project. This section describes the regulatory framework and existing conditions, identifies criteria used to determine impact significance, and provides an analysis of the potential impacts to GHG emissions. The proposed General Plan 2050 policies and actions that would minimize any potentially significant impacts are shown in Appendix F *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, and denoted with the abbreviation GHG.

The following are definitions for terms used throughout this section:

- **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 (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.

3.8.1 Regulatory Framework

FEDERAL

The United States Environmental Protection Agency (USEPA) 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 USEPA's final findings respond to the 2007 U.S. Supreme Court decision in *Massachusetts v. Environmental Protection Agency* (2007) 127 S. Ct. 1438 that GHG emissions fit within the Clean Air Act (CAA) definition of air pollutants (42 United States Code [U.S.C.] Section 7401 et seq.). The findings allow the USEPA to finalize the GHG standards proposed in 2009 for new light-duty vehicles as part of the joint rulemaking with the Department of Transportation (EPA 2009a).

To regulate GHGs from passenger vehicles, the USEPA was required to issue an endangerment finding (USEPA 2009b). The finding identified emissions of six key GHGs—CO_2, CH_4, N_2O, hydrofluorocarbons, perfluorocarbons, and SF_6—as threatening the public health and welfare of current and future generations, in their current and projected concentrations in the atmosphere. The first three are applicable to a project's GHG emissions inventory because they

constitute the majority of GHG emissions and, according to guidance adopted by the Bay Area Air District, are the GHG emissions that should be evaluated as part of a project's GHG emissions inventory. As discussed further below, the Lake County Air Quality Management District (LCAQMD) does not have adopted CEQA guidance or thresholds for GHG emissions; therefore, the guidance and thresholds adopted by the Bay Area Air District are utilized herein.

On January 20, 2025, the President of the United States signed an executive order, *Unleashing American Energy*, which directed the USEPA to eliminate the social cost of carbon calculation from any federal permitting or regulatory decision and submit recommendations on the legality and continued applicability of the 2009 endangerment finding, among other directives (White House 2025). On July 29, 2025, the USEPA released its proposal to rescind the 2009 endangerment finding and repeal all GHG emission standards for light-duty, medium-duty, and heavy-duty vehicles and engines pursuant to CAA Section 202(a) (USEPA 2025). The proposed rule would remove GHG-related provisions from 40 CFR Part 600 without affecting provisions related to Corporate Average Fuel Economy (CAFE) standards and fuel economy labeling (Vol. 90 Federal Register, No. 146, 36288.).

California currently regulates GHG emissions under the regulatory framework of the CAA. USEPA has historically granted California waivers to the CAA to establish its own regulations due to its population size and pollution levels. In May 2025, the U.S. Senate approved several bills under the Congressional Review Act which purported to rescind California's CAA waiver. (H.J.Res. 87, H.J.Res. 88, H.J.Res. 89.) However, the U.S. Senate Parliamentarian and the Government Accountability Office (GAO) concluded that that the bills were illegal (GAO 2025). Consequently, California filed a lawsuit challenging the revocations. (See *State of California et al v. U.S.A. et al.* (2025) N.D. Cal Case No. 25-CV-04966 challenging disapproval of California's CAA waivers which allowed California to set its own vehicular fuel economy standards).

Mandatory Report Rule for GHGs

In response to the endangerment finding, the USEPA issued the Mandatory Reporting of GHG Rule in 2009 that requires substantial emitters of GHG emissions (large stationary sources, etc.) to report GHG emissions data. Facilities that emit 25,000 $MTCO_2e$ or more per year are required to submit an annual report.

Corporate Average Fuel Economy Standards

The federal government issued new Corporate Average Fuel Economy (CAFE) standards in 2012 for model years 2017 to 2025, which requires a fleet average of 54.5 miles per gallon (MPG) in 2025. However, on March 30, 2020, the USEPA finalized an updated CAFE and GHG emissions standards for passenger cars and light trucks and established new standards covering model years 2021 through 2026, known as the Safer Affordable Fuel Efficient (SAFE) Vehicles Final Rule for Model Years 2021 to 2026. Under SAFE, the fuel economy standards will increase 1.5 percent per year compared to the 5 percent per year under the CAFE standards established in

2012. Overall, SAFE requires a fleet average of 40.4 MPG for model year 2026 vehicles (85 Federal Register 24174, April 30, 2020).

On June 7, 2024, NHTSA announced final CAFE standards for passenger cars and light trucks built in model years 2027 to 2031 and final fuel efficiency standards for heavy-duty pickup trucks and vans built in model years 2030 to 2035. The final rules require an industry fleetwide average of approximately 50.4 mpg for passenger cars and light trucks in model year 2031, by increasing fuel economy by 2 percent year over year for passenger cars (model years 2027–2031) and for light trucks (model years 2029–2031). For heavy-duty pickup trucks and vans, the final rule would increase fuel efficiency at a rate of 10 percent per year (model years 2030–2032) and 8 percent per year (model years 2033–2035) (NHTSA 2024).

On June 11, 2025, the NHTSA published the final rule, "Resetting the Corporate Average Fuel Economy Program." This interpretive rule issued by the NHTSA does not immediately change or reverse current fuel economy standards; however, the rule clarifies the NHTSA's interpretation of its obligations for CAFE standards stemming from the Energy Policy and Conservation Act of 1975 and the Energy Independence and Security Act of 2007. The rule asserts that some regulations, such as those established under previous presidential administrations, improperly considered electric vehicles (EVs) when identifying the "maximum feasibility" average fuel economy level upon which CAFE standards are developed, thereby establishing a legal foundation for future rollbacks of CAFE standards (NHTSA 2025).

Individual cities and counties lack the ability to regulate fuel economy standards. 42 U.S.C. Section 7543(a) states: "No state or any political subdivision therefore shall adopt or attempt to enforce any standard relating to the control of emissions from new motor vehicles or new motor vehicle engines subject to this part."

STATE

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, AB 1279, Senate Bill (SB) 32, 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: 2000 emission levels by 2010; 1990 emission levels by 2020; and 80 percent below 1990 emission levels by 2050.

Global Warming Solutions Act (2006)

The Global Warming Solutions Act, commonly known by its legislative bill number AB 32, was passed into law on August 31, 2006, to place the state on a course toward reducing its contribution of GHG emissions. This act follows the 2020 tier of emissions reduction targets established in EO S-03-05. The California Air Resources Board (CARB) prepared the 2008 Scoping Plan to outline a plan to achieve the GHG emissions reduction targets of this act.

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 and 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 to ensure climate change is accounted for in state planning and investment decisions.

Senate Bill 32 and Assembly Bill 197

In September 2016, SB 32 and AB 197 were signed into law, making the executive order goal for year 2030 into a statewide mandated legislative target. AB 197 established a joint legislative committee on climate change policies and requires the CARB to prioritize direct emissions reductions rather than the market-based cap-and-trade program for large stationary, mobile, and other sources.

Executive Order B-55-18

EO 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.

Assembly Bill 1279

AB 1279, signed in September 2022, codifies the carbon neutrality targets of EO B-55-18 for year 2045 and sets a new legislative target for year 2045 of 85 percent below 1990 levels for anthropogenic (human-caused) GHG emissions. CARB was required to update the Scoping Plan to identify and recommend measures to achieve the net-zero and GHG emissions-reduction goals.

2022 Climate Change Scoping Plan Update

CARB adopted the 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan) on December 15, 2022, which lays out a path to achieve carbon neutrality by 2045 or earlier and to reduce the State's anthropogenic GHG emissions (CARB 2022a). The Scoping Plan was updated to address the carbon neutrality goals of EO B-55-18 (discussed below) and the ambitious GHG reduction target as directed by AB 1279. 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. This plan expands upon earlier Scoping Plans with a target of reducing anthropogenic emissions to 85 percent below 1990 levels by 2045. 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 path forward was informed by the recent AR6 of the IPCC and the measures would achieve 85 percent below 1990 levels by 2045 in accordance AB 1279. CARB's 2022 Scoping Plan identifies strategies as shown in Table 3.8-1, *Priority Strategies for Local Government Climate Action Plans*, that would be most impactful at the local level for ensuring substantial progress towards the State's carbon neutrality goals.

Table 3.8-1 Priority Strategies for Local Government Climate Action Plans

Priority Area	Priority Strategies
Transportation Electrification	Convert local government fleets to zero-emission vehicles (ZEV) and provide EV charging at public sites.
	Create a jurisdiction-specific ZEV ecosystem to support deployment of ZEVs statewide (such as building standards that exceed state building codes, permit streamlining, infrastructure siting, consumer education, preferential parking policies, and ZEV readiness plans).
Vehicle-Miles Traveled (VMT) Reduction	Reduce or eliminate minimum parking standards.
	Implement Complete Streets policies and investments, consistent with general plan circulation element requirements.
	Increase access to public transit by increasing density of development near transit, improving transit service by increasing service frequency, creating bus priority lanes, reducing or eliminating fares, micro-transit, etc.
	Increase public access to clean mobility options by planning for and investing in electric shuttles, bike share, car share, and walking.
	Implement parking pricing or transportation demand management pricing strategies.
	Amend zoning or development codes to enable mixed-use, walkable, transit-oriented, and compact infill development (such as increasing allowable density of the neighborhood).

Table 3.8-1 Priority Strategies for Local Government Climate Action Plans

Priority Area	Priority Strategies
	Preserve natural and working lands by implementing land use policies that guide development toward infill areas and do not convert "greenfield" land to urban uses (e.g., green belts, strategic conservation easements)
Building Decarbonization	Adopt all-electric new construction reach codes for residential and commercial uses.
	Adopt policies and incentive programs to implement energy efficiency retrofits for existing buildings, such as weatherization, lighting upgrades, and replacing energy-intensive appliances and equipment with more efficient systems (such as Energy Star-rated equipment and equipment controllers).
	Adopt policies and incentive programs to electrify all appliances and equipment in existing buildings such as appliance rebates, existing building reach codes, or time of sale electrification ordinances.
	Facilitate deployment of renewable energy production and distribution and energy storage on privately owned land uses (e.g., permit streamlining, information sharing)
	Deploy renewable energy production and energy storage directly in new public projects and on existing public facilities (e.g., solar photovoltaic systems on rooftops of municipal buildings and on canopies in public parking lots, battery storage systems in municipal buildings).

Source: CARB 2022a.

For residential and mixed-use development projects, CARB recommends this first approach to demonstrate that these land use development projects 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:

- Transportation Electrification
  - Provides electric vehicle (EV) charging infrastructure that, at a minimum, meets the most ambitious voluntary standards in the California Green Building Standards Code at the time of project approval.
- Vehicle-Miles Traveled (VMT) Reduction
  - Is located on infill sites that are surrounded by existing urban uses and reuses or redevelops previously undeveloped or underutilized land that is presently served by existing utilities and essential public services (e.g., transit, streets, water, sewer).
  - Does not result in the loss or conversion of the State's natural and working lands;
  - Consists of transit-supportive densities (minimum of 20 residential dwelling units/acre), or is in proximity to existing transit stops (within a half mile), or satisfies more detailed and stringent criteria specified in the region's Sustainable Communities Strategy (SCS);

- Reduces parking requirements by:
  - Eliminating parking requirements or including maximum allowable parking ratios (i.e., the ratio of parking spaces to residential units or square feet); or
  - Providing residential parking supply at a ratio of <1 parking space per dwelling unit; or
  - For multifamily residential development, requiring parking costs to be unbundled from costs to rent or own a residential unit.
- At least 20 percent of the units are affordable to lower-income residents;
- Result in no net loss of existing affordable units.

- Building Decarbonization
  - Uses all electric appliances without any natural gas connections and does not use propane or other fossil fuels for space heating, water heating, or indoor cooking.

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 (AQMDs) and air pollution control districts have developed or adopted (CARB 2022a).

Sustainable Communities and Climate Protection Act

The Sustainable Communities and Climate Protection Act, commonly known by its legislative bill number SB 375, 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, this act required CARB to establish GHG emissions reduction targets for each of the 18 metropolitan planning organizations (MPOs). While Lake County is not an MPO and is therefore not subject to the requirements of SB 375 (CARB 2018b), regional planning in the County is guided by the Lake County/City Area Planning Council (Lake APC), which acts as the Regional Transportation Planning Agency for the County.

2017 Update to 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. All Sustainable Community Strategies (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 percentage 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 MPO's 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 (CARB 2018a).

Transportation Sector Specific Regulations

Assembly Bill 1493 (Pavley Law)

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 was anticipated to reduce GHG emissions from new passenger vehicles by 30 percent by 2016. California implements the Pavley I standards through a waiver granted to California by the USEPA. In 2012, the USEPA 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 of federal regulations under subheading "Corporate Average Fuel Economy 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 ZEVs into a single package of standards. Under California's Advanced Clean Car program, by 2025 new automobiles will emit 34 percent fewer GHG emissions and 75 percent fewer smog-forming emissions.

Advanced Clean Fleets and Advanced Clean Trucks

In April 2023, CARB adopted the Advanced Clean Cars II rule (AC II), which requires all new passenger vehicles, trucks, and SUVs sold in California to be zero emissions by 2035. The regulation amends the Zero-emission Vehicle Regulation to require an increasing number of zero-emission vehicles (ZEVs) to support Governor Newsom's 2020 EO N-79-20 and amends the Low-emission Vehicle Regulations to include increasingly stringent standards for gasoline cars and heavier passenger trucks to continue to reduce smog-forming emissions. This rule will substantially reduce air pollutants that threaten public health and would further develop the ZEV market starting with the 2026 model year. In April 2023, CARB approved the Advanced Clean Fleets, which requires a phased-in transition toward zero-emission medium-and-heavy duty vehicles. Under the new rule, fleet owners operating vehicles for private services (such as Postal Service, state and local government fleets) will begin their transition toward ZEVs starting in 2024. The rule also requires an end to combustion truck sales in 2036 and follows the 2020

adoption of the Advanced Clean Trucks rule, which put in place a requirement for manufacturers to increase the sale of zero-emission trucks.

Executive Order S-01-07

On January 18, 2007, the State set a new Low-Carbon Fuel Standard (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 (CPUC), and other relevant agencies worked with the Plug-in Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to accommodate ZEVs in major metropolitan areas, including infrastructure to support them (e.g., EV charging stations). EO B-16-2012 also directed the number of ZEVs 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 zero emission by 2015 and at least 25 percent by 2020. The executive order 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, EO N-79-20 was signed into law. The goal of this EO is for 100 percent of in-state sales of new passenger cars and trucks to be zero emission by 2035. Additionally, the fleet goals for trucks are for 100 percent of drayage trucks to be zero emission by 2035, and 100 percent of medium- and heavy-duty vehicles in the state to be zero emission by 2045, where feasible. The EO's goal for the state is to transition to 100 percent zero-emission off-road vehicles and equipment by 2035, where feasible.

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 SB 1078 (Sher) and SB 107 (Simitian). Under the Renewable Portfolio Standards (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.

Clean Energy and Pollution Reduction Act

The Clean Energy and Pollution Reduction Act, commonly known by its legislative bill number, SB 350, was enacted on October 7, 2015. The Clean Energy and Pollution Reduction Act establishes tiered increases to the RPS—40 percent by 2024, 45 percent by 2027, and 50 percent by 2030. SB 350 also sets 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, SB 100 was signed into law to replace the Clean Energy and Pollution Reduction Act (SB 350) requirements. 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.

The Clean Energy, Jobs, and Affordability Act of 2022

The Clean Energy, Jobs, and Affordability Act of 2022, commonly known as its legislative bill number, SB 1020, was signed into law on September 16, 2022. SB 1020 provides interim RPS targets (90 percent renewable energy by 2035 and 95 percent renewable energy by 2040) and requires renewable energy and zero-carbon resources to reach 100 percent clean electricity by 2045.

Energy-Efficiency Regulations

California Building 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 CEC adopted the 2025 Building Energy Efficiency Standards on September 11, 2024, further advancing the state's building decarbonization goals. The 2025 Building Energy Efficiency Standards requires electric heat pumps for space and water heating in most new residential and commercial buildings, expands solar photovoltaic and battery storage requirements to more building types, and mandates electric-ready infrastructure to support future appliance electrification. Projects whose permit applications are applied for on or after January 1, 2026, must comply with the 2025 Building Energy Efficiency Standards.

California Building Code: CALGreen

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. Overall, CALGreen reduces construction waste, makes buildings more efficient in the use of materials and energy, and reduces environmental impacts during and after construction. CALGreen contains requirements for construction site selection, stormwater control during construction, construction waste reduction, indoor water use reduction, material selection, natural resource conservation, site irrigation conservation, and more. CALGreen also provides for design options allowing the designer to determine how best to achieve compliance for a given site or building condition. The code also requires building commissioning, which is a process for verifying that all building systems (e.g., heating and cooling equipment and lighting systems) are functioning at their maximum efficiency (24 CCR Part 11).

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.

Short-Lived Climate Pollutant Reduction Strategy

On September 19, 2016, SB 1383 was signed into law 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. In-use on-road rules were expected to reduce black carbon emissions from on-road sources by 80 percent between 2000 and 2020.

LOCAL

Code of Ordinances

The Lake County Code of Ordinances (LCCO) includes various directives pertaining to GHG emissions. The LCCO is organized by chapter, article, and section. Most provisions related to GHG emissions are included in Chapter 5, *Building Regulations,* and Chapter 31, *Edible Food Recovery Ordinance* as follows:

- **Chapter 5, *Building Regulations*.** Section 5-4, *Adoption of Codes*, of the County Code of Ordinances, adopts various parts of the 2022 California Building Code (Title 24) including the 2022 Energy Code (Section 5-4H) and the California Green Building Code with modifications to the CALGreen standards outlined in Section 5-4G. Section 5-43, *The Updated Model Water Efficient Landscape Ordinance,* of the County Code of Ordinances adopts the State's Model Water Efficient Landscape Ordinance into the County Code.
- **Chapter 31, Edible Food Recovery Ordinance.** This chapter implements the County's obligation to establish an edible food recovery program under SB 1383. The ordinance intends to promote the recovery of edible food and thereby reduce methane emissions from organic waste in landfills and help food insecurity in local communities. It currently regulates the collection of edible food from commercial food-generating businesses for processing by food recovery organizations and services.

Lake Area Planning Council Plans

Lake APC is the Regional Transportation Planning Agency (RTPA) for the Lake County region. Lake APC funds specific transportation planning projects in the county in addition to leading countywide planning efforts which include the following plans and report:

- **Regional Transportation Plan (RTP)**. The County's RTP was most recently updated in May 2022. The RTP outlines policies and strategies aimed at addressing the issues related to different transportation topics of note in the county including the State Highway system, local streets and roads, active transportation, public transit, tribal transportation, and aviation. The RTP incorporates the Lake APC's Active Transportation Plan (ATP) that was first

published in 2016. The County's ATP also incorporates the County's previously published Regional Bikeway Plan from 2011. The goals and strategies from both the ATP and Regional Bikeway Plan are currently included as Chapter 5 of the RTP. Overall, the vision of the RTP is to provide a safe and efficient transportation system that reduces VMT and increases use of alternative modes of transportation (Lake APC 2022).

- **Transit Development Plan.** This plan addresses transit-related planning activities in the county and includes recommendations for improved transit performance and funding pathways for these proposed improvements. This plan was updated in May 2023.
- **Lake Country Transit Energy Use Reduction Plan.** This plan was developed by Lake Transit Authority after Lake APC received a Transit Planning Grant from the California Department of Transportation Planning to develop a transit energy use reduction plan. The plan outlines strategies for conserving energy, reducing emissions, reducing transit operating expenses, and increasing operational efficiency. Strategies from the plan include replacing indoor and outdoor lighting with LED, installing solar bus canopies, installing UV film on windows, and converting the fleet to alternative fuels (Lake Transit Authority 2015).
- **2030 Regional Blueprint Plan.** Adopted in 2010, the Regional Blueprint is intended to provide a framework for local planning decisions for jurisdictions in the county by integrating land use and transportation planning to create a vision of growth in the county over a 20-year period. Among the stated goals in the plan are maintaining good air quality, encouraging energy conservation, developing renewable energy resources, and investing in alternative fuel buses and fleet vehicles and related infrastructure (Lake APC 2010).
- **Vehicle Miles Traveled Regional Baseline Study.** In 2020, the County published a report detailing potential VMT analysis methodologies, new VMT thresholds, and mitigation strategies for future transportation impact analyses in the county (Lake APC 2020). The County has not formally adopted transportation significance thresholds or transportation impact analysis methodology.

3.8.2 Existing Conditions

CALIFORNIA'S GHG SOURCES AND RELATIVE CONTRIBUTION

In 2022, the statewide GHG emissions inventory was updated for 2000 to 2020 emissions using the GWPs in IPCC's Fourth Assessment Report (AR4) and reported that California produced 369.2 MMTCO2e GHG emissions in 2020, which was 35.3 MMTCO2e lower than 2019 levels and 61.8 MMTCO2e below the 2020 GHG Limit of 431 MMTCO2e (CARB 2022a). The 2019 to 2020 decrease in emissions is likely due in large part to the impacts of the COVID-19 pandemic. However, since the peak level in 2004, California's GHG emissions have generally followed a decreasing trend. In 2014, statewide GHG emissions dropped below the 2020 GHG limit as required by the California Global Warming Solutions Act (AB 32) and have remained below the limit since that time. Per capita GHG emissions in California have dropped from a 2001 peak of

13.8 MTCO2eper person to 9.3 MTCO2e per person in 2020, a 33 percent decrease (CARB 2022b).

California's transportation sector remains the largest generator of GHG emissions, producing 37 percent of the state's total emissions in 2020. Industrial sector emissions made up 20 percent and electric power generation made up 16 percent of the state's emissions inventory. Other major sectors of GHG emissions include agriculture and forestry (8.6 percent), high-GWP gases (5.8 percent), commercial and residential (4 percent), and recycling and waste (2 percent) (CARB 2022b).

Transportation emissions continued to decline for the past three consecutive years with the rise of fuel efficiency for the passenger vehicle fleet and an increase in battery electric vehicles. The deployment of renewable and less carbon-intensive resources and higher energy efficiency standards have facilitated the continuing decline in fossil fuel electricity generation. The industrial sector trend has been relatively flat in recent years but saw a decrease of 7.1 MMTCO2e in 2020. Commercial and residential emissions saw a decrease of 1.7 MMTCO2e. Emissions from high-GWP gases have continued to increase as they replace ozone depleting substances that are being phased out under the 1987 Montreal Protocol. Emissions from other sectors have remained relatively constant in recent years. Overall trends in the inventory also continue to demonstrate that the carbon intensity of California's economy (i.e., the amount of carbon pollution per million dollars of gross domestic product) is declining. From 2000 to 2020, the carbon intensity of California's economy decreased by 49 percent while the gross domestic product increased by 56 percent (CARB 2022b).

LAKE COUNTY

The existing land uses in Lake County consist of residential, recreational, commercial, agricultural, forestry, industrial, mining, and institutional uses. Operation of these land uses generates GHG emissions from natural gas used for energy, heating, and cooking; electricity usage; vehicle trips for employees and residents; area sources such as landscaping and industrial equipment and consumer cleaning products; water demand; waste generation; and solid waste generation. As shown in Table 3.8-2, *Existing EIR Study Area GHG Emissions Inventory*, in 2024 the unincorporated county generated 339,918 $MTCO_2e$.

Table 3.8-2 Existing EIR Study Area GHG Emissions Inventory

Emissions Sector	Existing $MTCO_2e$/year	Percent of Total
On-Road Transportation	163,451	48%
Building Energy – Electricity	26,084	8%
Building Energy – Propane	15,766	5%
Solid Waste (Waste Commitment)	42,725	13%
Water/Wastewater	3,127	1%
Hearths (Propane & Woodburning)	59,600	18%
Off-Road Construction	4,497	1%
Off-Road Commercial and Light Industrial	1,568	<1%
Off-Road Lawn and Garden	837	<1%
Refrigerants	22,263	7%
Total	**339,918**	**100%**
Service Population	62,870	NA
$MTCO_2e$/Service Population	5.4	NA

See Appendix C, *Air Quality and Greenhouse Emissions Data*.

3.8.3 Standards for Analysis

SIGNIFICANCE CRITERIA

Appendix G, *Environmental Checklist Form*, of the CEQA Guidelines states that the proposed project would result in a significant impact related to GHG emissions if it would:

a) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.

b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions.

THRESHOLD GUIDANCE

As previously mentioned, because LCAQMD has not adopted CEQA thresholds of significance for GHG emissions—and consistent with prior LCAQMD recommendation to use Bay Air District guidance and methodology on CEQA projects—thresholds of significance utilized in the analysis herein will be those identified in the latest Bay Area Air District CEQA Guidelines (most recently updated in April 2023), which are summarized below (LCAQMD 2017; Bay Area Air District 2023).

Greenhouse Gas Emissions – Plan Level

The Bay Area Air District, in their GHG Justification Report, recommends the use of one of two plan-level criteria to determine the GHG emission impact resulting from a proposed plan. If a proposed plan cannot demonstrate consistency with the Bay Area Air District-recommended Criterion A or Criterion B, that plan would result in a potentially significant impact related to GHG emissions.

A. The Plan must be consistent with a local GHG reduction strategy that meets the criteria under State CEQA Guidelines Section 15183.5(b); or

B. The Plan must meet the State's goals to reduce emissions to 40 percent below 1990 levels by 2030 and carbon neutrality by 2045.

The County does not have a local GHG reduction strategy that meets the criteria under CEQA Guidelines Section 15183.5(b), and the County's 1990 emission levels are currently unknown. Therefore, to provide a conservative analysis of the proposed General Plan 2050's impacts in relation to carbon neutrality goals of AB 1279, the County has identified a "no net increase" threshold of zero (0 $MTCO_2e$) for determining whether the proposed General Plan 2050 could generate GHG emissions that would have a significance impact on the environment. Appendix D of the CARB 2022 Draft Scoping Plan recognizes that achieving no net additional increase in GHG emissions, resulting in no contribution to GHG impacts, may be an appropriate overall objective. Therefore, the no-net-increase threshold is consistent with the State's carbon neutrality goals under AB 1279 and provides the most conservative threshold for GHG emissions impacts under CEQA for the proposed project.

Greenhouse Gas Emissions – Plan Consistency

A consistency analysis with applicable plans, policies, and regulations adopted for the purpose of reducing GHG emissions will include an assessment of project consistency with the State Scoping Plan, AB 1279, and any other applicable local plan adopted for the purposes of reducing GHG emissions. As discussed above, the two significance thresholds that the County uses to analyze GHG impacts of the proposed project are based on achieving a no net increase in GHG emissions to demonstrate consistency with the statewide GHG reduction goals (Impact a) and relying on consistency with policies or plans adopted to reduce GHG emissions (Impact b). 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.

METHODOLOGY

The community-wide GHG inventory and forecast includes the following sectors:

- **Transportation** emissions forecasts were modeled using emissions data from CARB's EMFAC2021 V1.0.2 web database. Model runs were based on daily VMT data provided by Fehr & Peers (see Appendix B, *Transportation Data,* and Section 3.17, *Transportation*) and calendar year 2019 (existing) and 2050 emission rates. The VMT is based on the origin-destination using the Lake County Transportation Model and includes the full trip length for land uses in the County and a 50 percent reduction in the trip length for external-internal/internal-external trips based on the recommendations of CARB's Regional Targets Advisory Committee under SB 375. Consistent with CARB's methodology within the Climate Change Scoping Plan Measure Documentation Supplement, daily VMT was multiplied by 347 days per year to account for reduced traffic on weekends and holidays to determine annual emissions. The VMT estimates included in Appendix B, *Transportation Data*, reflect OD VMT that were updated after the emissions calculations for this section and Appendix C, *Air Quality and Greenhouse Gas Emissions Data*, were prepared. As a result, the OD VMT utilized in the emissions analysis, provided in Section 3.8.4, *Project Impact Discussion,* reflects a higher daily VMT for the proposed project of 1,474,570 miles instead of the updated daily OD VMT of 1,470,343 miles when accounting for the RTAC adjustment, as shown in Appendix B, *Transportation Data,* of this Draft EIR. Therefore, the emissions analysis herein utilizes VMT estimates that are higher than those contained in Appendix B, *Transportation Data*, thereby representing a conservative assessment of potential mobile source emissions impacts from implementation of the proposed project.
- **Energy**
  - **Building Electricity Use**. Emissions associated with electricity use for residential and nonresidential land uses in the County were calculated based on data provided by Pacific Gas and Electric (PG&E). Due to the 15/15 Rule, electricity use data for industrial land uses was aggregated with the nonresidential land uses in the data provided by PG&E. Existing 2024 emissions are based on the 2019-2023 annual average electricity use. Forecasts for year 2050 are adjusted for increases in population for residential electricity use and nonresidential square footage for nonresidential electricity use in the County. Carbon intensity for year 2024 and 2050 are based on the carbon intensity for PG&E identified in the 2022 CalEEMod User's Guide, Appendix G (CAPCOA 2022). Because there are no natural gas pipelines in the County and natural gas infrastructure is highly dispersed, natural gas consumption is not accounted for within these calculations.
  - **Propane Use.** For propane emissions, consumption was estimated for residential uses using US Census Bureau data for houses using bottled, tank, or LP gas for house heating fuels and US Energy Information Administration data for propane consumption, and was applied to the growth in residential units through 2050. Nonresidential propane consumption was estimated using CalEEMod default consumption factors for natural gas

as a proxy for propane consumption. The consumption factors were applied to the growth in non-residential square footage through 2050 and CalEEMod default emission factors for hearth propane use. Please refer to Appendix C, *Air Quality and Greenhouse Gas Emissions Data,* for propane source emission calculations.

- **Off-Road Equipment.** OFFROAD is a database of equipment use and associated emissions for each county compiled by CARB. Off-road equipment in the county is based on year 2024 emission rates for Lake County obtained from CARB's OFFROAD V1.1.0 web database. OFFROAD was used to estimate emissions from agriculture, lawn and garden, light commercial, and construction equipment in the county. To determine the percentage of emissions attributable to the county, light commercial equipment is estimated based on employment for the unincorporated county as a percentage of total county and forecast based on the change in employment in the county. Construction equipment use is estimated based on building permit data for the unincorporated county and total county from data compiled by the US Census and assumes that construction emissions for the forecast year would be similar to historical levels. Lawn and garden equipment is based on the percentage of population in the unincorporated county compared to the total county and forecast based on the change in population in the county.
- **Refrigerant Leakage.** Refrigerants are based on the statewide 2019 refrigerant use and statewide population based on the 2020 census data in order to derive emissions per person. Emissions from this sector are based on AR4 since the inventory is not available with AR5 GWPs.
- **Wood Burning.** Non-biogenic GHG emissions from wood burning were estimated from hearth and woodstove usage and emission factors provided in the 2022 CalEEMod Users Guide. Estimates of the usage of fireplaces and woodstoves are based are provided for single-family and multi-family units in LCAQMD. Emissions from propane hearths are not included in these calculations since the use of propane hearths are accounted for within the emissions for propane energy consumption.
- **Solid Waste Disposal.** GHG emissions from solid waste disposal by residents and employees in the county were quantified based on the waste-in-place method. This method assumes that the degradable organic component in waste decays slowly throughout a few decades, during which CH_4 and biogenic CO_2 are formed. If conditions are constant, the rate of CH_4 production depends solely on the amount of carbon remaining in the waste. As a result, emissions of CH_4 from waste deposited in a disposal site are highest in the first few years, then gradually decline. Significant CH_4 production typically begins one or two years after waste disposal in a landfill and continues for 10 to 60 years or longer. Waste disposal was averaged over several years to account for fluctuations in average annual solid waste disposal. Waste generated was based on data obtained from the California Department of Resources Recycling and Recovery (CalRecycle), to provide an estimate of GHG emissions for existing conditions (2020). GHG emissions from solid waste disposal in the baseline year were modeled using CARB's Landfill Emissions Tool Version 1.09, which includes waste

characterization data from CalRecycle. Because the landfill gas captured is not under the jurisdiction of Lake County, the landfill gas emissions from the capture system are not included in the inventory. Only fugitive sources of GHG emissions from landfills are included. Modeling assumes a 75 percent reduction in fugitive GHG emissions from the landfill's Landfill Gas Capture System. The landfill gas capture efficiency is based on CARB's LGOP, Version 1.3. Total GHG emissions from waste disposal in 2020 were forecast based on the percentage increase in population for the county. The emissions forecast does not account for reductions from increasing waste diversion.

- **Water Use and Wastewater Treatment.** GHG emissions from this sector include indirect GHG emissions from the embodied energy associated with water use and wastewater generation and fugitive GHG emissions from processing wastewater. The total annual existing and proposed project water demand in the county are based on data retrieved from the sewer system master plans for each wastewater treatment provider serving the county. Information regarding septic system use and emissions was compiled various sources included in Appendix C. Electricity use from water use is estimated using energy rates identified by in the 2022 CalEEMod Users Guide (CAPCOA 2022). Then energy is multiplied by the carbon intensity of energy for PG&E. Wastewater treatment also results in direct CH_4 emissions from wastewater processing, which are based on the emission rates identified in the 2022 CalEEMod Users Guide (CAPCOA 2022).

Industrial sources of emissions that require a permit from LCAQMD are not included in the community inventory. Life-cycle emissions are not included in this analysis because not enough information is available for the proposed General Plan; therefore, quantification of life-cycle emissions would be speculative.[1] 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.[2]

[1] 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 analysis was not warranted for project-specific CEQA analysis in most situations, for various reasons, e.g., lack of control over some sources, and 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 over the buildout horizon is unknown, the origin and manufacturing of the raw materials is also not known; thus, calculation of life cycle emissions would be speculative. A life-cycle analysis is not warranted (OPR 2008).

[2] Particulate matter emissions, which include black carbon, are analyzed in Section 3.3, *Air Quality*.

3.8.4 Project Impact Discussion

a) Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

Future potential development under the proposed General Plan 2050 would contribute to global climate change through direct and indirect emissions of GHGs in the EIR Study Area. However, a general plan is a long-range policy document that does not directly result in development without additional approvals. Any development proposed in the EIR Study Area must be analyzed for consistency with the general plan, zoning requirements, and other applicable local and state requirements; comply with the requirements of CEQA as applicable; and obtain all necessary clearances and permits from regulatory agencies.

Buildout of the proposed General Plan 2050 is not linked to a specific development time frame but is assumed over an approximately 25-year project horizon through 2050. This EIR also analyzes the potential for the proposed project to conflict with the GHG reduction targets established under AB 1279, which include substantial progress toward the State's carbon neutrality goals by 2045. As a result, the County would need to achieve a no-net-increase in GHG emissions to ensure the County is on a trajectory to meet the long-term goal under AB 1279 and contribute toward the State's carbon neutrality goal.

Table 3.8-3, *EIR Study Area Year 2050 GHG Emissions Forecast*, provides a comparison of the change in GHG emissions in the EIR Study Area between the existing conditions and trajectory to AB 1279 for 2050. As shown in Table 3.8-3, buildout of the land uses in 2050 would result in a decrease of 29,950 $MTCO_2e$ of GHG emissions from existing conditions. As shown in Table 3.8-3, the sectors that experienced the greatest decline in emissions included on-road transportation and building electricity consumption. Water use and wastewater generation, off-road commercial and light industrial equipment use, and off-road lawn and garden equipment use also saw a net decrease in GHG emissions through 2050, but to a lesser degree. On-road transportation would see this decrease primarily as a result of future implementation of on-road vehicle emission regulations assumed to be in effect in EMFAC2021 that was used for estimating 2050 vehicle emissions, including CARB's Advanced Clean Cars regulation, Truck and Bus regulation, Advanced Clean Trucks regulation, and Heavy-Duty Engine and Vehicle Omnibus Low-NOx regulation. It should be noted that CARB's Advanced Clean Trucks and Heavy-Duty Engine and Vehicle Omnibus Low-NOx regulations are currently under litigation or challenge and are not currently enforceable. Nonetheless, EMFAC2021 was used to represent 2050 conditions for vehicle emissions because the recently updated EMFAC2025 includes additional CARB regulations which are currently not enforceable and result in greater long-term emission reductions from accelerated adoption of EVs and more aggressive emission control requirements in newly manufactured equipment and vehicles.

Table 3.8-3 EIR Study Area Year 2050 GHG Emissions Forecast

Emissions Sector	GHG Emissions ($MTCO_2e$/Year)				
	Existing [a]		Proposed Project 2050		Net Change
On-Road Transportation	163,451	48%	133,300	43%	-30,151
Building Energy - Electricity	26,084	8%	0	0%	-26,084
Building Energy – Propane	15,766	5%	18,906	6%	3,139
Solid Waste (Waste Commitment)	42,725	13%	51,128	16%	8,403
Water/Wastewater	3,210	1%	2,609	1%	-518
Hearths (Propane & Woodburning)	59,600	18%	71,328	23%	11,729
Off-Road Construction	4,497	1%	4,539	1%	42
Off-Road Commercial and Light Industrial	1,568	<1%	1,318	<1%	-250
Off-Road Lawn and Garden	837	<1%	99	<1%	-738
Refrigerants	22,263	7%	26,740	9%	4,477
Total Community Emissions	**340,000**	**100%**	**309,967**	**100%**	**-30,033**
Does Project Exceed The No Net Increase Threshold? [b]					**No**

Source: See Appendix C, *Air Quality and Greenhouse Gas Emissions Data.*

Notes: Emissions may not total to 100 percent due to rounding. Based on GWPs in the IPCC Fifth Assessment Report (AR5). Calculations utilize EMFAC2021 and OFFROAD2021.

a. Existing GHG emissions are drawn from Table 3.8-2, *Existing EIR Study Area GHG Emissions Inventory.*

b. Significance Threshold represents a no-net-increase in emissions from existing conditions.

In addition, PG&E's compliance with SB 100 and the 100-percent renewable and carbon-free procurement requirements for in-state sales of electricity by 2045 would yield aggressive power-related GHG emission reductions associated with building electricity consumption, water use, and wastewater generation. Off-road equipment use in the Commercial and Light Industrial and Lawn and Garden sectors would also experience GHG reductions through 2050 as a result of CARB's In-Use Off-Road Diesel regulation, Large Spark-Ignition rules, and pre-2020 Small Off-Road Engine rules, which are unaffected by current litigation between California and the USEPA. In fact, the use of OFFROAD2021 presents a conservative estimate of 2050 GHG emissions in these sectors as it does not consider post-2020 amendments to CARB's Small Off-Road Engines rules or the Advanced Clean Fleets regulation.

As shown in Table 3.8-3, *EIR Study Area Year 2050 GHG Emissions Forecast*, it is anticipated that year 2050 conditions would result in an overall decrease in emissions compared to the existing baseline. Therefore, the proposed General Plan 2050 would not exceed the no-net-increase emissions threshold and would be considered consistent with the long-term year goals under AB 1279. Therefore, GHG emissions impacts for the proposed project would be less than significant in regard to meeting the long-term year carbon neutrality goals of AB 1279.

Additionally, adopted State measures would result in further reductions of mobile and energy sources to reduce GHG emissions, such as:

- The updated Title 24 Building Energy Efficiency Standards require new buildings to achieve increased energy efficiency targets.
- The Climate Change Scoping Plan LCFS mandates reduced carbon intensity of fuels used in off-road equipment.
- SB 1383 aims for a 75 percent reduction in organic waste by 2025 aimed to tackle climate change.
- SB 350 directs CARB, in coordination with the CPUC and CEC, to establish 2030 GHG emissions targets for the electricity sector in general and each electricity provider.

Furthermore, the General Plan 2050 contains goals, policies, and actions that require local planning and development decisions to consider impacts from GHG emissions and to reduce those GHG emissions as shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation GHG. In particular, the following key policies and actions would serve to minimize GHG emissions in the EIR Study Area:

- Policy GR-1.1 supports the use of new technological and operational measures that better conserve geothermal resources, increase efficiencies in power generation, and/or otherwise expand geothermal energy development potential.
- Policy GR-2.4 encourages the cooperative exploration of opportunities for providing wholesale power to local agencies (e.g., community service districts) from transmission lines constructed in their vicinity, as well as local geothermal energy distribution in the county.
- Policy HS-5.9 requires that any mitigation of air quality or GHG emission impacts from new projects occur on-site to the extent feasible to provide the greatest benefit to residents in the most-impacted neighboring communities. For mitigation that relies on offsets, requires that the offsets be obtained from sources as near to the project site as possible or from sources that would improve air quality in an Equity Priority Area. If the project site is within or adjacent to an Equity Priority Area, require offsets/mitigation within that community unless determined infeasible by the County.
- Action HS-5.c requires development projects (hospitals, schools, high-occupancy public facilities, and industrial/commercial facilities over 20,000 square feet) to mitigate air quality impacts from increased traffic. Mitigation may include, but is not limited to:
    - Providing bicycle access and parking facilities,
    - Providing preferential parking for high-occupancy vehicles and carpools, and
    - Establishing telecommuting programs or satellite work centers.
    - Adding additional public transportation stops along existing bus routes.
    - Installing electric vehicle charging infrastructure.

- Policies CM-LU-2.4, EL-LU-2.3, K-LU-2.3, L-LU-2.3, LL-LU-2.3, M-LU-2.3, NL-LU-2.3, and R-LU-2.3 encourage urban development that locates origins and destinations in close proximity to reduce vehicle trips and enhance visual and pedestrian access.
- Policies CM-LU-2.5, EL-LU-2.4, K-LU-2.4, L-LU-2.4, LL-LU-2.4, M-LU-2.4, NL-LU-2.4, and R-LU-2.4 encourage potential transit destinations, including employment centers, schools, personal services, administrative and professional offices, and social/recreational centers, to be clustered within a convenient walking distance of one another and to a transit stop.
- Policies CM-LU-2.6, EL-LU-2.5, K-LU-2.5, L-LU-2.5, LL-LU-2.5, M-LU-2.5, NL-LU-2.5, and R-LU-2.5 support the development of land uses with increased densities and mixed uses to reduce vehicle miles traveled and promote walking, biking, and transit use.
- Policies CM-LU-5.5, EL-LU-5.6, K-LU-5.6, L-LU-5.6, LL-LU-5.7, M-LU-5.6, NL-LU-5.6, and R-LU-5.6 promote the development of affordable housing near public transit and essential services whenever possible.
- Policies CM-LU-6.1, EL-LU-6.1, K-LU-6.1, L-LU-6.1, LL-LU-6.1, M-LU-6.1, NL-LU-6.1, and R-LU-6.1 encourage centrally located businesses and services in places that conveniently serve residential areas and/or support revitalization or creation of town centers.
- Policies CM-C-3.3, EL-C-3.3, K-C-3.3, L-C-3.3, LL-C-3.3, M-C-3.3, NL-C-3.3, and R-C-3.3 encourage vehicle trip reduction through home occupations and telecommuting.
- Policies CM-C-3.4, EL-C-3.4, K-C-3.4, L-C-3.4, LL-C-3.4, M-C-3.4, NL-C-3.4, and R-C-3.4 encourage regional employers to provide employees with options and incentives to use non-personal vehicle modes of transportation to work or to otherwise reduce VMT (e.g., transit subsidies, bicycle facilities, ridesharing, alternative work schedules, telecommuting, and preferential parking for carpools).
- Policies CM-C-3.6, EL-C-3.6, K-C-3.6, L-C-3.6, LL-C-3.6, M-C-3.6, NL-C-3.6, and R-C-3.6 support transitioning on-road vehicles, including personal, business, government, and public transit fleets, to electric power from renewable sources or other zero-emission fuels.
- Actions CM-C-3.c, EL-C-3.c, K-C-3.c, L-C-3.c, LL-C-3.c, M-C-3.c, NL-C-3.c, and R-C-3.c develop a program to encourage trip-reduction measures among County employees using various strategies, such as transit and/or carpool/vanpool subsidies, bicycle facilities, alternative work schedules, ridesharing programs, telecommuting options, employee education, and preferential parking for carpools/vanpools.
- Actions CM-C-3.e, EL-C-3.e, K-C-3.e, L-C-3.e, LL-C-3.e, M-C-3.e, NL-C-3.e, and R-C-3.e require amendment of Article 46 of the Zoning Ordinance to create electric vehicle charging and parking requirements for new development (e.g., one EV space per every 15 non-EV spaces and one charging station for large development based on square footage).
- Policies CM-C-5.5, EL-C-5.5, K-C-5.5, L-C-5.5, LL-C-5.5, M-C-5.5, NL-C-5.5, and R-C-5.5 encourage transit access and compatibility during the review and approval process for industrial, commercial, and residential development.

- Policies CM-C-5.6, EL-C-5.6, K-C-5.6, L-C-5.6, LL-C-5.6, M-C-5.6, NL-C-5.6, and R-C-5.6 encourage bus stops at key destinations, population centers, and/or along arterials and collectors to facilitate public transit use.
- Policies CM-C-6.2, EL-C-6.2, K-C-6.2, L-C-6.2, LL-C-6.2, M-C-6.2, NL-C-6.3, and R-C-6.2 require the County to incorporate facilities for non-motorized users, such as sidewalks and bike routes, when constructing or improving roadway facilities and when reviewing new development proposals.
- Policies CM-C-6.5, EL-C-6.5, K-C-6.5, L-C-6.5, LL-C-6.5, M-C-6.5, NL-C-6.6, and R-C-6.5 require new residential and commercial development to incorporate bike lanes and sidewalks, as appropriate.
- Policies CM-OS-4.1, EL-OS-4.1, K-OS-4.1, L-OS-4.1, LL-OS-4.1, M-OS-4.1, NL-OS-4.1, and R-OS-4.1 require the use of energy conservation features and encourages renewable and carbon-free energy generation and storage systems in new construction and renovation of existing structures.
- Policies CM-OS-4.2, EL-OS-4.2, K-OS-4.2, L-OS-4.2, LL-OS-4.2, M-OS-4.2, NL-OS-4.2, and R-OS-4.2 support efforts to increase renewable and carbon-free energy generation, including wind, solar, and biomass.
- Policies CM-OS-4.3, EL-OS-4.3, K-OS-4.3, L-OS-4.3, LL-OS-4.3, M-OS-4.3, NL-OS-4.3, and R-OS-4.3 promote and incentivize small-scale, on-site renewable energy and storage systems for existing residential units, nonresidential buildings, and in the agricultural sector.
- Policies CM-OS-4.4, EL-OS-4.4, K-OS-4.4, L-OS-4.4, LL-OS-4.4, M-OS-4.4, NL-OS-4.4, and R-OS-4.4 require participation in local and State programs that reduce the consumption of energy.
- Policies CM-OS-4.6, EL-OS-4.6, K-OS-4.6, L-OS-4.6, LL-OS-4.6, M-OS-4.6, NL-OS-4.6, and R-OS-4.6 require construction of all new or remodeled County buildings and retrofit of existing buildings to be energy efficient and rely on renewable and carbon-free energy resources where feasible.
- Policies CM-OS-4.7, EL-OS-4.7, K-OS-4.7, L-OS-4.7, LL-OS-4.7, M-OS-4.7, NL-OS-4.7, and R-OS-4.7 require consideration of fuel efficiency as one of the main selection criteria when purchasing new County vehicles.
- Actions CM-OS-4.a, EL-OS-4.a, K-OS-4.a, L-OS-4.a, LL-OS-4.a, M-OS-4.a, NL-OS-4.a, and R-OS-4.a require exploration of opportunities to purchase and install solar panels and battery storage in bulk to serve homes and businesses in the community, prioritizing Equity Priority Populations, including establishment and subsidization of community solar programs.
- Action CM-OS-4.d, EL-OS-4.d, K-OS-4.d, L-OS-4.d, LL-OS-4.d, M-OS-4.d, NL-OS-4.d, and R-OS-4.d require work with local agencies and nonprofits to retrofit and upgrade homes for energy efficiency and climate resiliency.

Summary

While sector emissions would be generated under the proposed project largely due to the forecast growth in population and employment, the proposed General Plan 2050 policies and actions listed in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation GHG, and those provided above, would support GHG emission reductions through individual development projects facilitated by the proposed project. Implementation of these policies and other Statewide measures would contribute to minimizing GHG emissions associated with the County to the extent feasible. As shown in Table 3.8-3, *EIR Study Area Year 2050 GHG Emissions Forecast*, GHG emissions are projected to result in a slight decrease in emissions from the CEQA baseline and would ensure the County is on a trajectory to achieve the long-term reductions goals AB 1279 and substantial progress toward the State's carbon neutrality goals for year 2045. Therefore, this impact is **less than significant**.

b) Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions?

Applicable plans adopted for the purpose of reducing GHG emissions include CARB's Scoping Plan and Lake APC's RTP. A consistency analysis with these plans is presented herein.

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 local jurisdictions to adopt its policies, programs, or regulations to reduce GHG emissions). However, new regulations adopted by the State agencies from the Scoping Plan result in GHG emissions reductions at the local level. So local jurisdictions benefit from reductions in transportation emissions rates, increases in water efficiency in the building and landscape codes, and other statewide actions that affect a local jurisdiction's emissions inventory from the top down. Statewide strategies to reduce GHG emissions include the LCFS mandate and changes in the corporate average fuel economy standards.

Development projects accommodated under the proposed project 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 under the proposed project 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 impact discussion (a), the proposed project includes policies that would help reduce GHG emissions and therefore help achieve GHG reduction goals. Implementation of the proposed

project would not obstruct implementation of the CARB Scoping Plan, and impacts would be less than significant.

Regional Transportation Plan

The County's RTP outlines policies and strategies aimed at addressing the issues related to different transportation topics of note in the county including the State Highway system, local streets and roads, active transportation, public transit, tribal transportation, and aviation. The vision of the RTP is to provide a safe and efficient transportation system that reduces VMT and increases use of alternative modes of transportation. As shown in Table 3.8-4, *RTP Consistency Analysis*, the proposed project would be consistent with the goals of the RTP and impacts would be **less than significant**.

Table 3.8-4 RTP Consistency Analysis

Goals	Consistency Analysis
OI-1: Coordinate, support and encourage multi-modal regional planning activities in Lake County across jurisdictional boundaries.	Consistent. Proposed Goal C-5 in all planning area elements is a safe and efficient public transportation system that offers a convenient alternative to the private automobile, reduces roadway congestion, and meets the community's transit needs. Proposed policies and actions under this goal include increased support for Lake Transit Authority and promotes public transportation throughout the county. Proposed Goal C-6 in all planning area elements is a continuous and easily accessible active transportation system that facilitates safe, equitable, and connected walking, biking, and micromobility options. Proposed policies and actions under this goal include improvements to and requirements to develop new pedestrian and bicycle facilities.
OI-2: Support Complete Streets planning to improve multi-modal forms of connectivity within the transportation system.	Consistent. Proposed Goal C-3 in all planning area elements is a transportation network that accommodates new development while reducing per-capita VMT and GHG emissions and promotes environmental protections and stewardship. Proposed policies and actions under this goal include incorporating complete street practices into planning. Proposed Goal C-5 in all planning area elements is a safe and efficient public transportation system that offers a convenient alternative to the private automobile, reduces roadway congestion, and meets the community's transit needs. Proposed policies and actions under this goal include increased support for Lake Transit Authority and promotes public transportation. Proposed Goal C-6 in all planning area elements is a continuous and easily accessible active transportation system that facilitates safe, equitable, and connected walking, biking, and micromobility options. Proposed policies and actions under this goal include improvements to and requirements to develop new pedestrian and bicycle facilities.

Table 3.8-4 RTP Consistency Analysis

Goals	Consistency Analysis
OI-3: Reduce Greenhouse Gas emissions by promoting and facilitating transit use and increasing active transportation alternatives.	Consistent. Proposed Goal C-3 in all planning area elements is a transportation network that accommodates new development while reducing per-capita VMT and GHG emissions and promotes environmental protections and stewardship. Proposed policies and actions under this goal include incorporating complete street practices into planning, support of zero-emission vehicles, and encouragement for alternative modes of transportation. Proposed Goal C-5 in all planning area elements is a safe and efficient public transportation system that offers a convenient alternative to the private automobile, reduces roadway congestion, and meets the community's transit needs. Proposed policies and actions under this goal include increased support for Lake Transit Authority and promotes public transportation throughout the county.
OI-4 Reduce and mitigate environmental impacts of current and future transportation projects.	Consistent. Future transportation projects would be required to implement the proposed mitigated policies and actions contained in the proposed General Plan 2050. shown in Appendix F, *Proposed General Plan 2050 Policies and Actions,* of this Draft EIR denotated with an asterisk, to minimize environmental impacts.
OI-5: Increase funding for transportation planning, preconstruction activities and construction.	Consistent. Proposed General Plan 2050 Actions CM-C-1.a, EL-C-1.a, K-C-1.a, L-C-1.a, LL-C-1.a, M-C-1.a, NL-C-1.a, and R-C-1.a require working with Caltrans and other transportation agencies to maintain the Regional Transportation Plan, identify funding priorities, and develop an expenditure plan for available transportation funds in accordance with federal, State, and regional transportation planning and programming procedures; and Actions CM-C-2.e, EL-C-2.e, K-C-2.e, L-C-2.e, LL-C-2.e, M-C-2.e, NL-C-2.e, and R-C-2.e state that the County will pursue all available sources of funding and protect existing sources of funding for the development, improvement, and maintenance of the existing roadway system.
OI-6: Support planning projects that will benefit public health in the region.	Consistent. Proposed Health and Safety Element Goal HS-5 is to reduce the generation of air pollutants and promote non-polluting activities to minimize impacts on human health and the economy of the county. Proposed policies and actions under this goal include requiring the use of the best available air pollution control technologies to maintain healthy air quality; requiring developments to be located, designed, and constructed in a manner that minimizes air pollutant emissions; and requiring dust-suppression measures. Proposed Goal LU-1 in all planning area elements is to promote balanced and orderly growth and conservation that preserve and promote a high quality of life, safe community, conservation of resources, and natural beauty.

Source: Lake APC, 2022

Significance without Mitigation: Less than significant.

3.8.5 Cumulative Impact Discussion

GHG emissions associated with the proposed General Plan 2050 are not confined to a particular air basin but are dispersed worldwide. Therefore, the impacts discussed above are not project-specific impacts to GHG emissions, but the proposed project's contribution to this cumulative impact.

Would the project have a cumulative effect related to GHG emissions?

As discussed in impacts discussions (a) and (b), the proposed project would be consistent with Lake APC's RTP efforts and CARB's Scoping Plan. Additionally, the proposed project would achieve the emission reduction target of no-net increase from its existing conditions baseline. Therefore, project-related GHG emissions and their contribution to global climate change would not be cumulatively considerable, and GHG emissions impacts would be **less than significant**.

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3.9 HAZARDS AND HAZARDOUS MATERIALS

This section of the Draft EIR describes the potential hazards and hazardous materials impacts associated with the adoption and implementation of the proposed project. This section describes the regulatory framework and existing conditions, identifies criteria used to determine impact significance, and provides an analysis of the potential hazards and hazardous materials impacts. The proposed General Plan 2050 policies and actions that would minimize any potentially significant impacts are shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, and denoted with the abbreviation HAZ. Where policies and actions are required for mitigation, those policies and actions are described in this section and denoted with an asterisk (*). A discussion of wildland fire hazards is provided in Section 3.20, *Wildfire*, of this Draft EIR.

3.9.1 Regulatory Framework

FEDERAL

United States Environmental Protection Agency

The United States Environmental Protection Agency (USEPA) is the primary federal agency that regulates hazardous materials and waste. In general, the USEPA works to develop and enforce regulations that implement environmental laws enacted by Congress. The agency is responsible for researching and setting national standards for a variety of environmental programs, delegating the responsibility for issuing permits, and monitoring and enforcing compliance to states and Native American tribes. USEPA programs promote handling hazardous wastes safely, cleaning up contaminated land, and reducing waste volumes through such strategies as recycling. Lake County falls under the jurisdiction of USEPA Region IX, which includes California, Arizona, Hawaii, and New Mexico. Under the authority of the Resource Conservation and Recovery Act (RCRA) and in cooperation with State and Tribal partners, the USEPA Region IX Waste Management and Superfund Divisions manage programs for site environmental assessment and cleanup, hazardous and solid waste management, and underground storage tanks.

Occupational Safety and Health Act

The Occupational Safety and Health Act of 1970 resulted in the creation of the Occupational Safety and Health Administration (OSHA) to ensure safe and healthy working conditions for workers by setting and enforcing standards and by providing training, outreach, education, and assistance to employers and workers. The act requires employers to provide employees with a working environment free from hazards, such as exposure to toxic chemicals, excessive noise levels, mechanical dangers, heat or cold stress, or other conditions that could cause serious harm to employees. The act requires specific training for hazardous materials handlers;

education to employees who may be exposed to hazardous materials; and the posting of material safety data sheets for hazardous materials used on-site. The material safety data sheets describe the risks, as well as proper handling and procedures for specific chemicals and/or hazardous materials. Most OSHA standards and requirements are specific to the general industry or construction categories. The act authorizes each state (including California) to establish their own safety and health programs with OSHA approval. The California Department of Industrial Relations regulates implementation of worker health and safety in California. OSHA 29 Code of Federal Regulations (CFR) 1926.62 regulates the demolition, renovation, or construction of buildings involving lead materials. Federal, State, and local requirements also govern the removal of asbestos or suspected asbestos-containing materials (ACMs), including the demolition of structures where asbestos is present. All friable (crushable by hand) ACMs, or non-friable ACMs subject to damage, must be abated prior to demolition following all applicable regulations.

Resource Conservation and Recovery Act of 1976, as amended by the Hazardous and Solid Waste Amendments of 1984

Federal hazardous waste laws are generally promulgated under the RCRA, as amended by the Hazardous and Solid Waste Amendments of 1984. These laws provide for the “cradle to grave” regulation of hazardous wastes. Any business, institution, or other entity that generates hazardous waste is required to identify and track its hazardous waste from the point of generation until it is recycled, reused, or disposed. The California Department of Toxic Substance Control (DTSC) is responsible for implementing the RCRA program as well as California’s own hazardous waste laws, which are collectively known as the Hazardous Waste Control Law.

Comprehensive Environmental Response, Compensation, and Liability Act and the Superfund Amendments and Reauthorization Act of 1986

Congress enacted the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as “Superfund,” on December 11, 1980. CERCLA established prohibitions and requirements concerning closed and abandoned hazardous waste sites; provided for liability of persons responsible for releases of hazardous waste at these sites; and established a trust fund to provide for cleanup when no responsible party could be identified. Under CERCLA, USEPA maintains a list, known as the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS), of all contaminated sites in the nation that have in the past or are currently undergoing cleanup activities. CERCLIS contains information on current hazardous waste sites, potential hazardous waste sites, and remedial activities. This includes sites that are on the National Priorities List (NPL) or being considered for the NPL.

The Superfund Amendments and Reauthorization Act (SARA) amended CERCLA on October 17, 1986. This Act expanded the scope of CERCLA and added new provisions, such as the Emergency Planning and Community Right-to-Know Act (EPCRA). It also provided new enforcement authorities and settlement tools; increased state involvement in every phase of the Superfund program; and encouraged greater citizen participation in making decisions on how sites should be cleaned up.

Emergency Planning and Community Right-to-Know Act

The Emergency Planning and Community Right-to-Know Act (EPCRA), also known as SARA Title III, was enacted in October 1986. This law requires state and local governments to inform communities and citizens of chemical hazards in their area by requiring businesses to report the locations and quantities of chemicals stored onsite to state and local agencies. Reported information is then made publicly available so that interested parties may become informed about potentially dangerous chemicals in their communities. The USEPA maintains and publishes an online, publicly available national database of toxic chemical releases and other waste management activities called the Toxics Release Inventory (TRI). In California, the California Governor's Office of Emergency Services (Cal OES) implements the EPCRA program through the California Accidental Release Prevention (CalARP) program In turn, the State of California has delegated local oversight authority of the CalARP program to local Certified Unified Program Agencies (CUPAs). The Lake County Department of Environmental Health is the CUPA that responds to various disasters, accidents, and hazardous material spills in the county.

United States Department of Transportation

The United States Department of Transportation (USDOT) has the regulatory responsibility for the safe transportation of hazardous materials between states and internationally. The USDOT regulations govern all means of transportation, except for those packages shipped by mail, which are covered by United States Postal Service regulations. The federal RCRA imposes additional standards for the transport of hazardous waste.

Hazardous Materials Transportation Act

The USDOT regulates hazardous materials transportation under Title 49 of the CFR. The USDOT regulations that govern the transportation of hazardous materials are applicable to any person who transports, ships, causes to be transported or shipped, or is involved in any way with the manufacture or testing of hazardous materials packaging or containers. USDOT regulations pertaining to the actual movement of hazardous materials govern every aspect of the movement, including packaging, handling, labeling, marking, placarding, operational standards, and highway routing. State agencies that have primary responsibility for enforcing federal and state regulations and responding to hazardous materials transportation emergencies are the California Highway Patrol (CHP) and the California Department of Transportation (Caltrans). The California State Fire Marshal's Office has oversight authority for hazardous materials liquid

pipelines. The California Public Utilities Commission has oversight authority for natural gas pipelines in California.

Natural Gas Pipeline Safety Act of 1968 as amended by PIPES Act of 2020

The Natural Gas Pipeline Safety Act of 1968 authorizes the USDOT 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 (PHMSA) within the USDOT develops and enforces regulations for the safe, reliable, and environmentally sound operation of the nation's 2.6-million-mile pipeline transportation system. The Protecting Our Infrastructure of Pipelines and Enhancing Safety (PIPES) Act of 2020 strengthens PHMSA's authority and includes new mandates for operators regarding distribution integrity management plans, emergency response plans, and O&M plans, as well as enhanced leak detection and repair programs.

Toxic Substances Control Act

The Toxic Substances Control Act (TSCA) of 1976 provides USEPA with authority to require reporting, record-keeping and testing requirements, and restrictions relating to chemical substances and/or mixtures. USEPA has the authority to track the production, importation, use, and disposal of approximately 75,000 chemicals currently produced by or imported into the United States. USEPA conducts monitoring to assure compliance with the regulations and can ban the manufacture or import of chemicals that pose an unreasonable risk, such as polychlorinated biphenyls (PCBs), asbestos, and lead-based paint.

Subchapter IV of TSCA directs USEPA to regulate lead-based paint hazards. TSCA's section 402/404 requires that those engaged in lead abatements, risk assessments and inspections in homes or child-occupied facilities (such as day care centers and kindergartens) built prior to 1978 be trained and certified in lead hazard inspection and abatement. TSCA Section 403, *Residential Hazard Standards for Lead in Paint, Dust and Soil*, sets standards for dangerous levels of lead in paint, household dust, and residential soil.

Title 40 CFR Part 745 contains regulations developed under sections 402 and 406 of the Toxic Substances Control Act and applies to all renovations performed for compensation in target housing and child-occupied facilities. The purpose of this subpart is to ensure that owners and occupants of target housing and child-occupied facilities receive information on lead-based paint hazards before these renovations begin, and individuals performing renovations regulated in accordance with Section 745.82 are properly trained, renovators and firms performing these renovations are certified, and the work practices in Section 745.85 are followed during these renovations.

Stafford Act

The Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act) of 1988 authorizes federal government assistance for emergencies and disasters when state and local capabilities are exceeded. The Stafford Act forms the statutory authority for most federal disaster response activities, especially as they relate to the Federal Emergency Management Agency (FEMA) and FEMA programs.

Federal Response Plan

The Federal Response Plan of 1999 is a agreement among 27 federal departments and agencies and other resource providers, including the American Red Cross, that: (1) provides the mechanism for coordinating delivery of federal assistance and resources to augment efforts of state and local governments overwhelmed by a major disaster or emergency; (2) supports implementation of the Stafford Act, as well as individual agency statutory authorities; and (3) supplements other federal emergency operations plans developed to address specific hazards. The Federal Response Plan is implemented in anticipation of a significant event likely to result in a need for federal assistance or in response to an event requiring federal assistance under a Presidential declaration of a major disaster or emergency. The Federal Response Plan is part of the National Response Framework, which was most recently updated on October 28, 2019.

National Response Framework

The National Response Framework, published by the Department of Homeland Security, is a guide for the nation to respond to all types of disasters and emergencies. This framework describes specific authorities and best practices for managing incidents that range from serious local or large-scale terrorist attacks or catastrophic natural disasters. In addition, the National Response Framework describes the principles, roles, and responsibilities, and coordinating structures for responding to an incident, and further describes how response efforts integrate with those of the other mission areas.

Title 40, Code of Federal Regulations, Section 61 Subpart M

The air toxic provisions of the Clean Air Act required USEPA to develop regulations to protect the public from exposure to airborne contaminants that are hazardous to human health. As a result, USEPA established National Emissions Standards for Hazardous Air Pollutants (NESHAP). Title 40 CFR Section 61 Subpart M—National Emissions Standards for Asbestos—sets forth emissions standards for asbestos from demolition and renovation activities, and for waste disposal from such activities.

Title 40, Code of Federal Regulations, Section 1926.62

Title 29 CFR Section 1926.62 sets standards for occupational health and environmental controls for lead exposure in construction, regardless of the lead content of paints and other materials.

The standards include requirements addressing exposure assessment, methods of compliance, respiratory protection, protective clothing and equipment, hygiene facilities and practices, medical surveillance, medical removal protection, employee information and training, signs, recordkeeping, and observation and monitoring.

Lead Renovation, Repair, and Painting Program Rules

The USEPA 2008 Lead-Based Paint Renovation, Repair, and Painting (RRP) Rule (as amended in 2010 and 2011), aims to protect the public from lead-based paint hazards associated with renovation, repair and painting activities. These activities can create hazardous lead dust when surfaces with lead paint, even from decades ago, are disturbed. The rule requires workers to be certified and trained in the use of lead-safe work practices, and requires renovation, repair, and painting firms to be USEPA-certified. These requirements became effective April 22, 2010.

STATE

California Environmental Protection Agency

The California Environmental Protection Agency (CalEPA), created in 1991, unified California's environmental authority under a single agency, which includes the California Air Resources Board, State Water Resources Control Board, the Regional Water Quality Control Boards (RWQCBs), California Department of Resources Recycling and Recovery (CalRecycle), the Office of Environmental Health Hazard Assessment, and the Department of Pesticide Regulation. These agencies were places with the CalEPA "umbrella" for the protection of human health and the environment and to ensure the coordinated deployment of state resources. Its mission is to restore, protect, and enhance the environment, to ensure public health, environmental quality, and economic vitality.

Department of Toxic Substances Control

The DTSC, a department of CalEPA, regulates hazardous waste and oversees the cleanup of contaminated sites, primarily under the authority of the RCRA (as previously discussed) and the California Health and Safety Code (Health & Safety Code, Chapter 6.5, *Hazardous Substance Account*, and Chapter 6.8, *Hazardous Waste Control Law*). Other DTSC regulatory authority specific to hazardous waste include handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning.

Government Code Section 65962.5

Government Code Section 65962.5 requires CalEPA to compile, maintain, and update specified lists of hazardous material release sites. The California Environmental Quality Act (CEQA) requires the lead agency to consult the lists compiled pursuant to Government Code Section 65962.5 to determine whether a project and any alternatives are identified (PRC Section

21092.6). The required lists of hazardous material release sites are commonly referred to as the "Cortese List" named after the legislator who authored the legislation. Because the statute was enacted more than 20 years ago, some of the provisions refer to agency activities that were conducted many years ago and are no longer being implemented and, in some cases, the information required in the Cortese List does not exist. Those requesting a copy of the Cortese Lists are now referred directly to the appropriate information resources contained on internet websites hosted by the boards or departments referenced in the statute, including DTSC's online EnviroStor database and the State Water Resources Control Board's (SWRCB) online GeoTracker database. These two databases include hazardous material release sites, along with other categories of sites or facilities specific to each agency's jurisdiction. Additionally, CalEPA provides the following Cortese List Data Resources (CalEPA 2025):

- List of Hazardous Waste and Substances sites from DTSC EnviroStor database
- List of Leaking Underground Storage Tank Sites from SWRCB's GeoTracker
- List of solid waste disposal sites identified by SWRCB with waste constituents above hazardous waste levels outside the waste management unit
- List of "active" Cease and Desist Orders and Cleanup and Abatement Orders from SWRCB
- List of hazardous waste facilities subject to corrective action pursuant to HSC Section 25187.5, identified by DTSC

California Division of Occupational Safety and Health

Like OSHA at the federal level, the California Division of Occupational Safety and Health (CalOSHA) is the responsible State-level agency for ensuring workplace safety. CalOSHA assumes primary responsibility for the adoption and enforcement of standards regarding workplace safety and safety practices. The CalOSHA Consultation Service assists employers and workplaces through specific emphasis programs, which address hazards or industries that pose a particular risk to workers and develops educational materials on workplace safety and health topics. The CalOSHA Enforcement Unit conducts inspections of California workplaces to ensure compliance with all occupational safety and health standards and regulations. CalOSHA requires many businesses to prepare Injury and Illness Prevention Plans and Chemical Hygiene Plans. The Hazard Communication Standard requires that workers be informed of the hazards associated with the materials they handle.

Lead is regulated as a hazardous material, and inorganic lead is regulated as a toxic air contaminant. Lead-containing paints, according to CalOSHA, are defined as paints reported with any detectable levels of lead by paint chip analysis (California Code of Regulations Title 8, Section 1532.1[d]). When disturbed for construction purposes, these surfaces are subject to CalOSHA exposure assessment requirements.

California Accidental Release Prevention Program

CalEPA oversee the statewide implementation of the California Accidental Release Prevention (CalARP) Program, which aims to prevent accidental releases of substances that can cause serious harm to the public and the environment, and to minimize the damage if releases do occur. CalARP requires facilities which handle, manufacture, use, or store regulated substances above threshold quantities to prepare Risk Management Plans (RMPs). CalEPA oversees the implementation of the CalARP program at the state level, while the CUPAs implement the CalARP program at the local level. The Risk Management Plans are submitted to Lake County Division of Environmental Health for review and approval.

California Office of Emergency Services

The California Office of Emergency Services (Cal OES) was established as part of the Governor's Office on January 1, 2009. It was created pursuant to Assembly Bill 38, which merged the duties, powers, purposes, and responsibilities of the former Governor's Emergency Management Agency with those of the Governor's Office of Homeland Security. Cal OES is responsible for the coordination of overall State agency response to major disasters in support of local government. The agency is responsible for ensuring the State's readiness to respond to and recover from all hazards—natural, human-made, emergencies, and disasters—and for assisting local governments in their emergency preparedness, response, recovery, and hazard mitigation efforts. Cal OES prepares the California State Emergency Plan and State Hazard Mitigation Plan, maintains the State Emergency Management System, and provides guidance, technical assistance, and tools to government agencies and dam owners for emergency planning. Any significant release or threatened release of hazardous materials requires immediate reporting to the Cal OES State Warning Center.

Office of State Fire Marshal

The Office of the State Fire Marshal (OSFM) is focused on fire prevention, safety, and enforcement and is one of the programs under CAL FIRE. The Pipeline Safety Division of OSFM is responsible for regulating hazardous liquid pipelines within the State of California. OSFM is involved in the CUPA process and is responsible for ensuring the implementation of the California Fire Code Hazardous Materials Management Plan/Hazardous Materials Inventory Statement, which ties into the Hazardous Materials Business Plan program. It also is responsible for implementation of the Aboveground Petroleum Storage Act and the statewide Underground Storage Tank (UST) program (OSFM 2025).

California Department of Transportation and California Highway Patrol

Caltrans and the CHP are the two State agencies that have primary responsibility for enforcing federal and State regulations and responding to hazardous materials transportation emergencies. Caltrans manages more than 50,000 miles of California's highways and freeways,

provides intercity rail services, permits more than 400 public-use airports and special-use hospital heliports, and works with local agencies. Caltrans is also the first responder for hazardous material spills and releases that occur on highways, freeways, and intercity rail lines.

The CHP enforces hazardous materials and hazardous waste labeling and packing regulations designed to prevent leakage and spills of materials in transit and to provide detailed information to cleanup crews in the event of an accident. Vehicle and equipment inspection, shipment preparation, container identification, and shipping documentation are all part of the responsibility of CHP, which conducts regular inspections of licensed transporters to ensure regulatory compliance. In addition, the State of California regulates the transportation of hazardous waste originating or passing through the state. Common carriers are licensed by the CHP, pursuant to Section 32000 of the California Vehicle Code. This section requires licensing every motor (common) carrier who transports, for a fee, in excess of 500 pounds of hazardous materials at one time and every carrier, if not for hire that carries more than 1,000 pounds of hazardous material of the type requiring placards. Common carriers conduct a large portion of the business in the delivery of hazardous materials. California Vehicle Code Section 31303 regulates hazardous materials transport.

Hazardous Materials Release Response Plans and Inventory Law

The Hazardous Materials Release Response Plans and Inventory Law (California Health and Safety Code Section 25500 et seq.) is intended to minimize the potential for accidents involving hazardous materials and to facilitate an appropriate response to possible hazardous materials emergencies. The law requires businesses that use hazardous materials to provide inventories of those materials to designated emergency response agencies, to illustrate on a diagram where the materials are stored onsite, to prepare an emergency response plan, and to train employees to use the materials safely. Any business that handles hazardous materials in quantities equal to or greater than 55 gallons, 500 pounds, or 200 cubic feet of gas must submit a business plan.

California State Aeronautics Act

The Caltrans Division of Aeronautics implements the State Aeronautics Act. The purpose of this act is to: (1) foster and promote safety in aeronautics; (2) ensure State laws and regulations relating to aeronautics are consistent with federal aeronautics laws and regulations; (3) assure that persons residing near airports are protected against unreasonable levels of aircraft noise; and (4) develop informational programs to increase the understanding of current air transportation issues. The Caltrans Division of Aeronautics issues permits for and annually inspects hospital heliports and public-use airports, makes recommendations regarding proposed school sites within two miles of an airport runway, and authorizes helicopter landing sites at/near schools.

School Regulations

The California Department of Education (CDE) must approve the construction of a new school or modernization of an existing school. The CDE also evaluates potential hazards within a 0.25-mile radius of the campus. Additionally, DTSC has stringent requirements for siting new schools or conducting modernization programs to prevent exposure of students and staff to contamination from lead-based paint, organochlorine pesticides from prior agricultural use, or other hazards. Specifically, DTSC evaluates if lead-based paint, asbestos, and/or pesticides are present at a school location constructed prior to 1993. DTSC requires preparation of a Phase I Environmental Site Assessment (ESA) and soil testing and remediation (Phase I Addendum or Preliminary Endangerment Assessment) if there are potential contaminants present on the site. DTSC's School Property Evaluation and Cleanup Division is responsible for assessing, investigating, and ensuring that proposed school sites are free of contamination or that they have been remediated to a level that protects the students and staff who will occupy the new school. School sites that will receive State funding for acquisition or construction are required to go through an environmental review and cleanup process under DTSC's oversight.

State Screening Levels

To evaluate exposure risks due to contamination, the RWQCB and DTSC have established screening levels that are protective of human health and the environment. Currently, the most used standards statewide are San Francisco Bay RWQCB's environmental screening levels (ESLs) for residential and commercial/industrial land use and DTSC's Screening Levels (SLs) (San Francisco Bay RWQCB 2025; DTSC 2025a). Databases that show sites that are under investigation or undergoing remediation for releases of hazardous materials or hazardous waste include EnviroStor, maintained by DTSC, and GeoTracker maintained by SWRCB (DTSC 2025b; SWRCB 2025). Sites that are undergoing investigation and/or remediation by Lake County Department of Environmental Health can also be found on the GeoTracker website.

REGIONAL

Central Valley Regional Water Quality Control Board

The Porter-Cologne Water Quality Act established the State Water Resources Control Board (SWRCB) and divided the State into nine regional basins, each under the jurisdiction of a RWQCB. The Central Valley RWQCB – Region 5 regulates water quality in Lake County. The Central Valley RWQCB has the authority to require investigations and/or remedial action if the quality of groundwater or surface waters of the State are threatened. Sites that have been or are currently undergoing site investigations and/or remediation for soil and/or groundwater contamination are listed on the GeoTracker website, including LUST sites.

LOCAL

Code of Ordinances

The Lake County Code of Ordinances (LCCO) includes various directives pertaining to hazards and hazardous materials. The LCCO is organized by chapter, article, and section. Most provisions related to hazards and hazardous materials are included in Chapter 6, *Civil Defense*, Chapter 9, *Health and Sanitation*, Chapter 24, *Surface Mining and Reclamation*, and Chapter 30, *Grading Ordinance*, as follows:

- **Chapter 6, *Civil Defense.*** Article 1, *Emergency Organization and Functions,* of this chapter provides for the preparation and carrying out of plans for the protection of persons and property within the County in the event of an emergency. It also establishes the Office of Emergency Services for administering the emergency program and creates the Lake County Disaster Council; provides he direction of the emergency organization; and the coordination of the emergency services and disaster functions of the County with all other public agencies, corporations, organizations and affected private persons. Section 6-8 states that the County should use Standardized Emergency Management System to manage emergency operations and field response units should use Incident Command System (ICS) to manage on-scene operations. Section 6-9 outlines the requirements for the County of Lake Emergency Operations Plan.
- **Chapter 9, *Health and Sanitation*.** Article 4, *Underground Storage of Hazardous Substances*, establishes standards for the construction and monitoring of facilities for the underground storage of hazardous substances and establishes the procedures and application process for the issuance of permits. The permitting authority is the Lake County Department of Environmental Health.
- **Chapter 24, *Surface Mining and Reclamation*.** Section 24-20, *Use of Mercury Mining Waste in Off-Site Construction,* sets forth the requirements for mercury mining wastes and regulates where such wastes can and cannot be used.
- **Chapter 30, *Grading Ordinance*.** This chapter sets forth rules and regulations to control activities involving excavation, grading and earthwork construction, including protecting air quality from fugitive dust and the release of asbestos from earth disturbance activities. Under Section 30-12, *Cuts and Fills*, any use of serpentine in fill materials shall require an Asbestos Dust Mitigation Plan which must be submitted to Lake County Air Quality Management District for approval.

Air Quality Management District

The Lake County Air Quality Management District (LCAQMD) is a regional agency, created by the State of California, that regulates stationary sources of air pollution within the Lake County Air Basin. These sources include industrial facilities, such as the Geysers Geothermal Power Generation Plant, as well as commercial businesses with air emissions, such as mining

operations, gas stations, and dry cleaners. The LCAQMD regulates open burning and various other programs, such as State Air Toxic Control Measures (ATCMs) and federal New Source Performance Standards (NSPS). All grading or soil work in serpentine soils requires submittal of a Serpentine Dust Control Plan. Demolition or renovation of all buildings in Lake County requires submittal of an asbestos demolition/renovation notification form to LCAQMD.

The LCAQMD also has standards to reduce exposure to asbestos emissions during grading due to the presence of Naturally Occurring Asbestos (NOA) in several portions of the county. They also review Asbestos Dust Mitigation Plans for use of serpentine infill materials. Further, LCAQMD regulates the use and disposal of Asbestos Containing Materials (ACM) in Section 476, *Asbestos Emissions Control Measure*, of the LCAQMD Rules and Regulations. Section 476 specifies the procedures for demolition and disposal activities that involve ACM, prohibits the use of ACM in the manufacture of insulating materials, and regulates the use of ACM in roadway surfacing. Pursuant to this rule, LCAQMD requires inspections and notification of all demolitions and most renovations in the county by requiring the submittal of the *Asbestos Demolition/Renovation Notification Form.*

Department of Environmental Health

The Lake County Department of Environmental Health (DEH) is the Certified Unified Program Agency (CUPA) for all of Lake County, dealing with hazardous waste and hazardous materials. DEH is responsible for the inspection and enforcement of these hazardous material programs:

- Hazardous Material Release Response Plan (in union with Lake County OES)
- Hazardous Material Business Plans
- CalARP Program
- Underground Storage Tanks
- Aboveground Storage Tanks
- Hazardous Waste Generator and Treatment

DEH personnel permit and inspect hazardous waste generators, hazardous waste on-site treatment facilities, and hazardous materials handlers, above-ground storage tanks, and underground storage tanks in accordance with the California Health and Safety Code. DEH is also responsible for reviewing and approving hazardous material release response plans and business plans and issues permits for underground storage tanks. DEH assists in the response to disasters and accidents that include hazardous material spills, clandestine drug labs, sewage spills, flood events, and other threats to public health and safety.

Multi-Jurisdictional Hazard Mitigation Plan

The 2025 Lake County Multi-Jurisdictional Hazard Mitigation Plan (MJHMP) serves to reduce injury, loss of life, property damage, and loss of services from natural disasters. The MJHMP provides a comprehensive analysis of the natural and human-caused hazards that threaten the county, with a focus on mitigation, allowing the County to remain eligible to receive additional

federal and State funding to assist with emergency response and recovery, as permitted by the federal Disaster Mitigation Act of 2000. The plan is required to be updated every five years.

Emergency Operations Plan

The Lake County Emergency Operations Plan (EOP) was recently revised in 2025 and provides the basis for a coordinated response before, during, and after an emergency affecting Lake County. It facilitates multi-jurisdictional and interagency coordination in emergency operations, particularly between local government, private sector, operational areas (geographic county boundary), State response levels, and appropriate federal agencies. The EOP is fully aligned with the California Standardized Emergency Management System (SEMS) and the National Incident Management System (NIMS).

Office of Emergency Services

The Lake County Sheriff's Office of Emergency Services (OES) is the lead agency for local emergency management for the County and is responsible for coordinating interagency and intergovernmental comprehensive emergency management planning and operations. It operates across the "Operational Area," which includes the entire geographical area of Lake County, its cities, special districts, tribal governments, and other local agencies. Although OES leads coordination within the Operational Area, it relies on strong partnerships with its member jurisdictions to mitigate risk, prepare for disasters, respond effectively, and support recovery.

Airport Land Use Compatibility Plan

Lake County's Airport Land Use Commission (ALUC) adopted the *Lake County Airport Land Use Compatibility Plan* (ALUCP) in 2007 to ensure land uses surrounding the Lampson Field Airport are compatible with airport-serving uses. The ALUCP evaluates all surrounding land within the airport influence area (AIA), defined as any land on which current or future airport-related noise, overflight, safety, or airspace protection factors may impact existing land uses. The ALUCP sets forth the criteria and policies which the Lake County ALUC will use in assessing the compatibility between Lampson Field and proposed development in the surrounding area and requires that any proposed project, specific plan, general plan, zoning ordinance, or building regulation, proposed within the AIA, is reviewed by the ALUC to ensure consistency with the ALUCP (LCALUC 2007). The commission also holds regular meetings to discuss and resolve land use conflicts, ensuring that the interests of both the airport/heliports and the local communities are balanced effectively.

Wildfire Evacuation and Preparedness Plan

The Lake County Wildfire Evacuation and Preparedness Plan, developed by the Lake Area Planning Council and adopted in 2025, provides operational tools for evacuation coordination and communication across jurisdictions and communities throughout Lake County. This plan outlines the framework for facilitating safe, efficient, and coordinated evacuations during

wildfire emergencies, including evacuation strategies, recommended agency roles and responsibilities, and considerations for relocating individuals from hazardous areas to designated safe zones. The plan supports existing protocols established in the Lake County EOP and aligns with the California Mutual Aid Agreement and State of California Emergency Plan.

3.9.2 Existing Conditions

COUNTYWIDE AREA

Schools

As described in Section 3.3, *Air Quality*, of this Draft EIR, some land uses are considered more sensitive to airborne hazardous materials than others due to the types of population groups or activities involved. Sensitive population groups include children. Lake County contains numerous pre-schools and daycare facilities, six public school districts and 34 total schools, including public and charter schools. The public and charter schools are identified by planning area further below, and for the purposes of this analysis, it is assumed that each planning area includes childcare facilities for pre-school aged children.

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, which is regulated due to contamination with blood, body fluids, or potentially infectious materials.

Hazardous Waste Generators

Entities that generate, transport, treat, store, or dispose of hazardous waste must provide information about their activities to State environmental agencies. These agencies pass on the information to regional and national USEPA offices. As of June 2025, Lake County has 330 facilities reporting the processing, handling, or use of hazardous materials (USEPA 2025a).

Hazardous Materials Transport

Nearly all the hazardous materials transported through Lake County are carried by truck on the State Highway system. The potential for a major transportation incident exists along the County's main east-west thoroughfare, State Route (SR) 20. Other state highways that could include hazardous materials transport include SR 53, SR 29, SR 175, and Bottle Rock Road.

County roads and city streets are used to transport locally generated waste from the source to the regional highway system. Although the County has not quantified the amount of hazardous materials that transported within the county, a statewide commodity flow survey indicates that 90 percent of the hazardous materials transported on state highways in Lake County were bulk petroleum products. The remainder of the hazardous materials include industrial/medical cylinders and general industrial products. No rail lines are within Lake County. Therefore, transport of hazardous materials by rail is not a concern for Lake County.

Lake County has no direct authority to regulate the transport of hazardous materials on federal and State highways. However, Lake County has a Hazardous Materials Response Plan that outlines response actions that would be taken if a hazardous material spill or transport incidents were to occur on the roadways within the county. There are two licensed hazardous waste transporters in Lake County: Lake County Waste Solutions and Westlake Environmental Contractors, both located in the city of Lakeport.

Hazardous Waste Disposal

Lake County has no registered Class I landfill facilities that are able to accept hazardous waste. There is only one remaining Class I landfill in California: the Kettleman Hills Facility in Kings County, California.

The only landfill in Lake County is the Eastlake Sanitary Landfill, a Class III landfill. This landfill classification can accept non-hazardous soil waste, including construction and demolition debris, yard waste, paper, glass, and other inert materials. The Lake County Waste Solutions Transfer Station and Recycling Center, at 230 Soda Bay Road in Lakeport, operates as a location for the deposit of municipal solid waste as well as several other household and commercial materials that are recycled and provides curbside garbage, recycling, and green waste collection. The Quackenbush Mountain Resource Recovery and Compost Facility (also known as the South Lake Resource Recovery and Compost Facility) is in Clearlake and accepts clean wood and green waste and construction and demolition material.

Household hazardous waste is collected from Lake County residents on the third Friday and Saturday of each month from 9:00 am to 1:00 pm at rotating ends of the lake. Most items are accepted free of charge. Electronics and used oil are accepted at no charge at Lake County Waste Solutions' Transfer Station and Clearlake Recycling center.

CalRecycle estimates the percentage of waste in several categories, including household hazardous waste and special wastes (CalRecycle 2025). The latter includes ash, treated medical wastes, bulky items, tires, and composite waste. Out of an estimated 16,102 tons of residential waste produced in Lake County in 2024, approximately 0.3 percent (58 tons) was defined as household hazardous waste, and 2 percent (346 tons) as special waste (CalRecycle 2025). Out of an estimated 26,036 tons of commercial or business waste, approximately 0.1 percent (27 tons)

was classified as household hazardous waste and 1.3 percent (345 tons) was classified as special waste (CalRecycle 2025).

Hazardous Cleanup Sites

United States Environmental Protection Agency

There is one USEPA Federal Superfund site in Lake County: Sulphur Bank Mercury Mine, on the eastern shore of the Oaks Arm of Clear Lake. The site was an active mine for sulfur and mercury between the late 1800s and 1957. It was listed as a Superfund site in 1990. The 160-acre site contains approximately 3 million cubic yards of mine waste with high levels of mercury, arsenic, and a flooded open pit associated with acid mine drainage. Mercury levels in the fish from Clear Lake resulted in the State issuing an advisory to limit fish consumption. Previous removal actions included partial removal of tailings from the Elem Indian Colony and reconstruction of the Waste Rock Dam; construction of diversion ditches to control surface runoff from the mine area; and removal of contaminated soil from the Elem Indian Colony. Additional remediation is ongoing, and the final cleanup plan was issued in 2023 (USEPA 2025b).

Department of Toxic Substances Control

A search of DTSC's Envirostor database identified 23 listed facilities that are under investigation by DTSC within Lake County. Some of the listed facilities were referred by DTSC to other agencies and were subsequently determined to require no further action or were classified as low/medium priority back in 1988. Table 3.9-1, *DTSC Hazardous Material Cleanup Sites in Lake County*¸ shows the remaining hazardous materials sites that require additional action.

Table 3.9-1 DTSC Hazardous Material Cleanup Sites in Lake County

Site Name	Address/Location	Site Type	Cleanup Status
Last Mile Auto Dismantlers	1205 W Highway 20, Upper Lake	Corrective Action	Active
Sulphur Bank Mercury Mine	Sulphur Bank Road, Clearlake	Federal Superfund	Active, Superfund Site under USEPA
Airpower, Inc.	4745 Highland Springs Road, Lakeport	Evaluation	Referred to RWQCB, listed in Table 3.9-2.
Utopia Mine	5610 E. Highway 20, Lucerne	Evaluation	Refer: USEPA
Cache Creek Discovery	Lake and Yolo Counties (various cities)	Evaluation	Refer: USEPA
S Bar S Quarry	7769 Highway 29, Kelseyville	Evaluation complete	Referred to local agency, Lake County
Benson Ridge Facility	7620 Highway 29, Kelseyville	Corrective Action	Certified/Operation and Maintenance

Table 3.9-1 DTSC Hazardous Material Cleanup Sites in Lake County

Site Name	Address/Location	Site Type	Cleanup Status
Konocti USD Properties	9775 Third Street, Lower Lake	School Investigation	Inactive – needs evaluation
White Elephant Mine	13460 Big Canyon Road, Middletown	Evaluation	Inactive – Requires further assessment
Abbott Mine	Highway 20 (North Side), East of Junction of Highway 20 and Highway 53, Clearlake Oaks	Evaluation	Refer: RWQCB

Source: DTSC 2025b.

One of the listed sites is Sulphur Bank Mercury Mine, a federal Superfund site and currently undergoing investigation and remediation, as described above. Two of the sites (Utopia Mine and Cache Creek Discovery) have been referred to USEPA for further investigation and remediation. Eight of the sites are DTSC sites that require further assessment or are in various stages of corrective action/remediation. The Benson Ridge Facility, a former landfill, is under continued monitoring. Three of the sites have been referred to the RWQCB for further investigation and/or remediation and one of the sites, S Bar S Quarry, was referred to a local agency for further investigation/remediation (USEPA 2025c).

Regional Water Quality Control Board

The GeoTracker database provides a list of sites that impact, or have the potential to impact, water quality and contain records for sites that require cleanup under the jurisdiction of the RWQCB. The sites currently active and under investigation and/or remediation by the RWQCB are listed in Table 3.9-2, *RWQCB Cleanup Sites in Lake County.*

Table 3.9-2 RWQCB Cleanup Sites in Lake County

Site Name	Address	Cleanup Status
Eel River Fuels – Upper Lake Facility	85 W Highway 20, Upper Lake	AST release – soil investigation and RWQCB cost recovery
Woody's Gas/Popple Family Living Trust	220 Highway 20 E, Upper Lake	LUST Cleanup site – groundwater plume impacting community wells
Express Lube Oil & Detail	1501 High Street, Lakeport	LUST Cleanup site – groundwater impacts and soil vapor extraction
Airpower Inc.	600 Sky Park Drive, Lakeport	TPH and VOCs in soil and groundwater from failed septic system; eligible for closure with deed restrictions

Table 3.9-2 RWQCB Cleanup Sites in Lake County

Site Name	Address	Cleanup Status
Kelseyville Hot Plant	3550 Big Valley Road, Kelseyville	AST release, soil and groundwater contamination, closure and land restrictions under consideration
Two Jacks Kelseyville UST	5200 Main Street, Kelseyville	LUST Cleanup Site – soil and groundwater impacts, soil vapor intrusion study ongoing
Two Jacks Kelseyville AST	5200 Main Street, Kelseyville	AST release – site investigation included in site listed above
Abbott and Turkey Run Mines	25156 E Highway 20, Clearlake Oaks	Mercury impacts from historical mining with potential impacts to downstream waterways
Harley Gulch Wetland	25741 California 20, Clearlake Oaks	Impacts from upstream releases from Abbott Mine
Tosco Refining Company – Lower Lake	16445 Morgan Valley Road, Lower Lake	AST releases, soil vapor extraction system, released in 2023 from semiannual groundwater monitoring
Homestake Mining Site	26775 Morgan Valley Road, Lower Lake	Gasoline in soil, case open but inactive
Red Elephant Mine	27697 Morgan Valley Road, Middletown	Historic mine with acid mine drainage and mercury concerns, active investigation by RWQCB
S Bar S Quarry	Highway 29, Lower Lake	Land disposal site, further action referred to DTSC

Source: RWQCB, 2025, Geotracker.

As shown, there are 13 active sites under investigation by the RWQCB in Lake County. Most of the sites involve releases from LUSTs or aboveground storage tanks (ASTs) and are in various stages of remediation. Four of the sites are historic mines that are under investigation for potential releases of mercury to downstream wetlands or waterways.

Naturally Occurring Asbestos

Naturally occurring asbestos (NOA) is a hazardous material associated with serpentinite rocks. This rock and its parent material, ultramafic rock, are found in the foothills and mountainous regions of Lake County. The amount of NOA can vary widely and is typically hazardous when it is released into the air, which occurs with grading activities. Asbestos-containing materials (ACM) are also of concern, especially for buildings built prior to 1978. Asbestos fibers may be released into the air by the disturbance of ASM during demolition work, building or home maintenance, repair, or remodeling.

High-Pressure Pipelines

There are no natural gas transmission pipelines or hazardous liquid pipelines that run through Lake County (NPMS 2025; PG&E 2025). Residential and commercial properties rely on private vendors to provide propane, fuel oil, and kerosene for heating and cooking needs.

Airports

Lake County is served by two airports: Lampson Field Airport, approximately three miles south of the Lakeport city center, and Gravelly Valley Airstrip near Lake Pillsbury in the Mendocino National Forest.

Lampson Field is a general aviation (GA) airport owned by Lake County and operated by the Public Works Department. Lampson Field has a single, 3,600-foot asphalt runway. Private fuel services, small aircraft, and general aviation services are available at the airport. Land uses surrounding Lampson Field include agriculture to the north and east, and industrial uses to the south and the west.

The Gravelly Valley Airstrip is located just north of Lake Pillsbury and is owned by the US Forest Service (USFS). It is used only on occasion, by private small planes to access Lake Pillsbury recreation areas or as needed during the fire season. The airport is unattended and does not provide any services. The airport is served by one runway that is approximately 4,050-feet long with a gravel surface in fair condition. Surrounding land uses include residential, resource conservation, and public lands.

The ALUCP discussed in Section 3.9.1, *Regulatory Framework*, identifies land uses that are not compatible with airport land uses. Typical non-compatible land uses include those used by vulnerable populations such as day cares, nursing homes or hospitals, sites that store hazardous materials that may be flammable, or sites with critical community infrastructure, such as police and fire stations or power plants. The agricultural and industrial land uses surrounding the airport are generally consistent with those that are considered appropriate so long as there are no vulnerable populations susceptible to noise, flammable products, or critical facilities that may be damaged in the event of an aviation-related emergency.

PLANNING AREAS

Cobb Mountain Planning Area

Schools

There is one public school in the Cobb Mountain Planning Area: Cobb Mountain Elementary School, which is in the Middletown Unified School District (USD).

Hazardous Material Cleanup Sites

There is one hazardous material cleanup site listed by DTSC on EnviroStor: the White Elephant Mine at 13460 Big Canyon Road. It is the site of a former mercury mine and has been inactive since 1939. The potential concern is acid mine drainage and metals such as mercury, arsenic, and hexavalent chromium impacting sediments and surface water. DTSC states that the site requires further assessment but there are no scheduled activities or remediation currently.

Naturally Occurring Asbestos

There are several areas within the Cobb Mountain Planning Area that have ultramafic rocks known to contain NOA, as shown on Figure 3.7-5, *Naturally Occurring Asbestos Locations*, in Section 3.7, *Geology and Soils*, of the Draft EIR. The amount of asbestos in these rocks can range from less than 1 percent up to 25 percent or more.

East Lake Communities Area

Schools

There are six public schools in the East Lake Communities Planning Area. The schools are: Blue Heron School, Burns Valley Elementary School, East Lake Elementary School, Lewis School (Independent Study), Obsidian Middle School, and Pomo Elementary School, which are part of Konocti USD.

Hazardous Material Cleanup Sites

There is one hazardous material cleanup site listed on the DTSC EnviroStor website: Abbott Mine. There are two hazardous material cleanup sites listed on the SWRCB GeoTracker website: Abbott and Turkey Run Mines and Harley Gulch Wetland.

Although Abbott Mine is listed on the DTSC website, jurisdiction for this site has been delegated to the RWQCB. The Abbott and Turkey Run mines are former mercury mines. Waste discharge requirements were issued in 1970 due to elevated mercury levels in an adjacent waterway. Since that time, the RWQCB has monitored mercury levels and conducted site inspections. The site was stabilized under USEPA direction in 2007 by removing debris and consolidating and capping the tailings. This is an active cleanup site under long-term management that is inspected annually, with biannual surface water monitoring.

Harley Gulch Wetland is in Harley Gulch downstream from the Abbott and Turkey Run Mines. The potential discharge of mercury-laden sediments from the mines could impact this wetland. This is also an active site under long-term management and the biannual surface water sampling at the Abbott and Turkey Run mines and downstream locations will ensure that deleterious impacts from mining runoff do not adversely affect the wetland.

Naturally Occurring Asbestos

There are extensive deposits of ultramafic rocks known to contain NOA in the northeast corner of the East Lake Communities Planning Area, as shown on Figure 3.7-5, *Naturally Occurring Asbestos Locations*, in Section 3.7, *Geology and Soils*, of the Draft EIR. There also is a thin layer of ultramafic rock that trends northwest to southeast through the middle of the Planning Area.

Kelseyville Planning Area

Schools

There are six public schools in the Kelseyville Planning Area: Ed Donaldson Education Center, Kelseyville Elementary School, Kelseyville High School, Kelseyville Learning Academy, Mountain Vista Middle School, and Shade Canyon Charter School, which are part of the Kelseyville USD.

Hazardous Material Cleanup Sites

There are two hazardous material cleanup sites on DTSC's EnviroStor website and four hazardous material cleanup sites on the SWRCB's GeoTracker website, as listed on Tables 3.9-1, *DTSC Hazardous Material Cleanup Sites in Lake County,* and 3.9-2, *RWQCB Cleanup Sites in Lake County*. Some of the sites are listed on both websites.

Airpower, Inc. is at 600 Sky Park Drive adjacent to Lampson Field Airport. Site investigation began in 1987 when Air Power was operating an aircraft repair business and discharging solvents and oils to an oil/water separator connected to a septic tank that discharged into a leach field. Groundwater monitoring wells and soil sampling was conducted to determine the extent of subsurface contamination. Remediation was conducted in 1998 to 1999 by injecting hydrogen peroxide into the monitoring wells. In 2021, Lake County executed a deed notification covenant prohibiting groundwater in the release area to be used for drinking water. The site is in the process of closure with the RWQCB.

The Benson Ridge Facility is at 7620 SR 29, approximately 2.5 miles southeast of Kelseyville. From about 1979 to 1984, the IT Corporation operated the site as a disposal facility for Class I and Class II hazardous waste. Hazardous waste primarily consisted of liquids and sludges such as drilling muds, geothermal condensate and brine, petroleum fractions, and geothermal power plant waste. The site was about 25 acres of which nine acres was used for disposal. The site was certified for closure and transitioned to post-closure status by DTSC in 1997. Closure included excavation of the former surface impoundments with the sludge and sub-soil deposited into an on-site waste consolidation landfill and covered with an engineered cap. A groundwater evaporation pond was also constructed to contain and evaporate recovered groundwater. Land use restrictions have been issued for this property. The facility undergoes annual post-closure inspections and implements remedies, as necessary.

Kelseyville Hot Plant at 3550 Big Valley Road is an asphalt hot batch plant, concrete batch plant, gravel crushing facility, and equipment storage area operated by Granite Construction. Several ASTs contain asphalt products, diesel fuel, motor oil, and propane. Two wells at the site are used for the concrete batch plant. An investigation in 2003 identified elevated concentrations of total petroleum hydrocarbons (TPH) as diesel, TPH as motor oil, and TPH as gasoline and free product in the shallow groundwater samples. After extensive investigation and delineation of the soil impacted area, the RWQCB is in the process of granting closure with a covenant restriction and implementation of a soil management plan to prevent exposure to contaminants while working at the site.

There are two listed sites on GeoTracker for the Two Jacks Convenience Store at 5200 Main Street: one for an AST release and one for a UST release. The Two Jacks AST release involves an unauthorized release from an AST at the site. The chemicals of concern are TPH as gasoline, TPH as diesel, benzene, and methyl tert-butyl ether (MTBE). Corrective action is ongoing and includes groundwater monitoring wells, vapor extraction wells, and the evaluation of off-site vapor migration to the adjacent Kelsey Town Center business complex. The second case at this facility involves the unauthorized release from a UST at the site. The UST was decommissioned in 2013, and remedial actions are ongoing. The remedial activities, including groundwater monitoring, vapor, and off-site vapor migration evaluation, coincide with the activities associated with the AST release. The case is open and active with no plans for closure in the immediate future.

Naturally Occurring Asbestos

There are limited locations within the Kelseyville Planning Area that have ultramafic rocks known to contain NOA, as shown on Figure 3.7-5, *Naturally Occurring Asbestos Locations*, in Section 3.7, *Geology and Soils*, of the Draft EIR. Most of the NOA sources are along the western edge of the Planning Area, although there are a few scattered deposits in the south-central portion of the Planning Area. However, NOA may occur outside of the mapped areas due to weathering, erosion, and wind-borne transport.

Airport

Lampson Field is a general aviation airport located off Highland Springs Road within the central portion of the Kelseyville Planning Area and south of SR 175. With an asphalt runway of 3,600 feet, it serves primarily single-engine propeller aircraft, with occasional small business jets, helicopters, and medium twin-engine aircraft. The ALUCP supports low density agricultural uses for the parcels in the vicinity of Lampson Field. There are no plans to change the agricultural zoning that surrounds the airport in the General Plan 2050 and there is no planned future development within two miles of the impact area (Lake County 2007).

Lakeport Planning Area

Schools

There are six public schools in the Lakeport Planning Area: Clear Lake High School, Lakeport Alternative School, Lakeport Community Day School, Lakeport Elementary School, Natural Continuation High School, and Terrace Middle School, which are part of Lakeport USD.

Hazardous Material Cleanup Sites

There is one hazardous material cleanup site on the SWRCB's GeoTracker website, as listed in Table 3.9-2, *RWQCB Cleanup Sites in Lake County*. Express Lube Oil & Detail, at 1501 High Street, is a LUST site with corrective action overseen by the Central Valley RWQCB. An unauthorized release from a UST was discovered in 1989 and remedial action (dual phase soil and groundwater extraction) began in 2014. The chemicals of concern are primarily TPH as gasoline and its constituents. This is an active site with ongoing investigation and monitoring efforts.

Naturally Occurring Asbestos

There are several areas within the Lakeport Planning Area that have ultramafic rocks known to contain NOA, as shown on Figure 3.7-5, *Naturally Occurring Asbestos Locations*, in Section 3.7, *Geology and Soils*, of the Draft EIR. Most of the NOA sources are in the eastern portion of the Planning Area with a few small deposits east of SR 29 in the southeast corner of the area. However, NOA may occur outside of the mapped areas due to weathering, erosion, and wind-borne transport.

Airport

Lampson Field Airport is located off Highland Springs Road outside the southeast corner of the Planning Area. It is approximately three miles south of Lakeport in an area of intensive agricultural operations. Since part of the area surrounding Lampson Field is within the Lakeport Planning Area, the ALUCP may affect land uses in the Lakeport Planning Area. Current traffic patterns at Lampson Field produce noise impacts within the vicinity of the airport. A portion of the property northwest of the intersection of Mathews Road and George Road is within the impact area . However, this parcel is currently zoned agricultural and there are no plans to change this designation in the General Plan 2050.

Lower Lake Planning Area

Schools

There are three public schools in the Lower Lake Planning Area: Lower Lake Elementary School, Lower Lake High School, and William C. Carle High School, which are part of the Konocti USD.

Hazardous Material Cleanup Sites

There are two hazardous material sites listed by DTSC on EnviroStor: Cache Creek Discovery and Konocti USD properties at 9775 Third Street. The Cache Creek Discovery project was part of a joint DTSC/USEPA investigation to determine the source of mercury contamination found in the Cache Creek Watershed. The project was completed in 2011. Mine sites identified as potential sources of mercury contamination were evaluated further by DTSC or referred to the RWQCB.

The other site is a proposed school site for the Konocti USD. The Konocti USD submitted an ESA and Phase I Addendum in 2018 regarding the property that previously had a residence that burned down in the 2016 Clayton Fire. DTSC indicated that a Preliminary Endangerment Assessment (PEA) would be required to further assess potential hazards on the property. An inactive status letter was issued by DTSC in November 2024.

There are two hazardous material sites listed by SWRCB on GeoTracker: Tosco Refining Company at 16445 Morgan Valley Road and Homestake Mining Site at 26775 Morgan Valley Road. The Tosco Refining Company site previously operated as a Unocal (then Tosco) bulk fuel facility since the mid-1920s. The site is currently an active bulk fuel facility owned and operated by Jonas Oil. Gasoline and diesel are dispensed from seven ASTs, one fuel loading rack, and associated distribution piping. Concentrations of TPH as gasoline and diesel, benzene, and MTBE were reported in on-site groundwater monitoring wells with free product. Remediation efforts include the removal of free product from site monitoring wells and continued quarterly groundwater monitoring as natural attenuation is resulting in reduced contaminant concentrations. The site is active with ongoing monitoring and investigation, with the RWQCB's latest request to sample groundwater for PFAS contaminants.

The Homestake Mining site is and open site at 26775 Morgan Valley Road. However, its status is inactive as of 2003. Up to 2,000 mg/kg of gasoline was detected in soil at the site but no further investigation has been conducted.

Naturally Occurring Asbestos

There are extensive areas within the eastern portion of the Lower Lake Planning Area that have ultramafic rocks known to contain NOA, as shown on Figure 3.7-5, *Naturally Occurring Asbestos Locations*, in Section 3.7, *Geology and Soils*, of this Draft EIR. There also are a few small, scattered deposits in the middle of the Planning Area.

Middletown Planning Area

Schools

There are six public schools in the Middletown Planning Area: Coyote Valley Elementary School, Lake County International Charter School, Loconoma Valley High School, Middletown High

School, Middletown Middle School, and Minnie Canyon Elementary School, which are part of the Middletown USD.

Hazardous Material Cleanup Sites

There is one hazardous material site listed on the SWRCB GeoTracker website: Red Elephant Mine at 27697 Morgan Valley Road. Lake County issued a Notice of Nuisance in 2004 at the site due to unpermitted grading, unpermitted occupancy of recreational vehicles, open and outdoor storage of vehicles, parts, junk, scrap metal, and debris. Sources of mercury contamination were evaluated further by DTSC or referred to the RWQCB. The Central Valley RWQCB issued a Cleanup and Abatement Order in 2005 for the discharge of sediment and debris to surface waters from past mining and excavation activities. The former Red Elephant Mine was a mercury mine consisting of about 100 acres of private land surrounded by Bureau of Land Management land within the Knoxville Management Area. The Cleanup and Abatement Order (CAO) requirements were never completed. The RWQCB completed a site inspection in May 2023. No active sedimentation to ephemeral streams was noted and the remedial actions to the earthen dam are working as intended. Although this is still listed as an active site, the RWQCB states that the review of the site is complete as of June 2024.

Naturally Occurring Asbestos

There are extensive deposits of ultramafic rocks known to contain NOA throughout the Middletown Planning Area, as shown on Figure 3.7-5, *Naturally Occurring Asbestos Locations*, in Section 3.7, Geology and Soils, of the Draft EIR.

North Lake Communities Planning Area

Schools

There are four public schools in the North Lake Communities Planning Area that are part of Upper Lake USD: Clover Valley High School, Upper Lake Elementary School, Upper Lake High School, and Upper Lake Middle School. In addition, Lucerne Elementary School, which is part of Lucerne ES District, is within this Planning Area.

Hazardous Material Cleanup Sites

There are two hazardous material cleanup sites listed on the DTSC EnviroStor website: Utopia Mine and Last Mile Auto Dismantlers and two hazardous material cleanup sites listed on the SWRCB GeoTracker website: Eel River Fuels – Upper Lake Facility and Woody’s Gas/Popple Family Living Trust.

The Utopia Mine is along and underneath Highway 20 west of the town of Lucerne and along Clear Lake. It was owned and operated by the Utopia Quicksilver Mining Company from approximately 1895 to the 1960s. A site screening assessment was conducted by DTSC in 2011. Elevated concentrations of mercury were reported but it was unclear whether they were from mining activities or naturally occurring. Additional samples were collected by the current landowner as part of a proposed resort development. It was unclear where these samples were collected with respect to the mine site. Although the concentrations of mercury in the samples were below detection limits, DSTC would require a toxics assessment to include the mine site and address mercury contamination before approval of the proposed project. DTSC referred further investigation of the site to USEPA.

Last Mile Auto Dismantlers, at 1205 W. Highway 20, is an auto dismantling/junkyard facility that has operated for several decades. In January 2107, a heavy rain event caused flooding of the adjacent Scotts Creek and oil-like substances were observed floating to the surface across the site and on nearby orchards. An investigation determined that hazardous substances, including oil, were not being handled properly at the facility and a Corrective Action Consent Agreement was issued by DTSC. A passive soil gas survey was conducted at the site in 2023, and the results indicate that further investigation consisting of soil sampling, soil gas monitoring wells, and groundwater monitoring wells. This is an active DTSC corrective action site and the DTSC issues a non-compliance letter with the Corrective Action Order in April 2025.

The Eel River Fuels – Upper Lake Facility is at 85 W Highway 20 and has operated as a cardlock facility since at least 2012. The site contains three ASTs, two dispensers, and a cardlock system. Redwood Coast Fuels purchased the site in 2017 and two soil borings were drilled near the cardlock, which had elevated concentrations of TPH as gasoline and TPH as diesel. Due to a lack of cooperation among previous and current owners to conduct further investigation and/or remediation, the RWQCB is in the process of issuing a CAO for oversight of the property. It remains an open and active site.

Woody's Gas/Popple Family Living Trust is at 220 Highway 20 E and is an active commercial petroleum fueling facility. The case was opened in 1999 following an unauthorized release from a UST. This resulted in a groundwater plume consisting of gasoline, BTXE, and MTBE that has impacted residential and Cal20 supply wells. Twenty-five groundwater monitoring wells have been installed, and wellhead treatment is being conducted at two domestic wells and at the Cal20 wells. However, the plume remains undefined and has impacted five wells and threatens six more. Therefore, additional investigation is warranted, and the site remains open and active.

Naturally Occurring Asbestos

There are thin isolated pockets of ultramafic rocks known to contain NOA in the North Lake Communities Planning Area with the largest deposits in and around Lake Pillsbury.

Airport

The Gravelly Valley Airstrip is located just north of Lake Pillsbury, in the northern part of the Planning Area. It is owned by USFS but is available for public use.

Rivieras Planning Area

Schools

There is one public school in the Rivieras Planning Area: Riviera Elementary School, which is part of the Kelseyville USD.

Hazardous Material Cleanup Sites

There is one hazardous material cleanup site listed on the SWRCB GeoTracker website and one hazardous material cleanup site listed on the DTSC EnviroStor website, but it is the same site listed twice: S Bar S Quarry at 7759 Highway 29. The site is an active rock quarry mined for sand, gravel, and decorative rock, with a permit to accept up to 10,000 cubic yards per year of concrete, asphalt, rock, dirt, and organic matter for recycling. An investigation by the Central Valley RWQCB began in 1988 when they sampled soil in several areas that contained mercury at concentrations above hazardous waste levels. A final site screening was conducted by DTSC in 2012. The facility currently operates under the Surface Mining and Reclamation Act (SMARA) Reclamation Plan 79-13 and Lake County Minor Use Permit 05-52, as modified by Minor Use Permit 11-08. DTSC stated that the facility was following the requirements of the reclamation plan. It was possible that the previous samples collected by the RWQCB may have been taken at nearby off-site locations because the site was never mined for mercury. The site is under Lake County's jurisdiction; thus, DTSC has referred further evaluation and inspections to the County.

Naturally Occurring Asbestos

The geologic maps of Lake County do not show any ultramafic rocks known to contain NOA in the Rivieras Planning Area. However, it is possible that there could be isolated pockets of NOA in the area due to weathering, erosion, and wind-borne transport.

3.9.3 Standards for Analysis

Impacts related to wildland fires are fully discussed in Section 3.20, *Wildfire*, of this Draft EIR. Therefore, the following standard is not discussed in this section:

- Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.

Appendix G, *Environmental Checklist Form*, of the CEQA Guidelines states that the proposed project would result in a significant impact related to hazards and hazardous materials if it would:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

b) 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.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substance, or waste within one-quarter mile of an existing or proposed school.

d) Be located on a site that is included on a list of hazardous materials compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would result in a safety hazard or excessive noise for people residing or working in the EIR Study Area.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

3.9.4 Project Impact Discussion

a) Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Construction and operation of projects built under the proposed General Plan 2050 would involve the transport, use, storage, and disposal of hazardous materials. As discussed in Chapter 2, *Project Description*, development under the General Plan 2050 could result in 3,830 new residential units and 1,379,720 square feet of new nonresidential building space, including both new commercial/office and industrial uses.

CONSTRUCTION

Construction of future projects would involve the use of substances such as paints, sealants, solvents, greases, adhesives, cleaners, lubricants, and fuels. However, the materials used would not be in such quantities or stored in such a manner as to pose a significant safety hazard to the public or the environment. These activities would also be short term or one time in nature. Project construction workers would be trained in safe handling and hazardous materials use, as

required under OSHA Regulation 29 CFR 1926.62 and CCR Title 8. Project construction contractors would maintain equipment and supplies on construction sites for containing and cleaning up spills. If a hazardous materials release could not be safely contained and cleaned up by on-site personnel, the affected project applicant would notify the applicable fire district immediately.

Additionally, to prevent hazardous conditions, existing local, State, and federal laws and regulations—such as those listed under Section 3.9.1, *Regulatory Framework*—are required to be enforced at construction sites. For known or potential contaminated sites, prior to issuing a grading or building permit, the County would require an assessment of potential hazards. If the development project could pose a human health or environmental risk, the Lake County DEH would require that such hazards be managed appropriately. This could include, but would not be limited to, actions such as removal of the contaminants (i.e., remediation), site controls to reduce exposure (e.g., capping soils or installation of soil vapor barriers), or administrative mechanisms (e.g., deed restrictions).

Compliance with existing laws and regulations governing the use, storage, transportation, and disposal of hazardous materials during the construction phase of potential future development would ensure that all potentially hazardous materials are used and handled in an appropriate manner and would minimize the potential for safety impacts to occur.

DEMOLITION

Future development projects under the General Plan 2050 may involve demolition of existing buildings and structures. Some building materials used prior to 1993 may be hazardous to the environment and harmful to people. Asbestos, for example, was generally not used in building materials by 1980, but was still occasionally used until the late 1980s. Lead-based paint was banned for residential use in 1978 and phased out for commercial structures in 1993.

Due to the age of the buildings and structures in Lake County (many over 50 years old), it is likely that some have ACMs and lead-based paint (LBP). Demolition could cause encapsulated ACM (if present) to become friable; once airborne, they are considered a carcinogen. Demolition could also cause the release of lead into the air. The USEPA has classified lead and inorganic lead compounds as “probable human carcinogens,” and such releases could pose significant risks to persons living and working in and around a proposed development site.

Abatement of all ACM and LBP encountered during any future building demolition activities would be required to comply with all applicable laws and regulations, including those of the USEPA (which regulates disposal), OSHA, United States Department of Housing and Urban Development, the California Division of Occupational Safety and Health (CalOSHA, which regulates employee exposure), and LCAQMD.

To further prevent impacts from the potential release of ACM or LBP, an ACM survey of existing buildings and structures prior to the commencement of any demolition of renovation is required under LCAQMD Section 467 and an asbestos demolition/renovation notification form must be filed with the LCAQMD. The federal LBP disclosure rule requires sellers, landlords, real estate agents and property manager to provide information regarding LBP hazards before prospective buyers or renters sign a lease or contract. This requirement applies to most housing built prior to 1978. Also, the Lake County Public Health Department has a Lead Poisoning Prevention Program that offers services to remediate lead hazards in homes built before 1978, especially where children under six years of age reside. Lake County also provides testing for lead in drinking water and offers resources for lead-safe practices during home renovations and repairs. With compliance of existing laws and regulations, hazardous impacts related to the release of ACMs and LBP are not anticipated to occur. Compliance with these laws, regulations, and programs would be ensured through the County's development review and building plan check process.

OPERATION

The implementation of the General Plan 2050 would include development that would require the routine use, transport, and disposal of hazardous material and waste within Lake County. Hazardous materials are used in nearly all land use designations, including industrial, commercial, agriculture, and residential. Residential land uses typically use common cleaning products, paints, solvents, fertilizers and pesticides. However, these hazardous materials would not be used in sufficient quantities to pose a hazard to public health and safety or to the environment. The industrial land use category is the most likely to use large quantities of hazardous materials.

There are various federal and State regulations that govern the use and disposal of hazardous materials, as listed in Section 3.9.1, *Regulatory Framework*. The Lake County DEH is the CUPA that deals with hazardous materials and hazardous waste in Lake County. The DEH reviews hazardous material release response plans and business plans and conducts site inspections to ensure that all applicable rules and regulations are being followed. CalOSHA requires businesses to provide workers with training on the safe use, handling, and storage of hazardous materials. Businesses must maintain equipment and supplies for containing and cleaning up spills of hazardous materials that could be safely contained and cleaned by onsite workers and must immediately notify emergency response agencies in the event of hazardous materials releases that could not be safely contained and cleaned up by on-site personnel.

SUMMARY

As described, compliance with existing laws and regulations governing the use, storage, transportation, and disposal of hazardous materials during construction and operational phases of potential future development, as well as those related to the release of ACMs and LBP from

construction, would ensure that all potentially hazardous materials are used and handled in an appropriate manner and would minimize the potential for safety or hazardous impacts to occur. Furthermore, the proposed General Plan 2050 contains policies and actions that require local planning and development decisions to protect residents, visitors, and property from hazardous materials release and minimize impacts related to routine transport, use, or disposal of hazardous materials. These policies and actions are shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with abbreviation HAZ. In particular, the following key policies and actions would serve to minimize impacts related to hazardous material release through the routine transport, use, or disposal of hazardous materials:

- Policy GR-4.6 requires geothermal resource developers to prepare and maintain emergency plans for hazardous incidents, such as blow-outs, fluid spills, earthquakes, fires, and worker accidents. These plans must be consistent with the policies of public safety agencies and ensure cooperation between industry and public personnel.
- Policy GR-4.7 requires geothermal operations to minimize the generation of hazardous waste and ensure the safe handling and disposal of any hazardous materials generated.
- Policy HS-10.1 requires that hazardous materials are used, transported, and disposed of in a safe manner and in compliance with all safety standards. It mandates investigations and enforcement actions for any illegal disposal or violations.
- Policy HS-10.2 requires the County to work with Caltrans and the California Highway Patrol to restrict the transport of hazardous materials to designated routes within the county.
- Policy HS-10.3 requires the County to investigate the hazardous waste disposal needs of local enterprises, including geothermal, to ensure that safe and adequate disposal sites are carefully planned.
- Policy HS-10.4 prohibits new facilities involved with hazardous materials within identified hazard zones or within 1,000 feet of existing land uses that may be adversely impacted.
- Policy HS-10.5 prohibits new facilities that use or store reportable quantities of hazardous materials from being located in high-risk hazard areas, such as high fire severity zones, floodplains, or areas with high landslide susceptibility.
- Action HS-10.a requires the County to conduct a study to determine the needs for hazardous waste disposal sites and update the solid waste management plan.
- Action HS-10.b requires the County to develop standards for the type, location, and intensity of development adjacent to sites and facilities for toxic and hazardous materials.
- Action HS-10.c requires the County to continue to cooperate with the California Highway Patrol to establish procedures for the movement of hazardous waste within the county.
- Action HS-10.d requires the County to continue to educate the public about household hazardous waste and proper disposal methods.
- Action HS-10.e requires the County to inspect hazardous material handlers and hazardous waste generators to ensure full compliance with laws and regulations.

- Policies CM-LU-5.8, EL-LU-5.9, K-LU-5.9, L-LU-5.9, LL-LU-5.10, M-LU-5.9, NL-LU-5.9, and R-LU-5.9 require the County to protect residential neighborhoods from incompatible uses and activities that adversely affect public health and safety, like industrial uses that produce hazardous waste.
- Policies CM-OS-5.1, EL-OS-5.1, K-OS-5.3, L-OS-5.1, LL-OS-5.1, M-OS-5.1, NL-OS-5.1, and R-OS-5.1 require that all mining operations prevent environmental contamination from storage and disposal of wastes and hazardous materials or general operating activity at the site.
- Policies CM-PF-6.3, EL-PF-6.3, K-PF-6.3, L-PF-6.3, LL-PF-6.3, M-PF-6.3, NL-PF-6.3, and R-PF-6.3 encourage and support the establishment of adequate sites for collection of household hazardous waste, unused pharmaceuticals, and universal waste (commonly produced hazardous wastes, such as batteries and electronics), along with provisions for residents who are physically unable to deliver materials to a collection site.

Compliance with these regulations and General Plan policies and actions would minimize the potential for a significant adverse effect on the environment due to the routine use, transport, and disposal of hazardous materials. Therefore, impacts would be **less than significant**.

Significance without Mitigation: Less than significant.

b) Would the project 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?

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 Lake County DEH serves as the CUPA for Lake County and is responsible for permitting and inspecting hazardous waste generators and hazardous waste on-site treatment facilities. It also requires and reviews hazardous material release response plans and inventories (Business Plans) for businesses. It inspects facilities subject to CalARP requirements and reviews their Risk Management Plans (RMPs). It is also responsible for the permitting and inspection of all aboveground storage tanks and underground storage tanks to ensure compliance with applicable regulations. Businesses using hazardous materials in Lake County would be required to register with these programs and comply with their guidelines.

Future development due to implementation of the proposed General Plan 2050 could occur in areas with NOA. Local and State asbestos air toxic control measures would be required for these areas to limit the release of NOA during construction. In addition, the proposed General Plan 2050 includes policies and actions that require local planning and development decisions to consider impacts due to the upset and accident conditions potentially involving the release of hazardous materials into the environment. These policies and actions are shown in Appendix F,

Proposed General Plan 2050 Policies and Actions, of this Draft EIR, denoted with the abbreviation HAZ. In particular, the following key policies would serve to minimize impacts related to the accidental release of hazardous materials:

- Policy GR-4.6 requires geothermal resource developers to prepare and maintain emergency plans for hazardous incidents, including, but not limited to, blow-outs, fluid spills, earthquakes, fires, and worker accidents. Emergency plans must be consistent with the policies and procedures of responsible public safety agencies and ensure cooperation between industry security, medical and firefighting personnel, and corresponding public safety agencies.
- Policy GR-6.1 encourages geothermal resource activities to avoid or minimize and mitigate ground disturbance in areas with naturally occurring asbestos.
- Policy HS-5.10* requires dust-suppression measures for grading activities and asbestos-dust hazard mitigation plans for projects in areas of naturally occurring asbestos, including serpentine soils.
- Policy HS-5.11* requires that all projects requiring a grading permit or a building permit that would result in earth disturbance or would be in areas likely to contain naturally occurring asbestos to use approved asbestos-dust mitigation measures as required by the Lake County Air Quality Management District, California Air Resources Board, and the Lake County Community Development Department.
- Policy HS-6.3 requires new development within 3,000 feet of Lampson Field to investigate lead levels in soil. If levels exceed health standards, remedial actions must be completed to the oversight agency's satisfaction prior to building permit issuance.
- Policy HS-9.10* requires project applicants to demonstrate that urban development and projects within floodplain areas will not adversely impact downstream properties or contribute to flooding hazards, including the release of hazardous materials due to a flood, prior to approval.
- Policy HS-10.6 requires the review of new development proposals to ensure that soils, surface water, and groundwater are protected from contamination.
- Policy HS-10.7* requires developers to have a Phase I environmental site assessment performed during the design phase on sites known to contain or previously used for hazardous materials. A Phase II assessment is required if the Phase I assessment finds evidence of hazardous materials.
- Policies CM-LU-6.9, EL-LU-6.9, K-LU-6.9, L-LU-6.9, LL-LU-6.10, M-LU-6.9, NL-LU-6.9, and R-LU-6.9 require the County to locate commercial service businesses, such as warehouses, repair services, and building materials sales, away from housing, schools, and other sensitive receptors, according to the following criteria:
  - Provide good access to highways or major collectors;
  - Buffer existing or planned residential areas, schools, and other sensitive uses;

  - Develop in depth rather than in a strip fashion along the access road to provide adequate room for parking, buffering, and other needs; and
  - Encourage development as integrated planned areas in conjunction with community commercial areas or with common architectural and site development features.
- Policies CM-C-3.9, EL-C-3.9, K-C-3.9, L-C-3.9, LL-C-3.9, M-C-3.9, NL-C-3.9, and R-C-3.9 require the County to avoid locating roadways on naturally occurring asbestos whenever feasible alternative locations exist, and if unavoidable, ensure adequate construction and surfacing with non-asbestos materials in compliance with local and State requirements.

Because of the presence of NOA throughout the county and current and past hazardous materials generators, potential future development under the proposed General Plan 2050 has the potential to 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 and impacts are considered **potentially significant**.

Impact HAZ-1: Impacts from potential future development under the proposed General Plan 2050 could 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.

> **Significance with Mitigation:** Implementation of the proposed General Plan 2050 policies and actions, as well as compliance with federal, State, and local regulations pertaining to the release of hazardous materials into the environment would ensure that potential future development under the proposed project would not create a significant hazard to the public or the environment. Specifically, Policy HS-10.7* requires developers to prepare a Phase 1 environmental site assessment (ESA) and Phase 2 investigations, when warranted, on project sites with current or past hazardous materials. Compliance with the federal, State, regional, and local laws, as well as implementation of the proposed General Plan 2045 goals, policies, and actions, would ensure potential future development under the proposed 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; therefore, impacts would be **less than significant**.

c) Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substance, or waste within one-quarter mile of an existing or proposed school?

As discussed in Section 3.9.2, *Existing Conditions*, there are 34 public schools throughout Lake County and there also are a number of private schools dispersed throughout the EIR Study Area. Accordingly, it is possible that implementation of the proposed General Plan 2050 could result

in potential future development that would involve hazardous materials, either through construction or operation of new development, within 0.25 miles of an existing or proposed school. In terms of new public schools that may result from implementation of the General Plan 2050, as discussed in Section 3.9.1, *Regulatory Framework*, the CDE evaluates potential hazards within a 0.25-mile radius of the campus and DTSC's School Property Evaluation and Cleanup Division is responsible for assessing, investigating, and ensuring that proposed school sites are free of contamination or that they have been remediated to a level that protects the students and staff who will occupy the new school. School sites that will receive State funding for acquisition or construction are required to go through an environmental review and cleanup process under DTSC's oversight.

As described under impact discussions (a) and (b), while some potential future development under the proposed project could be reasonably expected to handle hazardous materials or generate hazardous emissions within 0.25 miles of a school, the storage, use, and handling of these materials would be subject to existing federal, State, and local regulations. In addition to protections afforded by State and local regulations, the proposed General Plan 2050 Health and Safety Element contains goals, policies, and actions that require local planning and development decisions to consider impacts from hazards and hazardous materials within 0.25 miles of a school that would also serve to minimize impacts related to the emission and handling of hazardous materials. These are shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with abbreviation HAZ and provided under impact discussions (a) and (b). In particular, Policies HS-5.6*, HS-5.7*, and HS-5.8* require project applicants to prepare technical assessments, including construction and operational HRAs to evaluate the individual project's air pollutant emissions and mitigation measures would be required if above project-level threshold adopted by the LCAQMD or Bay Area Air District. Individual projects would be required to have less-than-significant impacts. For an additional discussion about toxic air contamination emissions during construction and operation of future development under the proposed project, please see impact discussion (c) in Section 3.3, *Air Quality*.

Compliance with existing federal, State, and local regulations, as well as implementation of the proposed General Plan 2050 policies, including mitigating Policies HS-5.6*, HS-5.7*, HS-5.8*, and HS-10.7* would ensure requirements regarding use or transport of hazardous materials are met prior to construction, which includes buffer zones between schools and hazardous materials sites. Therefore, impacts would be **less than significant**.

Significance without Mitigation: Less than significant.

d) Would the project be located on a site that is included on a list of hazardous materials compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment?

As indicated in Table 3.9-1, *DTSC Hazardous Material Cleanup Sites in Lake County,* and Table 3.9-2, *RWQCB Cleanup Sites in Lake County,* there are several sites identified in Lake County that are considered active, open, or in need of further review for hazardous material cleanup. Redevelopment of these sites for development under the General Plan 2050 could potentially expose future residents and workers to hazards from contamination on and near the sites.

The proposed project would facilitate new development and redevelopment, including residential, commercial, and industrial land uses within Lake County. Some potential future development could occur on properties that are in the databases identified in Tables 3.9-1, *DTSC Hazardous Material Cleanup Sites in Lake County*, and 3.9-2, *RWQCB Cleanup Sites in Lake County.* As described under impact discussion (a), construction on a site listed in the database could result in the release of potentially hazardous soil-based materials into the environment during site grading and excavation operations. Further, demolition of existing structures could potentially result in the release of hazardous building materials (e.g., asbestos, lead-based paint) into the environment. Use of hazardous materials on newly developed properties after construction could potentially include cleaning solvents, fertilizers, pesticides, and other materials used in the regular maintenance and operation of future development.

Because hazardous cleanup sites exist in Lake County, it is possible that future development could occur on a designated hazardous cleanup site, which could result in direct contact, inhalation, or ingestion of hazardous materials that could potentially cause adverse health impacts to construction workers, future site inhabitants, and nearby sensitive receptors. The preparation of project-specific management plans and studies would require mitigation that would protect construction workers, future site inhabitants, and nearby sensitive receptors.

However, development would be conducted in accordance with the proposed General Plan 2050 and the regulations and policies of the agency assigned to the site (i.e., USEPA, DTSC, RWQCB, or Lake County DEH). Site-specific investigative reports (i.e., Preliminary Endangerment Assessment, Phase I Environmental Site Assessment, or Remedial Action Workplan, etc.) for locations with known contamination would summarize soil and groundwater analytical data collected on the project site during past investigations; identify management options for excavated soil and groundwater, if contaminated media are encountered during deep excavations; and identify wells requiring proper abandonment in compliance with local, state, and federal regulations. These standard investigative reports would include measures for identifying, testing, and managing soil and groundwater suspected of or known to contain hazardous materials. Typically, a letter from the oversight agency stating that no further action is required and granting closure of the site would be required prior to the issuance of construction permits. Depending on the site, closure might also involve deed restrictions that

limit future land uses and could prohibit future residential or institutional development on the site. Compliance with RCRA, California Code of Regulations Title 22, and oversight by the involved agencies would remedy potential impacts caused by soil and/or groundwater contamination.

Furthermore, the proposed General Plan 2050 has goals, policies, and actions that pertain to development on sites with known hazards as shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation HAZ. In particular, the following key policies would serve to minimize impacts due to a project being located on a site that is included on a list of hazardous materials compiled pursuant to Government Code Section 65962.5:

- Policy GR-3.3 requires the removal or conversion of all aboveground geothermal facilities and site reclamation upon completion of the facility's life. It also requires adequate financial assurances as part of the project's final development plan to ensure sufficient funding for facility removal.
- Policy HS-10.6 requires the review of new development proposals to ensure that soils, surface water, and groundwater are protected from contamination.
- Policy HS-10.7* requires developers to have a Phase I environmental site assessment performed during the design phase on sites known to contain hazardous materials or which had previously been utilized for the handling or storage of hazardous materials. It requires a Phase II environmental site assessment if the Phase I assessment finds current or past hazardous materials on the project site.

Compliance with applicable federal, State, and local laws and regulations regarding cleanup and reuse of a listed hazardous materials site described in Section 3.9.1, *Regulatory Framework*, and the proposed General Plan 2050 policies and actions ensure potential future development would not create a significant hazard to the public or the environment. Furthermore, future construction of new development would be subject to separate project-level environmental review pursuant to CEQA, as required, to identify potential environmental impacts and mitigation measures as needed and would also be subject to the mitigation measures contained throughout this Draft EIR to reduce potential environmental impacts. Therefore, impacts would be **less than significant.**

Significance without Mitigation: Less than significant.

e) For a project within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the EIR Study Area?

A portion of the EIR Study Area is within the AIA of the Lampson Field, which is in the Kelseyville Planning Area. The airport is operated by the Lake County Public Works department, and is used for general aviation, which includes all aviation activities other than commercial passenger flights, commuter/air taxi, and military uses. General aviation activity typically includes single-engine and small twin-engine aircraft holding six or fewer people. The Lampson Field is the largest and most active airport in the county. The AIA includes all areas surrounding the Lampson Field that are affected by noise, height, and safety considerations. All development projects within the AIA must be reviewed by the Lake County ALUC to ensure consistency with the ACLUP. The ACLUP establishes height and use restrictions for structures within the parts of the EIR Study Area that extend into the AIA. Portions of the EIR Study Area are within the airport's noise contours and safety zones.

A portion of the EIR Study Area is also within the AIA of Gravelly Valley Airstrip, though the proposed General Plan 2050 does not include future development in its vicinity.

The proposed Health and Safety (HS) Element contains policies and actions that require local planning and development decisions to require best practices that would not result in incompatible land uses with airport operations. The policies and actions are shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, and denoted with abbreviation HAZ. In particular, the following key policies and actions would serve to minimize potential hazardous airport impacts in the EIR Study Area:

- Policy HS-6.1 requires that development around Lampson Field Airport be consistent with the safety policies and land use compatibility guidelines in the adopted Lake County Airport Land Use Compatibility Plan.
- Policy HS-6.2 requires that development within the airport approach and departure zones comply with Part 77 of the Federal Aviation Administration Regulations.
- Policy HS-6.3 requires new development within 3,000 feet of Lampson Field to investigate whether lead levels are present in soil above State and federal health standards. If levels exceed standards, remedial actions must be completed to the oversight agency's satisfaction prior to building permit issuance.
- Action HS-6.a requires the review of all development projects within the vicinity of Lampson Field Airport for consistency with the Lake County Airport Land Use Compatibility Plan, ensuring compliance with height restrictions, density requirements, and other safety criteria.

- Action HS-6.b requires the referral of projects within the Airport Influence Area that require General Plan amendments, zoning changes, or other discretionary entitlements to the Airport Land Use Commission for review and consistency determination with the Airport Land Use Compatibility Plan.

The proposed General Plan policies and actions would serve to further ensure that development would not interfere with any airport land use plan or otherwise create an airport-related safety hazard in the EIR Study Area. Therefore, the risk to people residing or working in the EIR Study Area would be **less than significant**.

Significance without Mitigation: Less than significant.

f) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

The General Plan 2050 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 2050 could occur from construction of potential future development projects if they were to result in temporary road closures, and therefore, potentially alter evacuation routes. Potential future development over the buildout horizon of the proposed project would be required to comply with applicable local and State regulations, and obtain approval from Caltrans or the County, which would prohibit the obstruction of the circulation network. Additionally, these activities would be limited to the duration of the construction period, and direct impacts of construction would be evaluated during the permit review process by the applicable fire district and/or CAL FIRE. Review and approval of temporary lane closures, if needed, for future development projects in the EIR Study Area would ensure that that no inconsistencies with emergency evacuation plans would occur.

Potential future development in the EIR Study Area would be required to integrate the EOP and Wildfire Evacuation and Preparedness Plan as necessary into development to continue there facilitation of evacuation for people living and working in hazard-prone areas. The buildout under the proposed project would not result in substantial changes to the circulation patterns or emergency access routes in the county that would conflict with or require changes to the EOP or Wildfire Evacuation and Preparedness Plan. 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. These plans and regulations have requirements for a minimum of two different ingress and egress route to each homesite, maximum lengths of single-access roads, minimum

widths of roadways, year-round access for firefighting equipment, and vegetation fuel management around roadways.

Furthermore, the General Plan 2050 contains policies and actions to ensure safe and effective evacuation throughout Lake County during emergencies and disasters and would serve to minimize impacts related to evacuation as shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with abbreviation HAZ. In particular, the following key policies and actions would serve to ensure safe evacuation throughout the EIR Study Area:

- Policy HS-1.3 requires the County to work with other federal, State, and local agencies to ensure the continued presence and operation of services essential to public health and safety during times of emergency, including maintaining emergency facilities and adequate response times.
- Policy HS-1.7 requires the County to maintain and regularly update the Emergency Operations Plan to meet current federal and State emergency requirements, conform with the California Standardized Emergency Management System (SEMS), and address current and anticipated community needs.
- Policy HS-1.8 requires the County to maintain, update, and practice interim disaster plans assuming that many bridges and highway overpasses will not be functional and that hillside roads will be blocked following a major earthquake.
- Policy HS-2.1 implements and maintains public education efforts to promote awareness of evacuation zones, alerts, and evacuation procedures, including designated evacuation routes and plans, using multiple formats and languages to the greatest extent practicable.
- Policy HS-2.2 requires new residential development of 10 units or more in High and Very High Fire Hazard Severity Zones identified on Figure HS-3 or in flood-prone areas identified on Figure HS-6 to have access to at least two points of ingress and egress.
- Policy HS-2.3 requires the County to coordinate with Caltrans, emergency responders, and surrounding jurisdictions to ensure roads serving as potential evacuation routes are properly designed, maintained, and remain accessible and safe during evacuations.
- Policy HS-2.5 requires identifying opportunities to improve evacuation in mapped hazard-prone areas where development is served by roads that do not meet minimum road standards for emergency equipment, or where it does not have at least two ingress/egress routes (refer to Figure HS-2), such as:
    - Additional vehicle pullouts at key hillside locations.
    - Limiting or restricting on-street parking at key locations.
    - Leveraging existing alternative or secondary routes, including fire roads, trails, and easements.

- Policy HS-2.6 requires the County to ensure that road patterns in new subdivisions both facilitate access for fire protection vehicles and establish secondary access routes for emergency evacuation.
- Action HS-2.a* requires the County to regularly review and update emergency evacuation plans for all identified hazards, at least every five years, and following any major emergency event.
- Action HS-2.e requires the County to develop public-private partnerships with local businesses and organizations to support evacuation operations, including fuel availability.
- Action HS-2.f requires the County to support regional coordination to develop traffic control strategies for different hazard scenarios, including procedures for signal power backup and placement of traffic control personnel.
- Policy HS-10.8 requires that all evacuation routes and emergency access roads meet applicable State safety standards, including Public Resources Code Sections 4290 and 4291 requirements for width, clearance, and surface conditions.
- Policy M-LU-1.5 requires all new residential and commercial development have at least two (or multiple) access routes to an existing publicly maintained road or a new road meeting current County standards.
- Policies CM-C-4.5, EL-C-4.4, K-C-4.4, L-C-4.4, LL-C-4.5, M-C-4.5, NL-C-4.5, and R-LU-4.5 require that, when modifying the transportation network, the County consider opportunities to expand emergency access so that all residential areas have at least two means of emergency access.

Compliance with the Lake County EOP and Lake County Wildfire Evacuation and Preparedness Plan, as well as the proposed General Plan 2050 policies and actions, would ensure implementation of the proposed project would not interfere with an adopted emergency response plan or emergency evacuation plan. Therefore, implementation of the proposed project would not substantially impair an adopted emergency response plan or emergency evacuation plan and impacts would be **less than significant**.

Significance without Mitigation: Less than significant.

3.9.5 Cumulative Impact Discussion

The geographic scope of analysis for cumulative hazards and hazardous materials impacts encompasses the entirety of Lake County, including the incorporated cities, unincorporated communities, and lands not under County control, such as USFS land, Bureau of Land Management land, tribe lands, and private land. While some impacts related to hazardous materials are generally site-specific and depend on the nature and extent of the hazardous materials release, other impacts, including the transport of hazardous materials across regional

transportation systems, and emergency evacuation have the potential to impact areas outside of Lake County's control.

Would the project have a cumulative effect related to hazards and hazardous materials?

As discussed previously, development allowed by the proposed General Plan 2050 would not result in significant impacts from the increased use of hazardous household materials. Other jurisdictions within Lake County would be subject to the same federal and State regulations. The proposed General Plan 2050 would not interfere with implementation of emergency response plans, but rather includes goals, policies, and actions that ensure the safety of the residents and visitors to Lake County. Potential project-level impacts associated with hazards and hazardous materials would be reduced through compliance with the proposed General Plan 2050 policies and actions, and other local, regional, State, and federal regulations. Since impacts associated with hazardous materials, are, by their nature, focused on specific sites or areas, the less-than-significant impacts within the EIR Study Area from the proposed General Plan 2050 would not contribute to a cumulative increase in hazards in the immediate vicinity of the EIR Study Area or throughout the region. Therefore, the potential for cumulative impacts associated with hazards and hazardous materials would be **less than significant.**

Significance without Mitigation: Less than significant.

3.9.6 References

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3.10 HYDROLOGY AND WATER QUALITY

This section of the Draft EIR describes the potential hydrology and water quality impacts associated with the adoption and implementation of the proposed project. This section describes the regulatory framework and existing conditions, identifies criteria used to determine impact significance, and provides an analysis of the potential hydrology and water quality impacts. The proposed General Plan 2050 policies and actions that would minimize any potentially significant impacts are shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, and denoted with the abbreviation HYD. Where policies and actions are required for mitigation, those policies and actions are described in this section and denoted with an asterisk (*).

3.10.1 Regulatory Framework

FEDERAL

Clean Water Act

The United States Environmental Protection Agency (USEPA) is the lead federal agency responsible for water quality management. The Clean Water Act (CWA) (codified at 33 United States Code Sections 1251 to 1376) of 1972 is the primary federal law that governs and authorizes water quality control activities by the USEPA, as well as the states.

Permits to dredge or fill waters of the United States are administered by the United States Army Corps of Engineers (USACE) under Section 404 of the CWA. “Waters of the United States” are defined as territorial seas and traditional navigable waters, perennial and intermittent tributaries to those waters, lakes and ponds and impoundments of jurisdictional waters, and wetlands that have a surface connection with and are adjacent to jurisdictional waters. Clear Lake is considered to be “Waters of the United States.”

The regulatory branch of the USACE is responsible for implementing and enforcing Section 404 of the CWA and issuing permits. Any activity that discharges fill material and/or requires excavation in waters of the United States must obtain a Section 404 permit. Before issuing the permit, the USACE requires that an analysis be conducted to demonstrate that the proposed project is the least environmentally damaging practicable alternative. Also, the USACE is required to comply with the National Environmental Policy Act before it may issue an individual Section 404 permit.

Under Section 401 of the CWA, every applicant for a Section 404 permit that may result in a discharge to a water body must first obtain State Water Quality Certification that the proposed activity will comply with State water quality standards. Certifications are issued in conjunction

with USACE Section 404 permits for dredge and fill discharges. In addition, an application for Individual Water Quality Certification and/or Waste Discharge Requirements must be submitted for any activity that would result in the placement of dredged or fill material in waters of the State that are not jurisdictional to the USACE, such as isolated wetlands, to ensure that the proposed activity complies with State water quality standards. 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 its nine Regional Water Quality Control Boards (RWQCB).

Under federal law, USEPA has published water quality regulations under Volume 40 of the Code of Federal Regulations. 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 USEPA 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 USEPA has delegated authority to the SWRCB and its RWQCBs to identify beneficial uses and adopt applicable water quality objectives.

When water quality does not meet CWA standards and compromises designated beneficial uses of a receiving water body, Section 303(d) of the CWA requires that water body be identified and listed as “impaired”. Once a water body has been designated as impaired, a Total Maximum Daily Load (TMDL) must be developed for the impairing pollutant(s). A TMDL is an estimate of the total load of pollutants from point, nonpoint, and natural sources that a water body may receive without exceeding applicable water quality standards, with a factor of safety included. Once established, the TMDL allocates the loads among current and future pollutant sources to the water body.

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, including discharges from municipal separate storm sewer systems (MS4). 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 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.

Under the NPDES Program, all facilities that discharge pollutants into waters of the United States are required to obtain a NPDES permit. Requirements for stormwater discharges are also regulated under this program. In California, the NPDES permit program is administered by the SWRCB through the nine RWQCBs. Lake County lies within the jurisdiction of the Central Valley RWQCB (Region 5) and is subject to the waste discharge requirements of the Phase II Small MS4 permit (Order No. 2013-001—DWQ; NPDES Permit No. CAS000004) as amended by Order R5-2023-0047.

Under Provision E.6 of the MS4 Permit, the co-permittees use their planning authorities to include appropriate source control, site design, and stormwater treatment measures in new development and redevelopment projects to address both soluble and insoluble stormwater runoff pollutant discharges and prevent increases in runoff flows from new development and redevelopment projects. Regulated projects include new development and redevelopment projects that create and/or replace 5,000 square feet or more of impervious surface. This goal is accomplished primarily through the implementation of low impact development techniques. In addition, projects that create and/or replace greater than 22,000 square feet of impervious surface must implement peak flow controls to match pre-development peak flows from the 2-year, 24-hour rain event.

National Flood Insurance Program

The Federal Emergency Management Agency (FEMA) administers the National Flood Insurance Program (NFIP) to provide subsidized flood insurance to communities that comply with FEMA regulations limiting development in floodplains. 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.

FEMA has requirements and procedures for evaluating earthen levee systems and mapping the areas affected by those systems. Levee systems are evaluated for their ability to provide protection from 100-year flood events, and the results of this evaluation are documented in the FEMA Levee Inventory System. Levee systems must meet minimum freeboard standards and must be maintained according to an officially adopted maintenance plan. Other FEMA levee system evaluation criteria include structural design and interior drainage.

FEMA establishes design standards for flood protection. 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-in-100 chance of occurring in any given year. As required by the FEMA regulations, all development constructed within the Special Flood Hazard Zone (as delineated on the FIRM) must be elevated so that the lowest floor is at or above the base flood elevation level. The term "development" is defined by FEMA as any human-made change to improved or unimproved real estate, including but not limited to buildings, other structures, mining, dredging, filling, grading, paving, excavation or drilling operations, and storage of equipment or materials. Per these

regulations, if development in these areas occurs, a hydrologic and hydraulic analysis must be performed prior to the start of development and must demonstrate that the development does not cause any rise in base flood elevation levels, because no rise is permitted within regulatory floodways. Upon completion of any development that changes existing Special Flood Hazard Area boundaries, the NFIP directs all participating communities to submit the appropriate hydrologic and hydraulic data to FEMA for a FIRM revision, as soon as practicable, but not later than six months after such data becomes available.

National Dam Safety Act

The National Dam Safety Act of 2006 authorized a program to reduce the risks to life and property from dam failure by establishing a safety and maintenance program. As the lead Federal agency for the National Dam Safety Program (NDSP), FEMA is responsible for coordinating efforts to secure the safety of dams throughout the United States. NDSP is a national program that targets the improvement of dams and the safety of those who live in surrounding communities. Since it was first authorized by Congress in 1996, there have been marked improvements in the safety of many of the nation's dams. The program makes federal funds available to the states, which are primarily responsible for protecting the public from dam failures of non-federal dams and pursuing initiatives that enhance the safety of dams posing the greatest risk to people and property.

Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act provides the basic authority for the United States Fish and Wildlife Service (USFWS) to evaluate impacts to fish and wildlife from proposed water resource development projects. This act requires that all federal agencies consult with the USFWS, the National Marine Fisheries Service, and state wildlife agencies (i.e., the California Department of Fish and Wildlife or CDFW) for activities that affect, control, or modify waters of any stream or bodies of water. Under this act, USFWS has responsibility for reviewing and commenting on all water resources projects. For example, it would provide consultation to the USACE prior to issuance of a Section 404 permit.

If a project may result in the "incidental take" of a listed species, an incidental take permit is required. An incidental take permit allows a developer to proceed with an activity that is legal in all other respects but that results in the "incidental taking" of a listed species. A habitat conservation plan must also accompany an application for an incidental take permit. The purpose of a habitat conservation plan is to ensure that the effects of the permitted action or listed species are adequately minimized and mitigated.

STATE

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Water Code Sections 13000 et seq.) is the basic water quality control law for California. This act established the SWRCB and divided the State into nine regional basins, each under the jurisdiction of a RWQCB. The SWRCB is the primary State agency responsible for the protection of California's water quality and groundwater supplies. The RWQCBs carry 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 that recognizes and reflects the regional differences in existing water quality, the beneficial uses of the region's ground and surface water, and local water quality conditions and problems.

The Porter-Cologne Act also authorizes the SWRCB and RWQCBs to issue and enforce waste discharge requirements, NPDES permits, Section 401 water quality certifications, and other approvals. Other State agencies with jurisdiction over water quality regulation in California include the California Department of Health Services for drinking water regulations, CDFW, and the Office of Environmental Health and Hazard Assessment.

State Water Resources Control Board

In California, the SWRCB has broad authority over water quality control issues for the State. 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. It also regulates public drinking water systems, NPDES wastewater discharges, water quality monitoring, water recycling programs, landfill disposal, water rights, and implements drought restrictions. Lake County is within the jurisdiction of the Central Valley RWQCB (Region 5).

Phase II Small MS4 General Permit

On February 5, 2013, the SWRCB adopted the Phase II Small MS4 General Permit. Since 2013, the SWRCB adopted five amendments to this Permit.

The SWRCB adopted the General Permit for Storm Water Discharges from Phase II Small Municipal Separate Storm Sewer Systems under Order No. 2013-0001-DWQ (Statewide Small MS4 Permit) on February 5, 2013. The Statewide Phase II Small MS4 Permit regulates storm water discharges from municipal areas serving populations less than 100,000 that are either located within a census-defined ("urbanized area") or designated as subject to the permit requirements. The State Phase II Small MS4 Permit was amended in December 2017 to include the adopted Trash Policy Implementation plan and Total Maximum Daily Load (TMDL) requirements. Lake County is a traditional permittee under the Phase II Small MS4 permit.

General Construction Permit

Construction activities that disturb one or more acres of land that could impact hydrologic resources must comply with the requirements of the newly reissued SWRCB Construction General Permit (Order WQ 2022-0057-DWQ). Under the terms of the permit, applicants must file Permit Registration Documents (PRD) with the SWRCB prior to the start of construction. The PRDs include a Notice of Intent, risk assessment, site map, Storm Water Pollution Prevention Plan (SWPPP), annual fee, and a signed certification statement. The PRDs are submitted electronically to the SWRCB via the Stormwater Multiple Application and Report Tracking System (SMARTS) website.

Applicants must also demonstrate conformance with applicable best management practices (BMPs) and prepare a SWPPP containing a site map that shows the construction site perimeter, existing and proposed buildings, lots, roadways, stormwater collection and discharge points, general topography both before and after construction, and drainage patterns across the project site. The SWPPP must list BMPs that would be implemented to prevent soil erosion and discharge of other construction-related pollutants that could contaminate nearby water resources. Additionally, the SWPPP must contain a visual monitoring program, a sampling program to ensure compliance with water quality standards, and on-site collection of samples and inspection of BMPs during a qualifying precipitation event.

Board General Industrial Permit

The Statewide General permit for Storm Water Discharges Associated with Industrial Activities, Order No. 2014-0057-DWQ and amended by 2015-0122-DWQ (2018) implements the federally required stormwater regulations in California for stormwater associated with industrial activities that discharge to Waters of the United States. This regulation covers facilities that are required by federal regulations or by the RWQCBs to obtain an NPDES permit. Dischargers are required to eliminate non-storm water discharges, develop SWPPPs that include BMPs, conduct monitoring of stormwater runoff, and submit all compliance documents via the SWRCB's SMARTS program.

Trash Amendments

On April 7, 2015, the SWRCB adopted an amendment to the Water Quality Control Plan for Ocean Waters of California to control trash and Part 1, *Trash Provisions*, of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California. They are collectively referred to as "the Trash Amendments." The Trash Amendments apply to all surface waters of California and include a land-use-based compliance approach to focus trash controls on areas with high trash-generation rates. Areas such as high density residential, industrial, commercial, mixed urban, and public transportation stations are considered priority land uses. There are two compliance tracks for Phase I and Phase II MS4 permittees:

- Track 1: Permittees must install, operate, and maintain a network of certified full capture systems in storm drains that capture runoff from priority land uses.
- Track 2: Permittees must implement a plan with a combination of full capture systems, multi-benefit projects, institutional controls, and/or other treatment methods that have the same effectiveness as Track 1 methods.

The Trash Amendments provide a framework for permittees to implement their provisions. Full compliance must occur within 10 years of the permit, and permittees must also meet interim milestones such as average load reductions of 10 percent per year. The amendment mandates that catch basin filters be installed on all catch basins by December 2, 2030 (SWRCB 2022).

General Waste Discharge Requirements for Wineries

On January 20, 2021, the SWRCB adopted the General Order (Winery Order) for wineries and similar facilities with activities related to producing wine or grape juice that generates 10,000 and 15 million gallons of winery-process water and discharges it to land for reuse or disposal. To be considered exempt, a winery must produce less than 10,000 gallons of process water per year and adhere to requirements for waste discharges and management practices set by the Winery Order. However, exempt facilities that violate the Winery Order or are otherwise determined to pose a threat to water quality may no longer qualify for exemption and may be required to submit an application for Winery Order coverage.

General Permit for Residual Aquatic Pesticide Discharges from Algae and Aquatic Weed Control Application

SWRCB adopted the Statewide General NPDES Permit for Residual Aquatic Pesticide Discharges to Waters of the United States from Algae and Aquatic Weed Control Applications (Water Quality Order 2013-0002-DWQ) (General Permit) in June 2013. The General Permit became effective on December 1, 2013.

Except for discharges on Tribal lands that are regulated by a federal permit, this General Permit covers the point source discharge to waters of the United States of residues resulting from pesticide applications using products containing 2,4-D, acrolein, copper, diquat, endothall, flumioxazin, fluridone, glyphosate, hydrogen peroxide, imazamox, imazapyr, penoxsulam, peroxyacetic acid, sodium carbonate peroxyhydrate, triclopyr-based algaecides and aquatic herbicides, and adjuvants containing ingredients represented by the surrogate nonylphenol.

This General Permit covers only discharges of algaecides and aquatic herbicides that are currently registered for use in California, or that become registered for use and contain the above-listed active ingredients and ingredients represented by the surrogate of nonylphenol.

General Waste Discharge Requirements for Discharges to Land with a Low Threat to Water Quality

SWRCB Order No. 2022-0057-DWQ establishes minimum standards for discharges to land with a low threat to water quality (such as small/temporary dewatering projects). The Discharger must comply with any more stringent standards in the applicable Basin Plan. Dischargers are also required to file a report of waste discharge.

California Water Code

Section 13751 of the California Water Code requires a Well Completion Report (WCR) to be completed by each person who digs, bores, or drills a water well, cathodic protection well, groundwater monitoring well, or geothermal heat exchange well or abandons or modifies an existing well. The WCR should be filed with the California Department of Water Resources (DWR) within 60 days of the date that construction, alteration, abandonment, or destruction of a well is completed (DWR 2022). Completed WCRs are sent to and maintained at the DWR regional office that serves the area where the well is located.

Section 10912 of the Water Code requires a Water Supply Assessment (WSA) that demonstrates that water demands would not exceed water supplies for residential development projects with more than 5,000 dwelling units, commercial or industrial development employing more than 1,000 people, or similar. Section 190912 also stipulates that if a public water system has fewer than 5,000 service connections, then any proposed development that would increase connections by 10 percent or more would be required to prepare a WSA.

California Department of Fish and Wildlife

CDFW protects streams, water bodies, and riparian corridors through the streambed alteration agreement process under Sections 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 the 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.

Water Conservation in Landscaping Act of 2006

The Water Conservation in Landscaping Act (AB 1881) requires the DWR to update the State of California’s Model Water Efficient Landscape Ordinance (MWELO). Under AB 1881, cities and counties are required to adopt the State’s MWELO or to adopt a different ordinance that is at least as effective in conserving water as the State’s MWELO.

The MWELO was revised in July 2015 via Executive Order B-29-15 to address the ongoing drought conditions and to build resiliency for future droughts. The 2015 revisions to the MWELO increased water efficiency standards for new and retrofitted landscapes through more efficient irrigation systems, greywater usage, and on-site stormwater capture and by limiting the portion of landscapes that can be covered in turf. Each city and county is required to submit annual reports to DWR that document how the agency is achieving compliance with the State MWELO and how many projects were subject to the ordinance during the annual reporting period.

Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act (SGMA) of 2014 is a comprehensive three-bill package that provides a framework for the sustainable management of groundwater supplies by local authorities. The SGMA requires the formation of local groundwater sustainability agencies (GSAs) to assess local water basin conditions and adopt locally based management plans. SGMA provides 20 years for GSAs to implement plans, achieve long-term groundwater sustainability, and protect existing surface water and groundwater rights. The SGMA also provides local GSAs with the authority to require registration of groundwater wells, measure and manage extractions, require reports and assess fees, and request revisions of basin boundaries, including establishing new subbasins.

Senate Bill 92

On June 27, 2017, Governor Brown signed Senate Bill (SB) 92 into law, which set forth new requirements focused on dam safety. As part of this legislation, dam owners must now submit inundation maps to the DWR. After the maps are approved, the dam owner must submit an emergency action plan to Governor's Office of Emergency Services (Cal OES). The dam owner must submit updated plans and inundation maps every 10 years, or sooner under certain conditions. Cal OES will review and approve the emergency action plans. This legislation sets forth additional provisions for the emergency action plans including compliance requirements, exercises of the plan, and coordination with local public safety agencies.

Emergency Services Act

The Emergency Services Act, under California Government Code Section 8589.5(b), calls for public safety agencies whose jurisdiction contains populated areas below dams to adopt emergency procedures for the evacuation and control of these areas in the event of a partial or total failure of the dam. Cal OES is responsible for the coordination of overall State agency response to major disasters and assisting local governments in their emergency preparedness, response, recovery, and hazard mitigation efforts. In addition, the Cal OES Dam Safety Program assists and guides local jurisdictions on emergency planning for dam failure events and is also the designated repository of dam failure inundation maps.

Division of Safety of Dams

Since 1929, the State of California has supervised all non-federal dams in California through the Dam Safety Program under the jurisdiction of the California Division of Safety of Dams (DSOD). The DSOD came into existence as a direct result of the failure of Saint Francis Dam in southern California in 1928, which resulted in the death of more than 450 people.

The DSOD engineers and engineering geologists review and approve plans and specifications for the design of dams and oversee their construction to ensure compliance with the approved plans and specifications. Reviews include site geology, seismic setting, site investigations, construction material evaluation, dam stability, hydrology, hydraulics, and structural review of appurtenant structures. In addition, the DSOD engineers inspect over 1,200 dams on a yearly schedule to ensure they are performing and being maintained in a safe manner. Owners of all dams under DSOD jurisdiction (except dams classified as low downstream hazard) are required to prepare dam inundation maps. These maps must be updated every 10 years or when there are changes to downstream development or terrain. The dam inundation maps are submitted to DSOD for review and approval. Once the maps are approved, the dam owner must submit the map with the Emergency Action Plan to Cal OES for review and approval.

Executive Orders N-7-22 and N-3-23

The Executive Orders N-7-22 and N-3-23 issued by the Governor in 2022 and amended in 2023 contain well permitting requirements for local agencies to enforce to lessen the effects of intense drought conditions in California. The order states that a permit for a new groundwater well or alteration of an existing well in a groundwater basin subject to the SGMA and classified as a medium- or high-priority basin (i.e., Big Valley groundwater basin) shall not be issued without first obtaining written verification from a GSA managing the basin that the groundwater extraction would not be inconsistent with any sustainable groundwater management program established in the GSP and would not decrease the likelihood of achieving the sustainability goal for the basin. In addition, before issuing the permit, it must be determined that extraction of groundwater from the proposed well will not interfere with the production or functioning of existing nearby wells and is not likely to cause subsidence. This order does not apply to wells that would provide less than 2 AFY of groundwater for individual domestic users, or wells that would exclusively provide groundwater to public water supply systems.

Executive Order N-5-23

On March 24, 2023, Governor Newsom issued Executive Order N-5-23, which reaffirmed the need for action to address drought-related harm to native fish in the Clear Lake Watershed. The Executive Order directed the SWRCB and the Department of Fish and Wildlife to evaluate minimum instream flows and other actions to protect the hitch, a threatened fish species under the California Endangered Species Act that is found only in Clear Lake and its tributaries; work with water users, Tribes, and other parties on voluntary actions; and consider emergency

regulations to establish minimum instream flows to mitigate the effects of drought. Since the beginning of 2023, the SWRCB Division of Water Rights has been collecting and evaluating existing data to identify how surface water diversions and groundwater extractions in the Clear Lake Watershed impact creek flows.

REGIONAL

Central Valley Regional Water Quality Control Board

The Central Valley RWQCB administers the Small Phase II MS4 Permit for Lake County. The Central Valley RWQCB also issues NPDES permits for wastewater treatment plants, water recycling facilities, and industrial waste discharges, and issues cleanup abatement orders. The Central Valley RWQCB also prepared the *Water Quality Control Plan for the Sacramento and San Joaquin River Basins* (Basin Plan) which establishes beneficial uses, water quality objectives, and a program of implementation for water bodies within its jurisdiction. The latest amendments to the Basin Plan were approved in February 2019.

Sacramento River Basin and San Joaquin River Basin Water Quality Control Plan

The Basin Plan was prepared by the Central Valley RWQCB to comply with the federal CWA and the State Porter-Cologne Act. The Basin Plan establishes water quality objectives, and implementation programs to meet stated objectives and to protect the beneficial uses of water in the Sacramento and San Joaquin River basins. The Basin Plan's designated beneficial uses together with defined water quality objectives comprise the relevant water quality standards.

Westside Sacramento Integrated Regional Water Management Plan

The Westside Sacramento Integrated Regional Water Management Plan (IRWM Plan) defines a clear vision for the management of water resources in the Westside Sacramento Region and highlights important actions needed to help accomplish that vision through the year 2040. The 2018 IRWM Plan complies with the Integrated Regional Water Management Guidelines for Proposition 1 published by DWR in November 2016 (Kennedy/Jenk 2019).

LOCAL

Code of Ordinances

The Lake County Code of Ordinances (LCCO) includes various directives that pertain to hydrology and water quality. The LCCO is organized by chapter, article, and section. Provisions related to hydrology and water quality are included in Chapter 5, *Building Regulations*; Chapter 9, *Health and Sanitation*; Chapter 21, *Zoning*; Chapter 23, *Clear Lake Shoreline*; Chapter 26, *Clear Lake Integrated Aquatic Plant Management Program Ordinance*; Chapter 28, *Groundwater*; Chapter 29, *Storm Water Management Ordinance*; and Chapter 30, *Grading Ordinance*, as follows:

- **Chapter 5, Article 9, Section 5-43, *Updated Model Water Efficient Landscape Ordinance***. This section adopts the State MWELO promulgated by the DWR. All projects that include new construction with a total landscape area greater than 500 square feet and rehabilitation of a landscape area greater than 2,500 square feet are required to submit a Landscape Documentation Package to the Community Development Department prior to the issuance of building permits.
- **Chapter 9, *Health and Sanitation*.**
  - Article 6, *Protection of Water Systems* establishes a cross-connection control program pursuant to Section 450 of the California Health and Safety Code and Title 17, Section 1174 et seq. of the California Administrative Code, for the following purposes:
    - To protect the public water supply against actual or potential cross-connections by isolating within the premises contamination or pollution that may occur because of some undiscovered or unauthorized cross-connection on the premises.
    - To eliminate existing connections between drinking water systems and other sources of water that are not approved as safe and potable for human consumption.
    - To eliminate cross-connections between drinking water systems and other sources of water or process water used for any purpose which jeopardizes the safety of the drinking water supply.
    - To prevent cross-connections in the future.
  - Article 8, *Regulation of Wells and Preservation of Groundwater*, regulates the construction, repair, and reconstruction of wells and the destruction of abandoned wells so that water obtained from wells is suitable for its intended and actual use and the groundwater of Lake County is not polluted or contaminated by such wells. This article requires that permits be obtained from the County's Health Officer prior to the construction, repair, reconstruction, demolition, or abandonment of any well, monitoring well, or cathodic protection well within the unincorporated area of Lake County.
- **Chapter 21, *Zoning.***
  - Article 29, Section 21-29, *Regulations for the Wetlands or "W" Combining District*, preserves and protects environmentally sensitive wetlands valuable for their plant and animal habitat and natural appearance and character. Within the "W" Wetlands combining district, all uses of land shall comply with the regulations of the base zoning district and with the additional regulations of the "W" combining district.
  - Article 35, Section 21-35, *Regulations for the Floodway of "FW" Combining District*, provides land use regulations for properties situated in floodways, and along creeks and streams to ensure for an adequate open corridor to safeguard against the effects of bank erosion, channel shifts, increased runoff or other threats to life and property; and to prevent property damage and safeguard the health, safety and general welfare of the people by allowing the passage of the 100 year flood. Within the "FW" combining

district, no development shall take place except in accordance with the regulations of the base zoning district, with the additional regulations of this Article, and the regulations of Chapter 25, Floodplain Management, of the County's Code of Ordinances. Where the "FW" imposes a greater restriction upon the use of buildings, structures or premises than are required by the base zoning district, the provisions of the "FW" district shall control. All uses shall be reviewed by the Director of the Lake County Watershed Protection District for compliance with Chapter 25 prior to any development or issuance of any permit pursuant to this Code. Only those uses permitted in both the base zoning district and the "FW" combining district are permitted uses.

- Article 36, Section 21-36, *Regulations for the Floodway Fringe or "FF" Combining District*, provides land use regulations for properties and their improvements situated in the floodplain to ensure protection from hazards and damage which may result from flood waters. Within the "FF" combining district, no development shall take place except in accordance with the regulations of the base zoning district, with the regulations of this Article, and the regulations of Chapter 25*, Floodplain Management,* of LCCO. Where the "FF" imposes a greater restriction upon the use of buildings, structures or premises than are required by the base zoning district, the provisions of the "FF" district shall control. All uses shall be reviewed by the Director of the Lake County Watershed Protection District for compliance with Chapter 25 prior to any development or issuance of any permit pursuant to this Code. Only those uses permitted in both the base zoning district and the "FF" combining district are permitted uses.
- Article 37, Section 21-37, *Regulations for the Waterway or "WW" combining District*, preserves, protects, and restores significant riparian systems, streams and their riparian, aquatic and woodland habitats; protects water quality; controls erosion, sedimentation and runoff; and protects the public health and safety by minimizing dangers due to floods and earth slides. These purposes are to be accomplished by setting forth regulations to limit development activities in significant riparian corridors and through the establishment of an administrative procedure for the granting of exceptions from such regulations. Within the "WW" Waterway combining district, all uses of land shall comply with the regulations of the base zoning district and with the additional regulations of the "WW" combining district.
- Article 65, Section 21-65, *Surface Domestic Water Source Mitigation and Reimbursement*, is the policy of Lake County that all possible significant or adverse impacts to surface domestic water sources from all major developments be mitigated in a manner wherein the costs are shared equitably by all those who cause the impacts. To accomplish this goal, this article establishes a method by which use permit holders, who are required to carry out a complete mitigation measure as a condition of approval for their project, are reimbursed by subsequent use permit holders who, but for the already implemented mitigation measures would have caused a significant impact to domestic surface water sources.

- **Chapter 23, *Clear Lake Shoreline*.** The purpose of this chapter is to improve and protect the public's interest in the waters and the bed of the waters in and around Clear Lake, and to insure that the lands will be used for general statewide interests in furtherance of commerce, navigation, fishery, recreation and, wherever possible and appropriate, preservation of the land and waters in their natural state by establishing minimum standards for the construction, alteration, removal and maintenance of structures or other prescribed activities in the nearshore and foreshore of the lake. This chapter prohibits undertaking any of the following activities within the nearshore or foreshore without first obtaining an administrative encroachment permit from Lakebed Management:
  - Constructing or placing any pier, boat ramp, boat launching facility, navigational structure, buoy, jetty, breakwater, marina, harbor, shore zone protective structure, or any other improvement, a portion of which lies within the foreshore or nearshore.
  - Filling or dredging.
  - Constructing or placing in the lake any cable, pipeline, or subaqueous conduit.
  - Any use, operation, or activity with a significant impact on the public trust purposes of commerce, navigation, recreation, and fisheries.
  - Beach clearing.
- **Chapter 25, *Floodplain Management.*** The purpose of this chapter is to minimize public and private losses due to flood conditions in flood prone specific areas. To accomplish its purposes, this chapter includes methods and provisions to:
  - Restrict or prohibit uses which are dangerous to health, safety, and property due to water or erosion hazards, or which result in damaging increases in erosion or flood heights or velocities.
  - Require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction.
  - Control the alteration of natural floodplains, stream channels, and natural protective barriers, which help accommodate or channel flood waters.
  - Control filling, grading, dredging, and other developments that may increase flood damage.
  - Prevent or regulate the construction of flood barriers which will unnaturally divert flood waters, or which may increase flood hazards in other areas.

  This chapter includes provisions that need to be met by all new construction in special flood hazard areas such as anchoring, elevation floodproofing, and special construction materials and methods.
- **Chapter 26, *Clear Lake Integrated Aquatic Plant Management Program Ordinance*.** The purpose of this chapter is to improve and protect the public's interest in the waters and the bed of the waters in and around Clear Lake, and to insure that aquatic weeds will not interfere with or prevent commerce, navigation, fishery, and recreation by establishing

minimum standards for integrated aquatic plant management activities in the nearshore and foreshore of the lake.

- **Chapter 28, *Groundwater*.** The purpose of this chapter is to foster prudent water management practices to avoid significant adverse overdraft-related environmental, social, and economic impacts. This chapter requires a permit to extract or otherwise capture groundwater for any use outside the county. This chapter requires a permit for the export and use of groundwater outside the county and is not intended to regulate groundwater in any other way.
- **Chapter 29, *Storm Water Management Ordinance*.** The purpose of this chapter is to protect and enhance the water quality of water courses, and water bodies within the unincorporated area of the county in a manner pursuant to and consistent with the CWA, by reducing pollutants in storm water discharges to the maximum extent practicable and by prohibiting non-storm water discharges. The provisions of this chapter apply to all water entering the county storm drainage system or natural surface waters generated or deposited on any developed or undeveloped lands in the unincorporated area of Lake County. This chapter applies to facilities and premises subject to and in compliance with the Phase II Small MS4 General Permit, the General Construction Permit, the General Industrial Permit, the County Grading Ordinance, County Building Permit, and/or any other instrument of the County that establishes pollutant control provisions for construction activities.
- **Chapter 30, *Grading Ordinance*.** This ordinance regulates grading on public and private lands within the unincorporated areas of Lake County. This ordinance sets forth rules and regulations to control activities involving excavation, grading and earthwork construction, including fills and embankments; establishes the administrative procedure for the issuance of permits; provides for approval of plans and inspection of grading construction and provides for enforcement and penalties for violations in order to:
  - Minimize hazards to life and property.
  - Maintain slope stability, protect against soil erosion and the degradation of Clear Lake, watercourses and other waterbodies from nutrients, sediments, or other deleterious material.
  - Protect the safety, use, and stability of public rights-of-way and drainage courses.
  - Protect drainage courses and water courses from obstruction and protect life and property from the deleterious effects of flooding.
  - Protect fish, wildlife, and their habitats and promote the retention and restoration of riparian vegetation.
  - Ensure that the intended use of a graded site is consistent with the Lake County General Plan and any applicable area plan.
  - Protect against the destruction of cultural resources and human burials.
  - Minimize degradation of air quality from fugitive dust and the release of asbestos from earth disturbance activities in Naturally Occurring Asbestos areas.

Clean Water Program

The City of Clearlake, the City of Lakeport, and Lake County collaborated to prepare the Stormwater Management Plan (SWMP) as required by the SWRCB as part of the Phase II Small MS4 permit. They subsequently established the Lake County Clean Water Program (LCCWP) to implement these requirements and reduce the discharge of pollutants into Clear Lake and enhance water quality. The LCCWP collectively makes decisions and recommends management or funding actions that can achieve compliance with the NPDES permit and improve storm water management within Lake County (Clarkdale 2022).

Clean Water Program's Low Impact Development Standards Manual

The LCCWP's Low Impact Development Standards Manual provides technical guidance for project applicants whose projects require conformance with the Phase II Small MS4 General Permit. The target audience for the manual includes developers, designers, contractors, homeowners, and County staff engaged in plan checking, permitting, and inspections related to land development activities. The manual includes:

- Basic information on the Phase II Small MS4 General Permit and its objectives.
- Assistance with determining whether a project is subject to the Phase II Small MS4 General Permit regulations.
- Ways to reduce the volume of stormwater runoff from a project site using Site Design Measures.
- Methods to reduce storm water contamination from operations on a project site using Source Control Measures.
- An introduction to Low Impact Development (LID) and resources to assist with site design incorporating LID measures.
- Explanation of a project applicant's responsibility for the operations and maintenance of bioretention features (LCCWP 2015).

Watershed Protection District

The Lake County Watershed Protection District (LCWPD) administers the NFIP for Lake County, manages the municipal stormwater program and plans and implements flood-control projects, aerial photography, groundwater management planning, watershed management planning, and development of grant proposals. The LCWPD is responsible for maintaining 10.5 miles of levees and 13.4 miles of creeks and a groundwater detention structure on Kelsey Creek. The LCPWD also operates and maintains the Adobe Creek Reservoir, the Highland Creek Reservoir, and the Highland Springs Park, and administers the Invasive Mussel Prevention Program (Lake County WPD 2025a).

Clear Lake Watershed Management Plan

The Clear Lake Integrated Watershed Management Plan (CLIWMP) was developed by the Water Resources Department of Lake County Department of Public Works in 2010. The goal of the CLIWMP is to maintain an environmentally and economically healthy watershed that is sustainable for future generations. The CLIWMP describes past and current conditions of the watershed, provides a program for watershed management, and identifies specific actions for implementation. The CLIWMP addresses water resources, land use impacts, wildlife and habitat resources, recreation and aesthetics, invasive species, lake floodplain management, shoreline ordinances, and climate change (LCWRD 2010). In addition to the CLIWMP, watershed assessments were also prepared for the Kelsey, Scotts, and Middle Creek watersheds by the Water Resources Department.

Big Valley Basin Groundwater Sustainability Plan

The Big Valley Basin Groundwater Sustainability Plan (Big Valley Basin GSP) verifies and maintains sustainable groundwater management in the Big Valley groundwater basin by meeting the regulatory requirements of the SGMA. The Big Valley groundwater basin was identified as a medium-priority basin by DWR based on components such as population and groundwater use; therefore, it is subject to the SGMA. The Big Valley Basin GSP was developed by the Lake County Watershed Protection District, which serves as the sole GSA in the Big Valley groundwater basin. The GSA has jurisdiction over most of the region, excluding the portion containing the Big Valley Rancheria which is governed by the Big Valley Band of Pomo Indians of the Big Valley Rancheria, a federally recognized tribe (Luhdorff & Scalmanini and Stantec 2022). The Big Valley Basin GSP was approved by DWR in 2022.

Groundwater Management Plan

To address water supply reliability and water quality issues, the LCWPD developed a Groundwater Management Plan in 2006 to provide guidance in managing the groundwater resources in Lake County. This document was prepared prior to the development of the Big Valley GSP but is still relevant in addressing the other 11 groundwater basins within Lake County. The Groundwater Management Plan also addresses one groundwater source area, designated as the Clear Lake Volcanics Groundwater Source Area. The Groundwater Management Plan provides a description of the geology and land use of the area, basin management objectives for each groundwater basin that address groundwater levels, groundwater quality and land subsidence, proposed groundwater monitoring program, and groundwater recharge projects (CDM 2006).

Hydrology Design Standards

The Lake County Hydrology Design Standards provide design criteria and the methodology used to estimate peak flows for drainages within Lake County. These standards should be utilized for estimating flows in minor waterways (drainage areas less than one square mile) with time of

concentrations of less than two hours. The design standards include design criteria for waterways, roadways, and hydrologic design (WRD 1999).

Watershed-Based Nonpoint Source Stormwater Management Development Plan

The Lake County Watershed-Based Nonpoint Source Management Plan identifies and prioritizes management practices designed to capture, retain, and limit sediment loads from the landscape in Lake County to improve water quality of tributaries and direct storm water discharges to Clear Lake and watersheds located within Lake County.

Implementation Plan to Meet State Waterboard's Trash Provision

The purpose of the Lake County *Implementation Plan to Meet State Waterboard's Trash Provision* (Track 2) is to fulfill the requirements of the Water Code Section 13383 Order to submit Method to Comply with Statewide Trash Provisions for traditional small municipal separate storm sewer system (MS4) permittees. The Trash Provision requires Phase II MS4 permittees with regulatory authority over Priority Land Uses (PLUs) to select a method of compliance with the trash prohibition. Lake County selected the Track 2 compliance method. Track 2 compliance requires the permittees to select priority land uses or use those defined by the state where implementation of a combination of controls will achieve Full Capture System Equivalency (FCSE) when measuring pre-implementation and post implementation trash generation rates. Combination of controls includes either structural or source controls and/ or combinations of both to reduce trash generation or remove trash from entering waterways (LCCWP 2019).

Multi-Jurisdictional Hazard Mitigation Plan

The purpose of the Lake County Multi-Jurisdictional Hazard Mitigation Plan (MJHMP) is to reduce and/or eliminate the impacts to life, property, and the environment from hazards. Hazard mitigation planning efforts result in a hazard mitigation plan that details potential hazards, risks, and mitigation goals/objectives. The Lake County MJHMP was last updated and approved by FEMA in 2025. The plan is required to be updated every five years to remain current. The potential events discussed in the MJHMP that pertain to hydrology and water quality include:

- Dam and Levee Failure
- Drought
- Flooding
- Severe Weather
- Climate Change (Lake County OES 2025)

3.10.2 Existing Conditions

COUNTYWIDE AREA

Topography and Climate

Lake County is characterized by diversified topography. Its southern portion is typical California foothill country, with rolling hills and level valleys; the central portion is dominated by the Clear Lake depression; and its northern sector is mostly rugged mountains. Elevations range from approximately 600 feet, where Putah Creek crosses the southeastern county boundary, to over 7,000 feet at Snow Mountain on the eastern boundary. Much of the terrain in headwater areas, especially in the northern sector, is quite steep.

The climate in Lake County tends to vary widely due to changes in topography. Overall, the county typically experiences warm, dry summers and cool winters with moderate precipitation. Based on weather measurements taken in the Cities of Lakeport and Clearlake, the Clear Lake basin has an average annual low and high temperature of 41 degrees Fahrenheit (°F) and 72°F, respectively. The recorded highest temperature is 112°F and the recorded lowest is 14°F, with temperatures typically ranging from a low of approximately 30°F in the winter to a high of over 100°F in the summer. Historic rainfall records show an annual average of 28.4 inches in the City of Lakeport and 26.8 inches in the City of Clearlake. At the base of Cobb Mountain, temperatures range from a low of 17°F to a high of 96°F with an average rainfall of 64 inches per year (Lake County OES 2025).

Although relatively infrequent, snowfall is possible in the winter months but is typically limited to the higher elevations in the county. If snowfall does occur in the lower elevations, it usually dissipates by midday. The county tends to experience light winds due to the sheltering effect of the surrounding mountains. During the winter, winds tend to vary more in their direction. Like other coastal areas in California, the county occasionally receives marine air from the Pacific Ocean that helps to temper the climate (Lake County OES 2025).

Regional Hydrology

There are five major watersheds in the County: Upper Main Eel River in the north, Upper Cache Creek in the central-western portion of Lake County, Upper Putah Creek in the south, North Fork Cache Creek in the central-eastern portion of Lake County, and Middle Cache Creek in the southeast (see Figure 3.10-1, *Watersheds*).

Water bodies within Lake County include Indian Valley Reservoir, Detert Reservoir, Highland Springs Reservoir, Adobe Reservoir, Boggs Lake, Snows Lake, Lake Pillsbury, Thurston Lake, Amel Lake, Bordeaux Lake, Hidden Valley Lake, Burgundy Lake, Stienhart Lakes, Lower Bohn Lake, Blue Lakes, Lower Blue Lakes, McCreary Lake, Tule Lake, Borax Lake, Little Borax Lake, Ely Flat, Rodman Slough, and McGaugh Slough (Potter Valley Irrigation District 2024). Upper Bohn Lake is

partially located within the county. Additionally, Clear Lake, the largest natural lake within California, is in the middle of Lake County.

The Geysers geothermal field is located south of Clear Lake in the Clear Lake volcanics. A large silicic magma chamber (approximately 8.7 miles in diameter) lies about 4.3 miles below the surface, providing heat for the geothermal field. The magma chamber is the source of heat for numerous thermal springs in the area and for hydrothermal ore deposits, such as the Sulphur Bank Mercury Mine, which is an active Superfund site. The Geysers steam fields extend across northeastern Sonoma County and southern Lake County. There are currently approximately 60 geothermal wells and one geothermal power plant in this area (Kennedy/Jenk 2019).

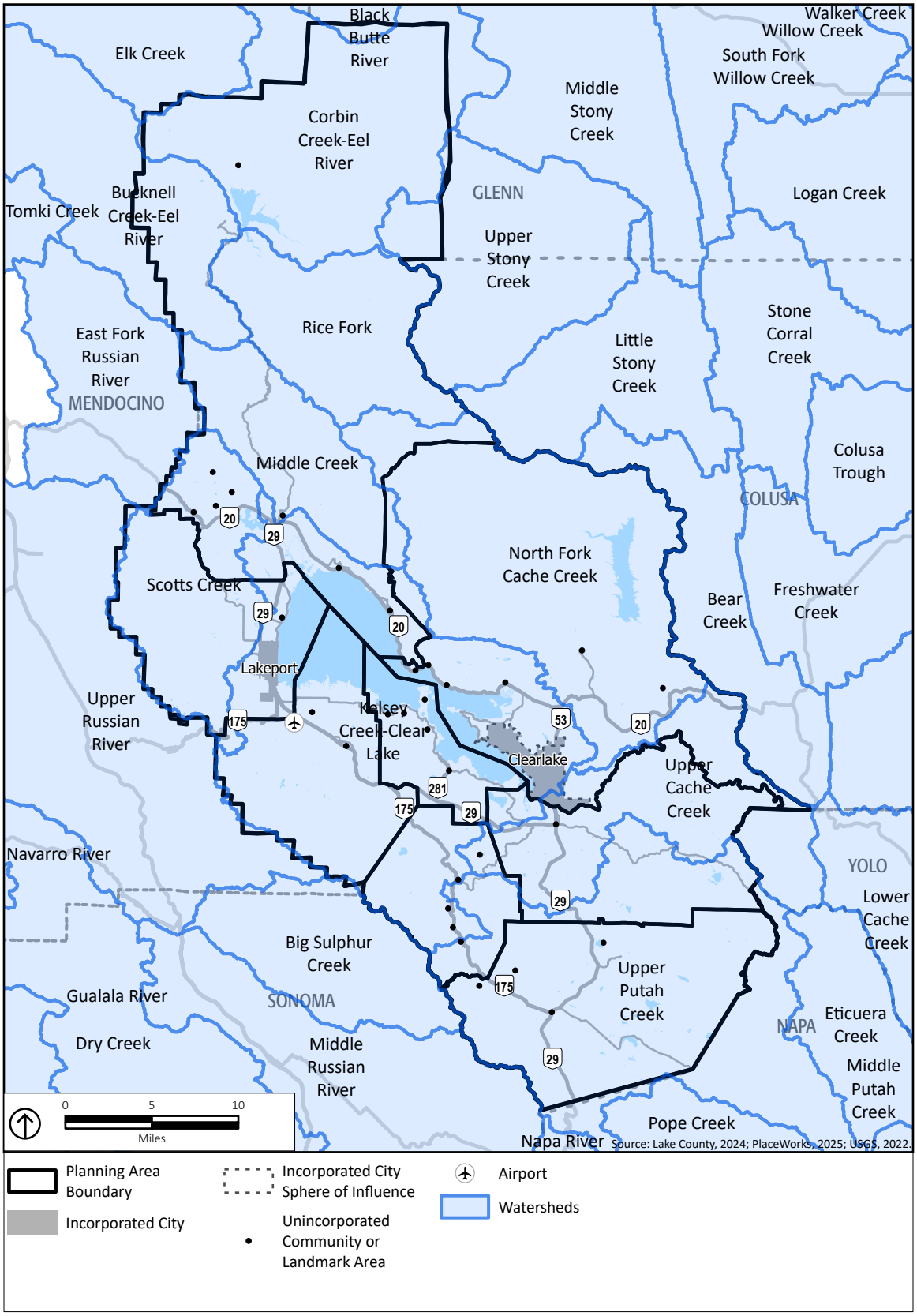

Figure 3.10-1
Watersheds

Upper Main Eel River Watershed

The Eel River is a major river that originates in the North Lake Communities Planning Area and flows northwest through Mendocino County, Trinity County and Humboldt County before flowing into the Pacific Ocean. Approximately 200 miles long, it drains a rugged area in the California Coast Range. The river has both State and Federal Wild and Scenic River status. The Upper Eel River's watershed of 3,971 square miles is the third largest watershed that is entirely in California. The river and its tributaries total 3,448 river miles, flowing through Lake, Mendocino, Humboldt, and Trinity counties. Eel River flows into Lake Pillsbury within Lake County

Upper Cache Creek Watershed

The Upper Cache Creek watershed encompasses approximately 745,600 acres. Cache Creek starts at the outlet of Clear Lake. In addition to the recreational use of Clear Lake, there are numerous trailheads, parks, and campgrounds along the Cache River, with whitewater rafting in the spring and summer, and the Cache Creek Nature Preserve, and water supply. Cache Creek was added to California's Wild and Scenic Rivers system in 2005.

The Clear Lake subwatershed includes Clear Lake, which is an important source of domestic and agricultural water supplies, supports extensive recreational fishing and boating activities, and is home to a diverse population of fish and wildlife with more than one million acre-feet (AF) of storage. The Cache Creek dam is approximately 5 miles downstream of the outlet from Clear Lake and controls the level of Clear Lake in accordance with the Gopcevic, Bemmerly, and Solano Decrees. The Cache Creek dam was built by the Yolo Water and Power Company. This reinforced concrete gravity dam is now owned and operated by Yolo County Flood Control and Water Conservation District (YCFCWCD) (LCWRD 2010).

Upper Putah Creek Watershed

The Upper Putah Creek watershed is in the southern portion of Lake County and encompasses approximately 418,560 acres, extending from an elevation of 4,700 feet at Cobb Mountain in Lake County southeast for about 50 miles to the Yolo Bypass in Yolo County, at an elevation a few feet above sea level. It passes through the Cobb Mountain Area and the Middletown Area south of Hidden Valley and through Coyote Valley before exiting Lake County. Tributaries to Putah Creek within Lake County include Harbin Creek, Big Canyon Creek, Saint Helena Creek, Dry Creek, Coyote Creek, and Soda Creek. From Lake County, Putah Creek flows into Napa County and Lake Berryessa, then eventually into the Yolo Bypass and the Sacramento River.

North Fork Cache Creek Watershed

The North Fork Cache Creek watershed is in the central-eastern portion of Lake County. The North Fork Cache Creek starts in the Mendocino National Forest north of Clear Lake and flows into the Indian Valley Reservoir. YCFCWCD owns and operates the Indian Valley Dam on the North Fork Cache Creek, which forms the Indian Valley Reservoir. Indian Valley Reservoir is located 11 miles downstream from the mouth of North Fork Cache Creek and has a total storage capacity of 300,600 AF, of which 40,000 AF is dedicated to flood control. The reservoir provides recreational opportunities including boating, fishing, hiking, and camping and the watershed includes a portion of the Cache Creek Wilderness Area. The North Fork Cache Creek flows out of Indian Valley Reservoir, flows west for about 2 miles and then south and eventually connects to Lower Cache Creek. Other rivers in the watershed include Wolf Creek, Long Valley Creek, and Middle Creek.

Middle Cache Creek Watershed

The Middle Cache Creek Watershed is a relatively small area between North Fork Cache Creek Watershed to the north and the Upper Putah Creek Watershed to the south. The Lower Cache Creek flows through the middle of the watershed. The tributaries that connect to Lower Cache Creek include Harley Gulch, Rocky Creek, and Brush Creek. Most of the watershed is within the Cache Creek Wilderness Area managed by the Bureau of Land Management, which is primarily mountainous and hilly terrain. Recreational opportunities include wildlife viewing, whitewater rafting, hiking, and fishing.

Clear Lake

Clear Lake is the largest natural freshwater lake located entirely in California. It drains to the east via Cache Creek and eventually to the Sacramento River. The Cache Creek Dam, which is approximately five miles downstream, regulates water storage in the lake and is operated by the YCFCWCD, which has water rights for up to 150,000 AF. Most of the flow of the tributaries into Clear Lake occurs during winter months, and by mid-summer flow into Clear Lake ceases. The major tributaries to Clear Lake are Scotts and Middle Creeks entering the lake at Rodman Slough to the northwest and Kelsey Creek in Big Valley to the south. Combined stream flow from these tributaries is estimated to be 73 percent of the total stream flow into Clear Lake. Other significant streams flowing into Clear Lake include Manning, Adobe, and Cole Creeks in Big Valley, Seigler Canyon, Copsey, and Herndon Creeks entering the lake to the southeast just above the Cache Creek Dam, Burns Valley Creek in the City of Clearlake, and Schindler Creek draining High Valley through Clearlake Oaks (LCWRD 2010).Clear Lake is an important resource for recreation and tourism, fish and wildlife habitat, and municipal, domestic, and agricultural water supply.

The lake is shallow and eutrophic (high in nutrients), which results in nuisance blue-green algae blooms. High sediment loads during storm events create difficulties for water treatment plants that use Clear Water for their water supply. Mining activities at the Sulfur Bank Mine along the shore of Clear Lake continued until 1957, resulting in large quantities of mercury deposition in the lake and a fish consumption advisory. The mine was declared a Superfund site and a remediation program has been implemented by USEPA to control erosion from mine tailings and divert stormwater from entering the lake. The mine cleanup is ongoing. The nuisance algal blooms and mercury contamination resulted in Clear Lake being listed as an "impaired water body" under Section 303d of the Clean Water Act and the adoption of mercury and nutrient limits, known as Total Maximum Daily Loads (TMDLs) in 2002 and 2006, respectively. Lake County initiated a monitoring program in 2006 to estimate annual nutrient loading to Clear Lake (LCWRD 2010).

In 1992, the water clarity of Clear Lake improved significantly. However, this resulted in an increase in aquatic growth that restricted swimming, boating, and other recreational activities. As a result, the Clear Lake Integrated Aquatic Plant Management Plan was implemented in 2005. In 2006, the Clear Lake Integrated Aquatic Plant Management Program Ordinance was adopted and requires landowners to pay for a permit and hire only license and registered qualified applicators to apply herbicides. Lakefront owners can also apply for a permit to mechanically harvest aquatic plants. However, harvesting is prohibited with 0.25 miles of any area where hydrilla, an invasive aquatic plant, has been found in the last six years. Also, in 2006, Lake County adopted an ordinance prohibiting the sale or introduction of non-native, invasive aquatic plants (LCWRD 2010).

Recently, the number of blue-green algae blooms have increased. These blooms of cyanobacteria typically occur in the spring and late summer. The algae blooms result in decreased oxygen levels in the lake, which led to a massive fish die-off in 2017. As a result of this event, a 15-member Blue Ribbon Committee for the Rehabilitation of Clear Lake was formed, including representatives from Tribes, Lake County, UC Davis, and the Central Valley RWQCB. The Committee is charged with making recommendations for rehabilitating Clear Lake, which is vital to Lake County's economy, ecosystem, and heritage. The State of California's ongoing investments in Clear Lake include a $2 million research contract with UC Davis, $5 million in voter-approved bonds from Proposition 68, and a recent $15 million investment to aid in the Middle Creek Restoration project (California Natural Resources Agency 2024).

Keeping nutrient-rich runoff from seeping into the lake is a first step, as it reduces the levels of nutrients fueling the algae blooms. But it is difficult to implement and enforce these measures, and scientists state that most of the phosphorus driving the harmful algae blooms has already accumulated in the sediment. One approach that UC Davis is investigating is to inject pure oxygen into the lake bottom to slow the release of phosphorus from the sediment. Although this approach has been successfully used in other ecosystems to reduce algal blooms, the technology is expensive and has to be regularly maintained. Another team, led by the Tribal

EcoRestoration Alliance, is looking to restore native tule along the lake's edges. Tule acts as a natural water filter for the lake and is culturally important to the tribes. Another approach is to eliminate the millions of pounds of carp in Clear Lake. These introduced fish kick up massive amounts of sediment while foraging and spawning, unlocking pollutants from the lake bottom. Managing the carp population by removing or poisoning them has been effective in improving water quality at other lakes. Another reason for removing the carp is that they uproot tule and feed on native fish, such as the threatened hitch (Nguyen 2023).

Water Quality

Water quality in Lake County is monitored by the Central Valley RWQCB through implementation of the Basin Plan. The Basin Plan designates beneficial uses for surface water bodies and groundwater within Lake County, water quality objectives, and strategies for achieving these objectives. Table 3.10-1, *Beneficial Uses for Surface Waters in Lake County*, provides the designated beneficial uses for surface water in the county.

Table 3.10-1 Beneficial Uses for Surface Waters in Lake County

Water Body	Beneficial Uses										
							Freshwater Habitat		SPWN		
	MUN	AGR	PRO	IND	REC-1	REC-2	Warm	Cold	Warm	Cold	WILD
Clear Lake	E	E			E	E	E	P	E		E
Clear Lake to Yolo Pass	E	E	E	E	E	E	E	P	E	E	E

Source: Central Valley RWQCB 2019.

Notes:

E = Existing Beneficial Uses. P = Potential Beneficial Uses.

Municipal and Domestic Supply (MUN) – Uses of water for community, military, or individual water supply systems including, but not limited to, drinking water supply.

Agriculture (AGR) – Uses of water for farming, horticulture, or ranching including, but not limited to, irrigation (including leaching of salts), stock watering, or support of vegetation for range grazing.

Industrial Process Supply (PRO) - Uses of water for industrial activities that depend primarily on water quality.

Industrial Service Supply (IND) – Uses of water for industrial activities that do not depend primarily on water quality including, but not limited to, mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection, or oil well re-pressurization.

Water Contact Recreation (REC-1) – Uses of water for recreational activities involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, whitewater activities, fishing, or use of natural hot springs.

Non-Contact Water Recreation (REC-2) – Uses of water for recreational activities involving proximity to water, but not normally involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tidepool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities.

Freshwater Habitat (WARM) – Uses of water that support warm water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.

Freshwater Habitat (COLD) – Includes uses of water that support cold water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.

Fish Spawning (SPWN) – Includes uses of water that support high quality aquatic habitats suitable for reproduction and early development of fish.

Wildlife Habitat (WILD) – Uses of water that support terrestrial ecosystems including, but not limited to, preservation and enhancement of terrestrial habitats, vegetation, wildlife (e.g., mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources.

All groundwater in the Basin is considered suitable or potentially suitable for municipal and domestic water supply (MUN), agricultural supply (AGR), industrial service supply (IND), and industrial process supply (PRO).

Section 303(d) of the CWA requires states to identify the water bodies that do not meet established water quality standards under traditional point source controls and are listed as impaired under Section 303(d) of the CWA. There are 19 waterbodies within Lake County listed as impaired water bodies, as shown in Table 3.10-2, *Impaired Water Bodies in Lake County.* The table also provides the TMDL status for each pollutant.

Table 3.10-2 Impaired Water Bodies in Lake County

Waterbody	303 (d) List Impairments	TMDL Status/Project
Adobe Creek	Dissolved Oxygen	2035 Expected TMDL Completion Date
Blue Lakes	Mercury	2037 Expected TMDL Completion Date
Burns Valley Creek	Dissolved Oxygen	2035 Expected TMDL Completion Date
Cache Creek – Lower	Dissolved Oxygen Boron Toxicity pH Mercury	2035 Expected TMDL 2021 Expected TMDL 2019 Expected TMDL 2027 Expected TMDL TMDL approved in 2007
Cache Creek – North Fork	Benthic Community Effects	2034 Expected TMDL Completion Date
	Boron	2035 Expected TMDL Completion Date
Clear Lake	Lead	2033 Expected TMDL Completion Date
	Microcystins	2035 Expected TMDL Completion Date
	Dissolved Oxygen	2035 Expected TMDL Completion Date
	pH	2033 Expected TMDL Completion Date
	Mercury	September 26, 2003, Date TMDL Approved by USEPA
	Boron	2033 Expected TMDL Completion Date
	Nutrients	September 21, 2007, Date TMDL Approved by USEPA

Table 3.10-2 Impaired Water Bodies in Lake County

Waterbody	303 (d) List Impairments	TMDL Status/Project
Cole Creek	Dissolved Oxygen	2035 Expected TMDL Completion Date
Forbes Creek	Aluminum	2037 Expected TMDL Completion Date
	Dissolved Oxygen	2035 Expected TMDL Completion Date
Harley Gulch	Mercury	February 6, 2007, Date TMDL Approved by USEPA
Indian Valley Reservoir	Mercury	2027 Expected TMDL Completion Date
	Dissolved Oxygen	2035 Expected TMDL Completion Date
Kelsey Creek	Aluminum	2037 Expected TMDL Completion Date
Lower Blue Lake	Mercury	2027 Expected TMDL Completion Date
Manning Creek	Aluminum	2037 Expected TMDL Completion Date
McGaugh Slough	Dissolved Oxygen	2035 Expected TMDL Completion Date
Middle Creek	Dissolved Oxygen	2037 Expected TMDL Completion Date
Rodman Slough	Dissolved Oxygen PH	2035 Expected TMDL Completion Date
Rumsey Slough	Dissolved Oxygen	2037 Expected TMDL Completion Date
Stanton Creek	Benthic Community Effects	2034 Expected TMDL Completion Date
	pH	2033 Expected TMDL Completion Date
Turkey Creek	Mercury	2037 Expected TMDL Completion Date

Source: SWRCB 2024.

Groundwater

Most of the water purveyors that are not near Clear Lake or other surface water bodies obtain their water supplies from groundwater wells. There are approximately 3,881 groundwater wells in Lake County (DWR 2025a). Most of the wells are domestic (80 percent) and irrigation (17.5 percent) wells. There also are 98 public supply wells in Lake County, with most of the wells serving community water systems. Most of the groundwater wells are in the Big Valley Groundwater Basin, the Scotts Valley Groundwater Basin, and the Clear Lake Pleistocene Volcanics source area. However, there also are over one hundred wells in the Collayomi Valley and Upper Lake Valley Groundwater Basins.

There are twelve groundwater basins and one groundwater source area within Lake County. Most of the groundwater basins are isolated and not contiguous; however, some of the groundwater basins around Clear Lake are adjacent to each other. The major groundwater basin is Big Valley.

The other groundwater basins are classified as very low-priority basins and do not require preparation of GSPs. Scotts Valley, Clear Lake Cache Formation, Upper Lake Valley, Collayomi Valley, and Coyote Valley are relatively large in terms of surface area. The smaller groundwater

basins are Middle Creek, High Valley, Burns Valley, Long Valley, and Lower Lake Valley. The locations of the groundwater basins are shown on Figure 3.10-2, *Groundwater Basins in Lake County*.

All groundwater in the Central Valley Region is considered as suitable or potentially suitable, at a minimum, for municipal and domestic water supply, agricultural supply, industrial service supply, and industrial process supply (Central Valley RWQCB 2019). None of the groundwater basins are adjudicated and none are in a critical overdraft condition. There are two GSAs in Lake County, the Big Valley GSA and the Scotts Valley GSA. However, the Scotts Valley GSA is not associated with a GSP.

Big Valley Groundwater Basin

The Big Valley groundwater basin is a 37.8 square mile (24,227 acres) area south and adjacent to Clear Lake. Big Valley groundwater basin is bordered by Clear Lake to the north and the Scotts Valley groundwater basin to the northwest. The Big Valley groundwater basin is at most six miles wide and approximately eight miles long. The ground surface in the northern portion of the basin gently slopes to the north towards Clear Lake. DWR estimates the storage capacity of the basin to be 105,000 AF, with usable groundwater storage of approximately 60,000 AF. The basin is the source of water supply for Kelseyville and supports the agricultural area in Lake County.

Groundwater is extracted from the basin through wells. Production wells are more frequently found in the central and northern portion of the basin and range from 42 to 421 feet in depth. However, most production wells are about 150 to 160 feet deep on average. Domestic wells are not as deep and range from 42 to 292 feet in depth. Domestic wells are located throughout the basin but are heavily concentrated around Kelsey Creek.

Total water use is an estimated 12,944 acre-feet per year (AFY). Most of the water is used for agricultural purposes, with the remainder used by municipal and domestic water users. Agricultural irrigation is supplied mostly from groundwater sources, with limited amounts from surface water. Municipal water from Kelseyville County Water Works District No.3 (KCWWD #3) and rural domestic water are exclusively supplied from groundwater. There are no incorporated cities within the Big Valley groundwater basin. There is one large community, Kelseyville, and one small community, Finley. The communities of Kelseyville, Finley, Lands End, and part of the Big Valley Rancheria receive water from groundwater wells owned and operated by KCWWD #3. Other portions of the Big Valley Rancheria are supplied by the Big Valley Rancheria Water District’s two public water systems.

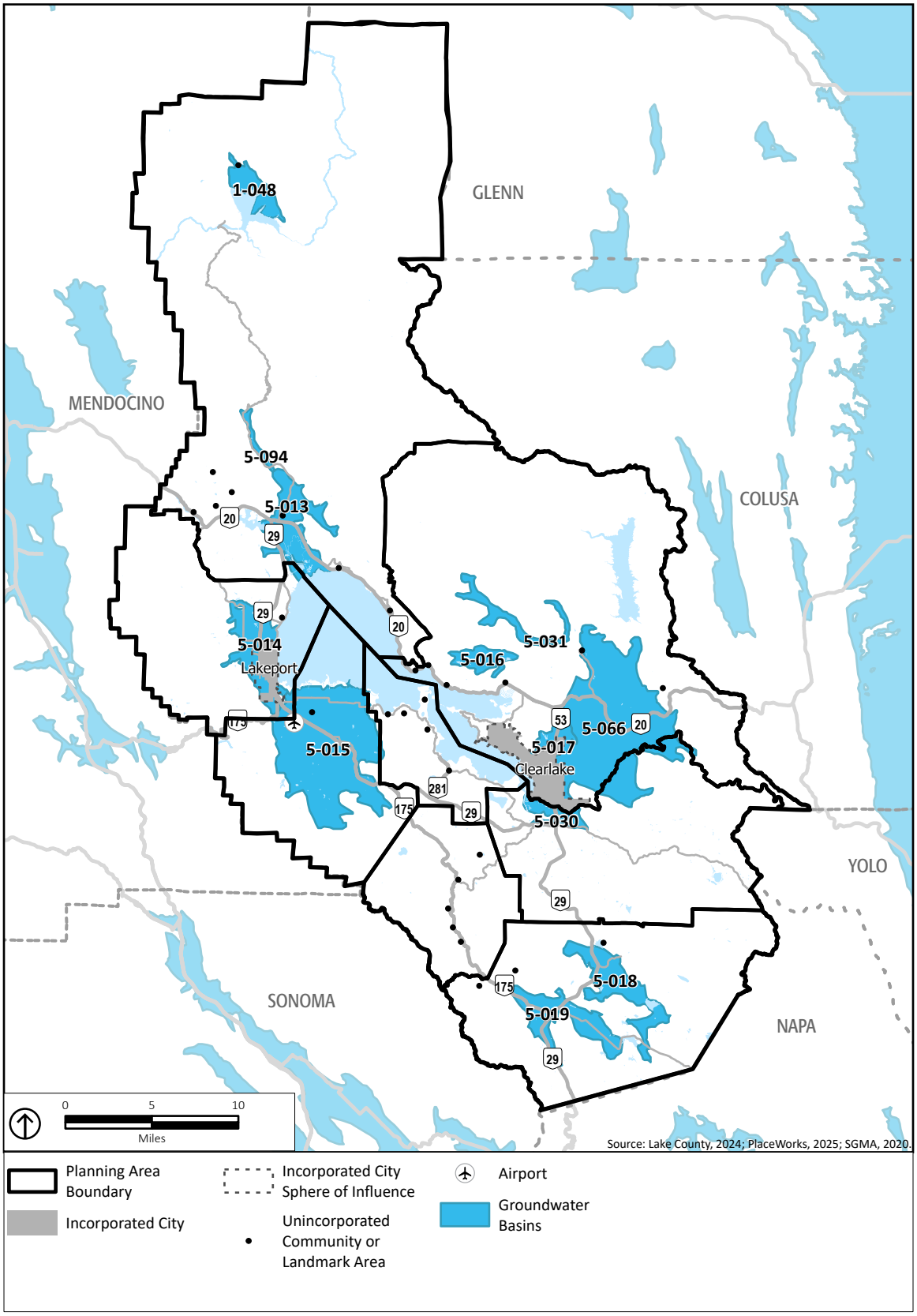

Figure 3.10-2
Groundwater Basins

Existing recharge in the basin outside of stream recharge and subsurface groundwater flow occurs primarily from deep percolation of rainfall and irrigation water. Recharge occurring from the land can be impacted by land use practices, as changes to the land surface (such as paving or building) can reduce the amount of recharge, as can changes in irrigation practices. The primary factors that influence recharge in the basin are the presence of water and subsurface conditions that are conducive to recharge. Thus, areas that are extensively irrigated and areas that are underlain by coarser-grained soils tend to have more recharge. Land within the basin generally has finer-grained surficial soils, however, there are localized areas of course-grained soils along the major and some of the minor streams, such as Adobe Creek and Thompson Creek, where the potential for recharge is much greater. Areas of discharge occur along the major and minor stream channels where they traverse areas that are underlain by finer grained soils. In these areas recharge is limited and surface water runoff discharges into Clear Lake. Likewise, the potential for runoff during high intensity precipitation events in this area is higher and leads to runoff into nearby drainages which discharge into Clear Lake (Luhdorff & Scalmanini and Stantec 2022).

Scotts Valley Groundwater Basin

The Scotts Valley groundwater basin covers 7,320 acres and supplies water to the City of Lakeport and adjacent areas. The basin includes Scotts Valley Basin, the foothills between Scotts Valley and Clear Lake, and the foothills immediately to the south of Lakeport. DWR estimates the storage capacity of the basin to be 5,900 AF, with usable groundwater storage of approximately 4,500 AF. The basin is adjacent to Big Valley groundwater basin (Luhdorff & Scalmanini and Stantec 2022).

The aquifer system in Scotts Valley groundwater basin is composed primarily of Quaternary alluvial and terrace deposits, and Plio-Pleistocene to Pleistocene Lake and floodplain deposits. Plio-pleistocene Cache Formation sediments overlie bedrock. The channel deposits of Scotts Creek and the uppermost valley deposits in the southern portion of basin are composed of Quaternary alluvium. The active channel of Scotts Creek is underlain by uncemented gravel and sand, with silt and clay lenses. Sands and gravels within the alluvium have moderate to high permeability while the silt and clay lenses have a relatively low permeability. In the southern part of the valley, gravels and clays are interbedded at shallower depths representing portions of former stream channels. Wells extract variable amounts of water from these zones. Surficial lake deposits of sandy and silty clay are in the northern portion of the basin. Underlying these deposits is a fairly continuous gravel stratum in which water is under artesian pressure. Groundwater is confined in the northern portion of the valley and is essentially unconfined in the southern portion.

Recharge to the confined aquifer takes place in the forebay or unconfined zone in the southern portion of the valley. Percolation from Scotts Creek is the principal source of recharge with minor amounts from precipitation and applied irrigation water (DWR 2004j).

Upper Lake Valley Groundwater Basin

The Upper Lake groundwater basin is an irregularly shaped basin at the north end of Clear Lake that includes Middle Creek Valley, Clover Valley, and Bachelor Valley, all of which extend to a main central valley opening to the south to Clear Lake. Middle Creek Valley and Clover Valley are bounded by Middle Mountain to the west and Pitney and Hogback Ridges to the east.

The aquifer system in the Upper Lake groundwater basin is composed primarily of Quaternary alluvial deposits and Pleistocene terrace, lake, and floodplain deposits. The alluvium, lake, and floodplain deposits fill the valleys and contain nearly all water yielded to wells. The older Cretaceous and Jurassic formations generally form the uplands surrounding the alluvial basin. Groundwater within bedrock mainly occurs in near surface fractures along the lower hills. Bedrock units and terrace deposits yield very little water to wells. Recharge of the principal aquifer is from Middle Creek, Clover Creek, and Alley Creek (DWR 2004k).

Clear Lake Cache Formation Groundwater Basin

The Clear Lake Cache Formation groundwater basin is east of Clear Lake and shares a basin boundary with the Burns Valley groundwater basin to the southwest. The basin is bounded to the south by lower Cretaceous marine and Knoxville Formation deposits and Mesozoic ultra-basic intrusive rocks. The basin is bounded to the east by lower Cretaceous marine deposits and to the north and west by rocks of the Franciscan Formation. The basin is drained by the North Fork Cache Creek and by Cache Creek. Faulting is observed along portions of the western and southern boundaries.

The Clear Lake Cache Formation is largely made up of lake deposits. The formation consists of tuffaceous and diatomaceous sands and silts, limestone, gravel, and intercalated volcanic rocks. The permeability of the formation is generally low (DWR 2004b).

Gravelly Valley Groundwater Basin

The Gravelly Valley groundwater basin is located approximately 22 miles northeast of Ukiah and consists of Quaternary alluvium and lake deposits. The basin is bounded to the west by Lake Pillsbury and on all other sides by rocks of the Franciscan Formation. Lake Pillsbury is a reservoir formed by Scott Dam on the main stem of the Eel River (DWR 2004). The reservoir has a surface area of approximately 3 square miles, a lake level of approximately 1,800 feet, and a storage capacity of 87,000 AF (DWR 2004d).

Collayomi Groundwater Basin

The Collayomi groundwater basin includes both Collayomi Valley and Long Valley in the headwater area of Putah Creek. The two northwest-southeast trending valleys are considered a single groundwater basin due to their hydrologic continuity. The basin is bounded to the south

by Jurassic-Cretaceous Franciscan, Knoxville, and volcanic rocks; to the west by undifferentiated Cretaceous rocks and Jurassic volcanic rock; to the north and northeast by Plio-Pleistocene Olivine basalt; and to the east by Jurassic volcanics. The basin is underlain by non-water-bearing sedimentary rocks of Jurassic-Cretaceous Franciscan-Knoxville formations which are capped locally by volcanic rocks. The basin boundary coincides with the edge of the valley floor except where water-bearing landslide debris and Quaternary basalt extend from beneath the valley floor into the uplands.

Nearly all groundwater throughout the Collayomi Basin occurs in Quaternary alluvium deposited as alluvial fans of shallow grade and in the gravel channels of Putah Creek, Saint Helena Creek, and their tributaries. Groundwater occurs in a series of confined, semi-confined, and unconfined layers and lenses of permeable or semi-impermeable materials that are partially merged and interconnected. There is no evidence of any well-defined aquifer of any great areal extent within the basin. Pleistocene volcanics may also be a source of groundwater in the basin; however, no information is available on storage capacities and well yields within these units. Quaternary alluvium in Collayomi Valley and Long Valley consists primarily of fine-grained deposits of clay and silt. However, alluvium in Collayomi Valley contains some coarse gravel channels and is more conducive to groundwater development in the basin. Along the channels of Putah and Saint Helena Creeks, visible shallow deposits consist of fine sand to coarse cobbles and boulders with clean coarse gravel being dominant. In Long Valley, wells within the alluvial plain consist primarily of fine-grain material with low yields.

The major source of recharge to the Collayomi Basin is from percolation of streamflow in Putah Creek, Dry Creek, and Saint Helena Creek, although some recharge is derived from infiltration of rainfall and irrigation return flows. Only minor quantities of surface streamflow are available for recharge in the Long Valley portion of the basin; however, streamflow may be impeded by hardpan conditions near the ground surface (DWR 2004c).

Coyote Valley Groundwater Basin

Coyote Valley is a northwest-southeast trending groundwater basin within the southeastern portion of Lake County along Putah Creek about 4 miles northeast of Middletown. The groundwater basin is approximately 5 miles long and a maximum of 2.5 miles in width. The alluvial plain of the groundwater basin is bounded by sediments of the Jurassic-Cretaceous Franciscan-Knoxville groups and undifferentiated Cretaceous rocks on the west and northwest. The south and southeastern part of the valley is nearly isolated by low hills of basalt of Upper Jurassic age. The Plio-Pleistocene Cache Formation outcrops along the northern edge of the valley and Plio-Pleistocene basalt outcrops are observed at the northeastern valley edge valley.

The aquifer system of Coyote Valley groundwater basin is primarily composed of Quaternary Holocene alluvial deposits and, to a much lesser extent, Plio-Pleistocene Cache Formation deposits. Holocene alluvium within the valley overlies the Cache Formation and is the primary

water-bearing unit in the basin. The alluvium is made up of floodplain and channel deposits of Putah Creek and gently sloping alluvial fan deposits in the southwestern lobe of the valley and at the valley margins. The deposits consist of poorly stratified sand, gravel, and fine-grained material. The most productive strata are gravels that occur in sheets and stringers between beds of silty and sandy clay. Volcanic rocks and underlying tuffaceous deposits (Upper Cache Formation) exist along the north edge and in the southeastern part of the valley and may be water bearing. The tuffaceous deposits are poorly consolidated and apparently lie at considerable depth beneath the hills to the northeast, where they are overlain by, and possibly interbedded with, basaltic flows. The Cache Formation outcrops on the northeast edge of Coyote Valley and probably underlies much of the Holocene alluvium. It is composed of gravel, silt, and sand, and near the top of the section, water–laid tuffs and tuffaceous sands become dominant. The permeability in the Cache formation is variable, but generally low. Most of the strata are too high in clay or silt for water movement to be great. Groundwater flow through a few coarse sedimentary strata and volcanic deposits may be appreciable.

The major source of groundwater recharge is from Putah Creek. Lesser amounts of recharge occur from precipitation upon the alluvial plain and from side-stream runoff (DWR 2004d).

Middle Creek Groundwater Basin

Middle Creek Groundwater Basin is a very small (only about one square mile) basin located west of Pitney Ridge and east of Middle Mountain. The basin consists of Quaternary alluvium and is likely in hydraulic conductivity with the Upper Lake Groundwater Basin, which is adjacent to the south. There is limited information about the water bearing formations and groundwater storage. There are 11 wells in this groundwater basin, which are primarily used for agricultural purposes (DWR 2004i).

High Valley Groundwater Basin

High Valley Groundwater Basin is a small, poorly drained, isolated basin about two miles north of Clearlake Oaks and is about four square miles in area. The only outlet is the narrow gorge of Schindler Creek in the southeast corner of the basin. The aquifer is composed primarily of Quaternary alluvial deposits and Holocene volcanic deposits. DWR estimates the storage capacity to be about 9,000 AF with a saturated depth interval of 10 to 100 feet. Usable storage capacity is estimated to be 900 AF (DWR 2004f).

Burns Valley Groundwater Basin

Burns Valley Groundwater Basin is located along the southeastern edge of Clear Lake and encompasses approximately four square miles. It is adjacent and northwest of the Clear Lake Cache Formation Groundwater Basin. The west side of the basin opens to Clear Lake. The Cache Formation underlies most of the basin and groundwater is in hydraulic continuity in all

directions. Almost all the groundwater in Burns Valley is derived from rainfall within a 12.5 square mile drainage area. Quaternary alluvium, upland terrace deposits, and the Plio-Pleistocene Cache Formation are the primary water-bearing deposits. Storage capacity is estimated to be 4,000 AF with a useable storage capacity of about 1,400 AF. Most groundwater extraction is for agricultural use (DWR 2004a).

Long Valley Groundwater Basin

Long Valley Groundwater Basin is in a narrow, elongated valley northeast of Clear Lake and is approximately four square miles. The valley is drained by Long Valley Creek, which is a tributary of North Fork Cache Creek. Groundwater is developed in Quaternary alluvium and to a limited extent, Quaternary terrace deposits. Information on water-bearing formations and groundwater storage was not available. Groundwater wells are typically 30 to 215 feet below ground surface and are primarily for agricultural use, although there are private domestic wells in the area (DWR 2004g).

Lower Lake Valley Groundwater Basin

The Lower Lake Valley Groundwater Basin is also about four square miles and is located at the southeast end of Clear Lake. It is adjacent and south of the Clear Lake Cache Formation Groundwater Basin. The basin contains alluvial plains of the Cache, Herndon, and Seigler Canyon Creeks. Copsey Creek also drains to Cache Creek from Excelsior Valley located to the south. Irrigation wells constructed in the alluvial deposits have high yields (between 400 and 600 gallons per minute [gpm]) with little drawdown. Groundwater recharge is from precipitation and seepage from Herndon Creek and Clear Lake. Storage capacity is estimated to range from 3,000 to 4,000 AF (DWR 2004h).

Clear Lake Volcanics Groundwater Source Area

The Clear Lake Volcanics Groundwater Source Area is not listed as a designated groundwater basin by DWR but is an important water supply source for the southern region of Lake County. The groundwater source area shares a boundary with Big Valley Groundwater Basin to the northwest. The Clear Lake Volcanics are heavily faulted and fractured with wide variability in the amount of groundwater available to a well. Iron, aluminum, and manganese have been detected in some wells that are above secondary drinking water standards. In 2006, the agricultural groundwater demand in the Clear Lake Volcanics was approximately 2,271 AFY. It was estimated that there were 537 domestic wells and 59 irrigation wells in the Clear Lake Volcanics in 2006 (CDM 2006).

Groundwater Quality

There is limited data on groundwater quality in the groundwater basins of Lake County, except for Big Valley Groundwater Basin. Total dissolved solids (TDS) in Big Valley Groundwater Basin range from 350 to 1,200 milligrams per liter (mg/l), with an average of 400 to 500 mg/l. The secondary drinking water standard is 500 mg/l. Big Valley has occasional problems with high levels of iron and boron and elevated ratios of magnesium to calcium, due to hydrothermal features. Boron can be injurious to many agricultural crops. Also, nitrate levels have been rising, which is possibly due to nitrates from fertilizers and/or animal/human waste. However, they are below the applicable drinking water standard of 10 mg/l (Lake County WPD 2025b).

In other groundwater basins, elevated levels of iron, manganese, or hardness may be present. These parameters do not pose health risks. However, they may exceed secondary drinking water standards, which are established for conditions such as taste, odor, staining of clothing, and/or scale formation in plumbing fixtures. These minerals can also cause clogging of irrigation systems. Domestic water softeners may be required for homeowners with private groundwater wells (LCWRD 2010).

Flood Zones

FEMA designates floodplain zones on FIRMs to assist cities and counties in mitigating flooding hazards through land use planning. FEMA also outlines specific regulations for any construction within a 100-year floodplain. The 100-year floodplain is defined as an area that has a 1 percent chance of being inundated during a 12-month period. FEMA also prepares maps for 500-year floods, which means that in any given year, the risk of flooding in the designated area is 0.2 percent.

In some locations, FEMA also provides measurements of base flood elevations for the 100-year flood, which is the minimum height of the flood waters during a 100-year event. Base flood elevation (BFE) is reported in feet above sea level. Depth of flooding is determined by subtracting the land's height above sea level from the base flood elevation. Areas within the 100-year flood hazard area that are financed by federally backed mortgages are subject to mandatory federal insurance requirements and building standards to reduce flood damage. This typically requires elevating the finished floor of the structure one to two feet above the BFE.

Figure 3.10-3, *Flood Zones,* shows the locations within Lake County that are within the 100-year or 500-year floodplains. Figure 3.10-3 also shows areas DWR identifies as 100-year flood plains. Different than the FEMA maps, which are used to support the NFIP, the best available maps (BAMs) are provided for informational purposes, and the 100-year floodplains are a composite of multiple mapping sources from FEMA, USACE, and DWR. This provides the community and residents with an additional tool for understanding potential flood hazards that are not currently mapped as a regulated floodplain.

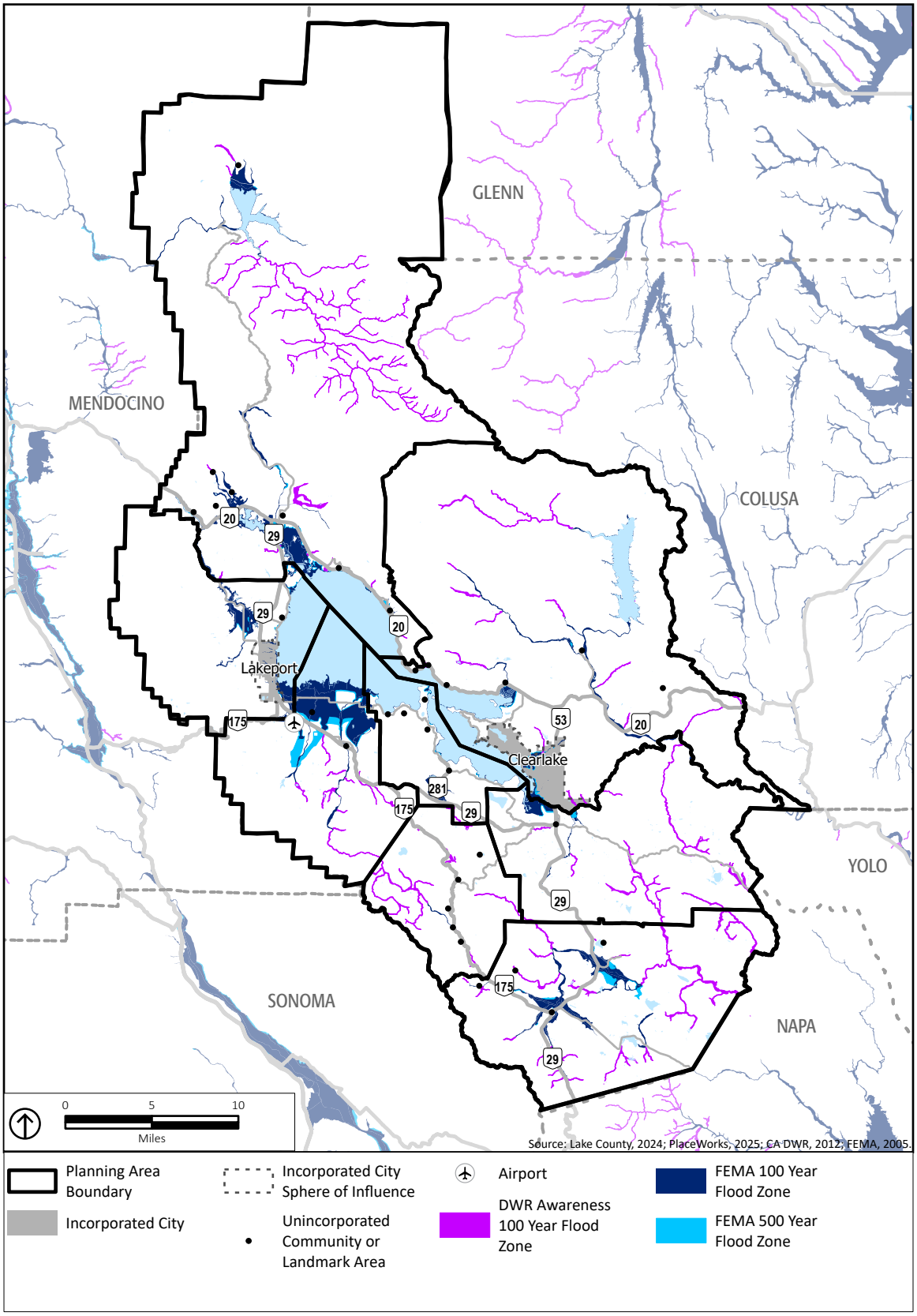

Figure 3.10-3
Flood Zones

Flooding in Lake County results from prolonged heavy rainfall over tributary areas during the period from November through March. Flooding is more severe either when antecedent rainfall has caused saturated ground conditions or when the ground is frozen in the higher elevations and infiltration is minimal. On rare occasions, melting snow could augment runoff from general rain. Streams may exhibit high peak flows with durations of 2 to 3 days. In the northern sector of the County, floods in the Eel River drainage are typically an extremely rare event and, due to the lack of development, damage potential is minimal. The outlets of Lake Pillsbury are normally open during the winter and closed during spring. The channel downstream can contain all high flows that could reasonably be expected (Potter Valley Irrigation District 2024).

Localized stormwater flooding can occur throughout the county during the rainy season Damage can occur from inadequate storm drainage capabilities, pavement deterioration, washouts, and landslides/mudslides. The amount and type of damage vary from year to year, depending on the quantity of runoff. Flooding around Clear Lake has led to evacuations, flooded residences, and road damage in the recent past. The Lake County MJHMP has detailed information on the areas within the County that are prone to frequent or severe flooding (Lake County OES 2025).

Of the streams, tributaries to Clear Lake, Scotts, Cole, Kelsey, and Adobe Creeks have the most serious flooding problems. These streams also contribute significantly to high lake stages and lakeshore flooding. Winds may increase the depth and extent of shoreline flooding, but the most important factor is inadequate outlet capacity, which increases and prolongs high lake stages. Clear Lake Dam is capable of impounding water in the lake to an elevation of 10.3 feet on the Rumsey gauge (located on the city wharf in Lakeport) (Lake County OES 2025).

Flood problems along Cache Creek downstream from Clear Lake are largely confined to the main reach in the vicinity of Lower Lake and along the lower reaches of North Fork Cache Creek. In the Putah Creek basin, the principal flood problems are in Coyote and Collayomi Valleys and in Middletown.

Agricultural levees were constructed in many areas of Lake County. Most of these agricultural levees only provide protection from the 5 to 20 percent annual chance flood event (20- to 5-year flood). While these levees protect agricultural ground, many rural homes have been constructed in the area protected by the levee. Most of the protected areas behind these levees are mapped as FEMA floodplains, so the newer homes may be elevated or have flood resistant construction. When these levees fail, the flooding is rapid and deep. Because these levees are not maintained by a public agency, their repair is problematic. They generally are not eligible for public disaster funding (FEMA) and responsibility for repair may be placed on the property owner where the levee failure occurred (DWR 2004i).

A map of those levees in the County can be accessed via DWRs BAM mapping database (DWR 2024a). The map includes the Middle Creek left bank (3.35 miles), Middle Creek right bank (2.66 miles), Scotts Creek left bank (1.36 miles), and the Page, Alley, and Clover Creek Diversion right bank (1.49 miles) and left bank (1.03 miles). Levees on Putah Creek are maintained by the Hidden Valley Lake Community Services Department, while all other levees are maintained by Lake County Public Works. Engineered levees have been constructed to protect the community of Upper Lake and portions of the Hidden Valley Lake Subdivision.

The Lake County Flood Control and Water Conservation District operates and maintains the Middle Creek Flood Control Project in Upper Lake. The project consists of a system of 14.4 miles of levees, a pump station, and a diversion channel to divert Clover Creek overflow around the town of Upper Lake. The upper portion of the project protects the community of Upper Lake from flooding by Middle Creek and Clover Creek. The lower portion of the system protects farmland and some residences from inundation by Clear Lake (Lake County OES 2025). USACE maintains another 3.9-mile levee along Middle Creek and Scotts Creek at their confluence with Clear Lake.

Some of the levees have been de-accredited by FEMA and none of the levees are currently FEMA certified. Therefore, properties that are located behind levees could be reclassified as being within the 100-year floodplain.

Dam Inundation Zones

There are 21 dams in Lake County that were constructed for flood control, storage, treatment impoundments, electrical generation, and recreational purposes, as shown in Figure 3.10-4, *Dam Inundation Zones*. Of the 21 dams, 11 are rated as High Hazard, four as Significant Hazard, and six as Low Hazard. A high hazard indicates that a failure would probably result in the loss of life. A significant hazard indicates that a failure could result in appreciable property damage. A low hazard indicates that failure would result in only minimal property damage and loss of life is unlikely. An interactive map of dam inundation zones in Lake County can be accessed via DSOD's Dam Breach Inundation Map Web Publisher (Division of Safety of Dams 2024).

Most of the dams in Lake County are not close to population centers. The remote locations of the dams shield residences from the potential hazards associated with dam failure and resulting inundation. There are four exceptions: Indian Valley Reservoir which would impact Spring Valley; Coyote Creek Dam which would impact Hidden Valley; the Sanitation District Dam at the Southeast Wastewater Treatment Plant which would impact the City of Clearlake; and the Lakeport Dam, which would impact the southern portion of the City of Lakeport (Lake County OES 2025).

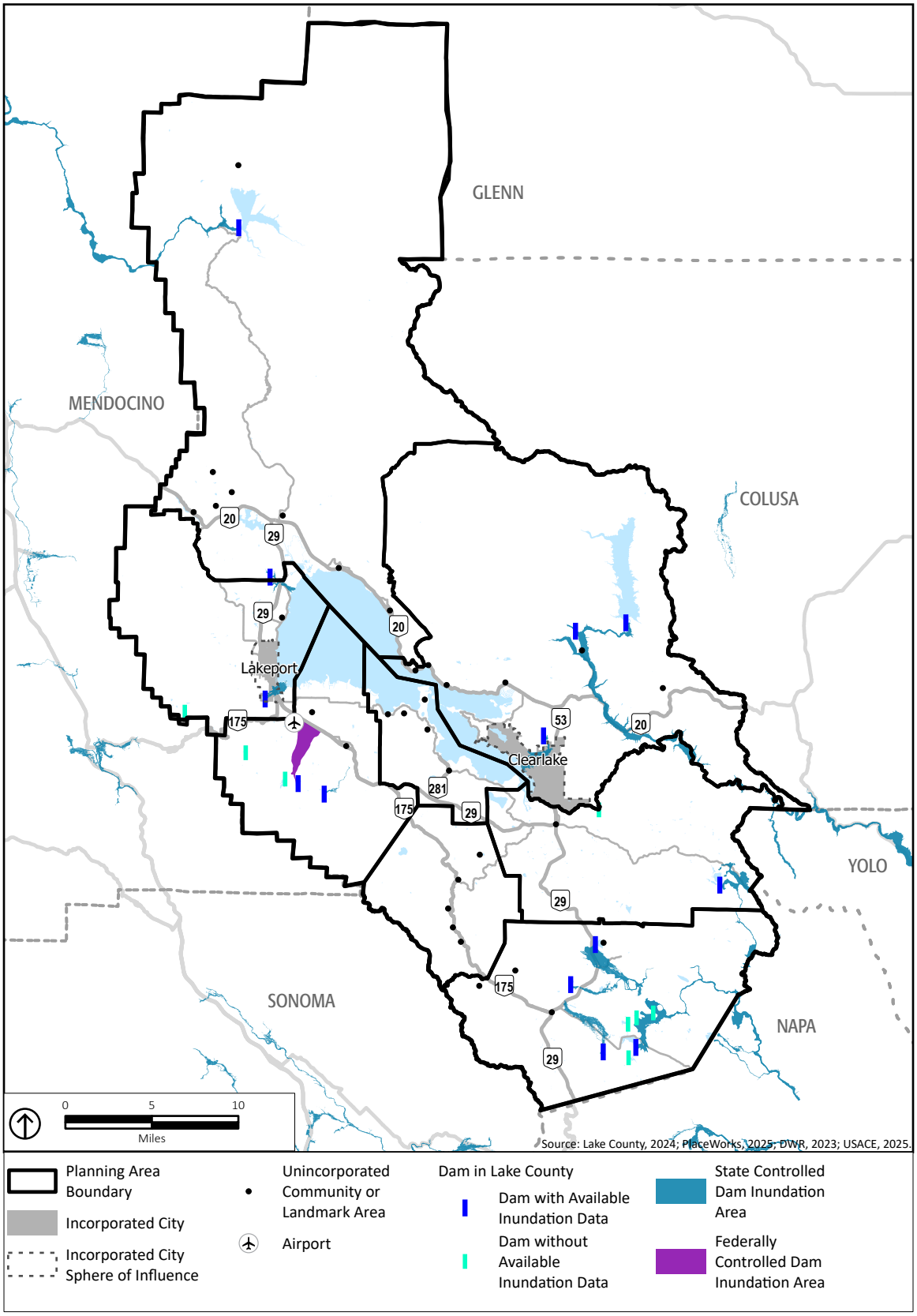

Figure 3.10-4
Dam Inundation Zones

Tsunamis and Seiches

A tsunami is a series of traveling ocean waves generated by a rare, catastrophic event, including earthquakes, submarine landslides, and submarine or shoreline volcanic eruptions. Lake County is approximately 30 miles from the Pacific Ocean and not in a tsunami inundation zone.

A seiche is an oscillation wave generated in a closed or partially closed body of water, which can be compared to the back-and-forth sloshing in a bathtub. Seiches can be caused by winds, changes in atmospheric pressure, underwater earthquakes, tsunamis, or landslides into the water body. Bodies of water such as bays, harbors, reservoirs, ponds, and swimming pools can experience seiche waves up to several feet in height during a strong earthquake.

Seiches associated with large bodies of water, such as dams and reservoirs, typically create waves that are one foot high or less. Dams are designed to have a freeboard height below the top of the dam that accounts for wave action on the surface of the reservoir. Therefore, it is unlikely that a seiche would occur and cause overtopping of a dam, resulting in downstream flooding. Although an earthquake could cause a seiche in Clear Lake, the complex geometry of the lake would likely result in relatively minor oscillations of the water surface.

PLANNING AREAS

Cobb Mountain Planning Area

Topography

The Cobb Mountain Planning Area consists of approximately 73.5 square miles of mountainous territory in southwestern Lake County. It includes the area's mountain resort-residential communities of Cobb, Hobergs, Loch Lomond, and Whispering Pines. Approximately 3,500 acres of forest east of Cobb is part of the Boggs Mountain Demonstration Forest and is under CAL FIRE control. Cobb Mountain, along with the adjacent Middletown Planning Area, contains Lake County's portion of the geothermal resource area known as the Geysers.

Local Hydrology

The Cobb Mountain Planning Area is the source for two important watersheds; the Upper Cache Creek Watershed and the Upper Putah Creek Watershed (see Figure 3.10-1, *Watersheds*). This area includes the Kelsey Creek drainage, a tributary to Clear Lake, and the upper Putah Creek drainage. Local water resources include numerous mountain springs and perennial creeks. While the Cobb Mountain Planning Area normally receives abundant rainfall, it is the area's geologic conditions that most influence the availability of year-round surface and groundwater. Western portions of the Planning Area, located generally west of Bottle Rock Road, are underlain by bedrock of the Franciscan formation, which has a relatively low infiltration rate. A

high percentage of rainfall is converted to surface runoff in this area, and as a result, there is less groundwater and fewer year-round springs.

By contrast, areas generally east of Bottle Rock Road are underlain by geologically younger and more porous volcanic rocks and soils. The percentage of surface runoff is considerably less in areas with volcanic bedrock, while infiltration is higher. Because of the higher porosity of these volcanic rocks and soils, considerably more water is stored underground in small, localized basins and aquifers. As a result, more springs and year-round surface waters find their source in the eastern part of the Cobb Mountain Planning Area. Many springs in this area occur near the contact between the relatively permeable volcanic rocks and the much less permeable Franciscan rocks.

Kelsey Creek is the Cobb Mountain Planning Area's largest year-round stream. The source of Kelsey Creek is located above Cobb Valley between Cobb and Boggs Mountains. Alder Creek, a tributary to Kelsey Creek, begins on the northwest side of Cobb Mountain. Other important perennial tributaries to Kelsey Creek include Jones Creek and High Valley Creek. Other springs and small brooks also supply upper Kelsey Creek and provide an important source of water for residential developments in the Cobb Valley-Hobergs area. Cole Creek is also an important perennial stream whose source is near Salminas Resort, and which eventually discharges into Clear Lake.

Source waters for upper Putah Creek consist of small streams near the Whispering Pines area. Big Canyon Creek, whose source is above Adams Springs, is a significant tributary to Putah Creek. Other drainages in the Cobb Mountain Planning Area include the enclosed basins of Shaul Valley and Thurston Creek. A very small portion of the northeastern area is in the Seigler Creek drainage (Lake County 1989). Boggs Lake is also in this Planning Area.

Water Quality

As shown in Table 3.10-2, *Impaired Water Bodies in Lake County*, Cole Creek and Kelsey Creek, which flow through the Cobb Mountain Planning Area, are both identified as water bodies that do not meet established water quality standards per Section 303(d) of the CWA.

Groundwater

Although the Cobb Mountain Planning Area is not within a designated groundwater basin, most of the area is within the Clear Lake Volcanics Source Area. Groundwater resources are limited to small, confined mountain valley aquifers, along riparian corridors and in porous volcanic rocks and soils. Generally, the availability of groundwater is variable throughout the area and highly dependent on local geology and terrain. Groundwater resources are less abundant and more variable in the Franciscan formation, and more available in areas underlain by volcanic rock and soil. Relatively large volumes of groundwater may be stored within these volcanics, as expressed

by numerous peripheral springs that occur as the water infiltrates downward through the volcanics and encounters the Franciscan complex (Lake County 1989).

Flood Zones

There is only one small narrow 100-year floodplain along Kelsey Creek just east of Bottle Rock Road in Cobb Valley.

Dam Inundation Zones

There are no mapped dam inundation zones in Cobb Mountain Planning Area.

East Lake Communities Planning Area

Topography

The East Lake Communities Planning Area includes unincorporated county lands north and east of Clear Lake. The land on the extreme eastern edge of the Planning Area from north to south is characterized as broad valleys and rolling foothills. The narrow valleys were filled by lake deposits, volcanic flows, and alluvium. Associated erosion of adjacent ridges has developed an overall rolling foothill and valley topography. North of Lucerne and Spring Valley and stretching east to Indian Valley Reservoir is rugged mountainous terrain. This land consists of mountains, sharp ridges and peaks, and deep narrow canyons. The remaining area, which lies from the City of Clearlake, east to an approximate southeasterly line from Indian Valley Reservoir and south beyond Cache Creek is characterized as semi-badlands. The East Lake Communities Planning Area has a varied topography, with Windy Point the highest point in the Area at 4,804 feet above sea level to the Clear Lake shoreline, which is approximately 1,330 feet above sea level (Lake County 2009).

Local Hydrology

Most of the East Lake Communities Planning Area is within the North Fork Cache Creek watershed. However, the southwest portion of the Planning Area is within the Upper Cache Creek watershed (see Figure 3.10-1, *Watersheds*). The North Fork Cache Creek originates near the northern border of the Planning Area and flows south into Indian Valley Reservoir. The creek exits Indian Valley Reservoir and flows south and connects to Lower Cache Creek, which continues south into the Lower Lake Planning Area. Tributaries to Cache Creek include Bartlett, Spanish, Indian, Wolf, Stanton, and Long Valley Creeks.

In 1975, the YCFCWCD completed a dam of the North Fork Cache Creek creating the Indian Valley Reservoir. The North Fork of Cache Creek continues below the dam and travels through Spring Valley where it is dammed again, forming Spring Valley Lake, before joining the Lower

Fork of Cache Creek south of SR-20 (Lake County 2009). Stanton Creek and Borax Lake are also in this Planning Area.

Water Quality

As shown in Table 3.10-2, *Impaired Water Bodies in Lake County,* Clear Lake, Indian Valley Reservoir, North Fork Cache Creek, Harley Gulch, Burns Valley Creek, Turkey Creek, and Stanton Creek are identified as water bodies that do not meet established water quality standards per Section 303(d) of the CWA.

Groundwater

The Burns Valley, High Valley, and Long Valley Groundwater Basins and the northern portion of the Clear Lake Cache Formation groundwater basin are within the East Lake Communities Planning Area (see Figure 3.10-2, *Groundwater Basins in Lake County*). These groundwater basins supply residential and agricultural water needs.

Flood Zones

The 100-year floodplain is relatively narrow along the east side of Clear Lake. However, it expands to about 1,000 feet in width around Lucerne from just north of 1st Street to just south of 17th Street. Most of the Clearlake Oaks area south of SR-20 is also in the 100-year floodplain. There is a narrow 100-year floodplain to the south in the Clearlake Highlands area along Molesworth Creek. A narrow 100-year floodplain follows Long Valley Creek in the central portion of the East Lake Communities Planning Area and there are several small 100-year floodplains that are associated with streams that drain into Indian Valley Reservoir, including Bartlett Creek and the North Fork of Cache Creek, and the North Fork of Cache Creek that exits the reservoir and runs west and south through Spring Valley.

Dam Inundation Zones

There are three dam inundation zones in the East Lake Communities Planning Area. The dam with the largest inundation zone is the Lake County Sanitation District dam north of the city of Clearlake. Water from a dam break would flow south and then southwest and cover a large area of city of Clearlake before discharging into Clear Lake.

Another dam inundation zone in this Planning Area is associated with the Spring Valley Dam, which is owned and operated by Lake County. Any discharge from the dam would flow southeast and then south along the Wolf Creek riverbed. The populated area of Spring Valley is mainly west of the dam inundation zone.

The third dam inundation zone is associated with the Indian Valley Dam owned by YCFCWCD. The inundation zone is relatively narrow and extends west and then turns south, following the same path as the inundation zone for Spring Valley Dam along the Wolf Creek drainage. It continues in a southeast direction through the Cache Creek Wilderness area until it exits Lake County and enters Yolo County.

Kelseyville Planning Area

Topography

The Kelseyville Planning Area consists of several physiographic features which are prominent. This includes Big Valley, a structural basin that is part of the larger Clear Lake Basin. This valley is bounded by the Mayacamas Mountains to the west, Mount Konocti to the east, and Clear Lake to the north. The valley covers about 31 square miles attaining a maximum length and width of 7 miles. Elevations on the valley floor range between 1,330 and 1,440 feet above sea level. The surrounding mountains rise to heights of 2,550 feet to 4,300 feet above sea level. Mount Konocti dominates the topography rising abruptly to nearly 2,900 feet above the valley floor (Lake County 1990).

Local Hydrology

The Kelseyville Planning Area is in the Upper Cache Watershed (see Figure 3.10-1, *Watersheds*). Surface runoff is generally northward toward Clear Lake. The major streams are Cole, Kelsey, Adobe, Hill, and Highland Creeks. Flows in the creeks vary considerably between winter and summer months. In years of normal rainfall only Kelsey Creek maintains a flow throughout the year, mainly in the upper reaches of the creek and its tributaries such as Lee, Jones, and Alder Creek. The section downstream of the Main Street Bridge in Kelseyville to the lake is typically dry in mid-summer (Lake County 1990). The Adobe Reservoir and Highland Spring Reservoir are also in this Planning Area.

Water Quality

As shown in Table 3.10-2, *Impaired Water Bodies in Lake County*, Clear Lake and Cole, Kelsey, and Adobe Creeks, and McGaugh Slough, which flow through the Kelseyville Planning Area, are identified as water bodies that do not meet established water quality standards per Section 303(d) of the CWA.

Groundwater

The Kelseyville Planning Area is within the Big Valley Groundwater Basin (see Figure 3.10-2, *Groundwater Basins in Lake County*). The Big Valley Groundwater Basin is designated as a medium priority basin and there is a Groundwater Sustainability Plan (GSP) approved by the

DWR for this basin (Lake County WPD 2022). This groundwater basin is the source of water supply for Kelseyville and supports agriculture throughout the area.

Despite seasonal and short-term fluctuations due to drought conditions, groundwater levels in the basin have remained stable during the last three decades and the water budget is essentially balanced. The monitoring network consists of 49 wells that are evaluated either semi-annually or monthly by Lake County Watershed Protection District (2022). The Basin is not in overdraft and can sustain groundwater levels (Lake County WPD 2025b).

Flood Zones

The area extending about 10,000 feet south of Clear Lake, including Finley and part of Kelseyville, is within the 100-year floodplain. The floodplain extends farther south along Thompson Creek, Adobe Creek, Rumsey Slough, McGaugh Slough, Kelsey Creek, and Cole Creek. Kelsey Creek and Adobe Creek have serious flooding problems and contribute to high lake stages and lakeshore flooding (Lake County OES 2025).

Dam Inundation Zones

The dam in the Kelseyville Planning Area is identified as Allen Dam and is owned by a private entity. The relatively narrow inundation zone is shown to be north of the dam and then east where it eventually discharges into Kelsey Creek flowing north.

Lakeport Planning Area

Topography

The Lakeport Planning Area is dominated by the presence of Clear Lake to the east and the Mayacamas Mountains to the west. The topography ranges from relatively flat areas near the lake shore to varied and elevated terrain to the west. dominated by Mount Konocti and other volcanic features, including lava domes, cinder cones, and maars. Scotts Valley, which was formed by erosion and deposition of sediment from Scotts Creek, is west of SR-29 and the City of Lakeport (Lake County 2000).

Local Hydrology

The Lakeport Planning Area is in the Upper Cache Watershed. Scotts Creek is the main water feature running through the Area, as well as Manning Creek that runs along the border of the Lakeport and Kelseyville areas. Forbes, Hendricks, Pool, Benmore, Willow, Panther, and Lyons Creeks also run through the Lakeport Area. Eachus Lake and Burger Lake are also in the Lakeport Area (see Figure 3.10-1, *Watersheds*).

Water Quality

As shown in Table 3.10-2, *Impaired Water Bodies in Lake County,* Clear Lake, and Manning and Forbes Creeks, and Rodman Slough are identified as water bodies that do not meet established water quality standards per Section 303(d) of the CWA.

Groundwater

The Scotts Valley Groundwater Basin underlies the Lakeport Planning Area (see Figure 3.10-2, *Groundwater Basins in Lake County*). Sandy and gravelly deposits were laid down on the floor of Scotts Valley by the erosion and deposition of sediments of Scotts Creek. This is the principal water-producing aquifer of Scotts Valley. It is the source of water for agricultural irrigation in Scotts Valley and domestic water for the City of Lakeport. The primary groundwater recharge area for the entire basin is a 3-mile section of Scotts Creek extending south from the bridge at Scotts Valley Road (Lake County 2000).

Flood Zones

There are several narrow strips of land along the west side of Clear Lake that are within the 100-year floodplain. The floodplain widens where tributary creeks enter Clear Lake from the west, including Lyons Creek, Forbes Creek, and several unnamed tributaries. Most of the area south of Clear Lake and north of SR-29 is also within the 100-year floodplain.

Dam Inundation Zones

The dam inundation zone in the Lakeport Planning Area is associated with Lakeport Dam operated by the City of Lakeport Municipal Sewer District No. 1. The zone extends from the dam and travels to the northeast before entering Clear Lake. It encompasses an area south of Lakeport and east of SR-29 between Peckham Court and Main Street.

Lower Lake Planning Area

Topography

The Lower Lake Planning Area is in the southwest portion of Lake County south of Cache Creek and adjacent to the City of Clearlake to the north. The terrain throughout the Planning Area is mountainous and interspersed with small valleys and basins. Much of the Lower Lake Planning Area, east of the community of Lower Lake, consists of uplifted, dissected hills and scarps formed in poorly consolidated sediments of the Cache Formation. A substantial portion of the Planning Area in the vicinity of Spruce Grove Road and south towards Middletown consists of volcanic hills (Lake County 1988).

Local Hydrology

The northern portion of the Lower Lake Planning Area is within the Middle Cache Creek Watershed and the southern portion is in the Upper Putah Creek Watershed (see Figure 3.10-1, *Watersheds*). Cache Creek, which flows from Clear Lake, runs along the border between the Lower Lake Planning Area and the East Lake Communities Planning Area in the northern portion of Lower Lake Planning Area. Except for Cache Creek and Rocky Creek, a tributary to Cache Creek, all other streams and creeks are seasonally intermittent in the Lower Lake Planning Area. Seigler Canyon Creek is a major tributary to Cache Creek in the northwest portion of the Planning Area. Nearby Copsey Creek produces slightly less runoff than Seigler Creek. Surface water resources are limited in the Planning Area's eastern portions. Rocky Creek, whose source is found in the vicinity of Morgan Valley, is considered perennial. Other intermittent creeks include Hunting, Hole, and Soda Creeks drain to the south in the Putah Creek Watershed.

Small lakes in the Planning Area include Pinkeye, Thurston, Steinhart, and Snows Lakes. They are characterized by either seasonal drying, low water, or water quality restrictions (Lake County 1988).

Water Quality

As shown in Table 3.10-2, *Impaired Water Bodies in Lake County,* Clear Lake is identified as a water body that does not meet established water quality standards per Section 303(d) of the CWA.

Groundwater

Portions of the Clear Lake Cache Formation and Lower Lake Valley Groundwater Basins underlie the Lower Lake Planning Area (see Figure 3.10-2, *Groundwater Basins in Lake County*). Groundwater conditions range widely in the Planning Area due to localized geologic features. Groundwater in the Planning Area's mountainous eastern portions is extremely limited due to both supply and quality problems. Only the upper portion of the Rocky Creek drainage in the vicinity of Morgan Valley exhibits any potential for groundwater. However, water quality in this area is considered only fair to poor (Lake County 1988).

Flood Zones

There is an approximately one square mile area south of the lower arm of Clear Lake that is within the 100-year floodplain and includes Garner Island, Anderson Marsh State Historic Park, and areas north and south of Lakeview Way. The 100-year floodplain extends along Siegler Canyon Creek through Lower Lake between SR-53 and Lake Street. The 100-year floodplain also extends east along Cache Creek and south along Copsey Creek and Herndon Creek. There also is a 100-year floodplain in the northeastern portion of Lower Lake Planning Area along the North Fork of Cache Creek that runs through Wilson Valley.

Dam Inundation Zones

Homestake Tailings Dam is associated with the Homestake Mining Company and Stienhart Lakes and is in the southeast corner of the Lower Lake Planning Area. Floodwater from a dam break would flow to the southeast and then south along Jericho Creek and Hunting Creek along the border of Lake County and Napa County. The dam inundation area is sparsely populated.

Middletown Planning Area

Topography

The terrain throughout the Middletown Planning Area is mostly mountainous, with central valleys and drainage basins. Elevations range from approximately 660 feet as Putah Creek crosses the Lake County line to the east, to 4,300 feet above sea level at the summit of Mount Saint Helena, which is just outside of the southwest corner of the Planning Area. The western portion of the Planning Area in the Mayacamas Mountains is steep terrain within the Franciscan Formation. The central portion of the Area contains alluvial valleys (Collayomi, Coyote, and Guenoc) lying between upland areas of undifferentiated rocks. The Planning Area also contains numerous volcanic formations, the largest of which runs northwest to southwest in the Hidden Valley Lake area (Lake County 2010).

Local Hydrology

The entire Planning Area is within the Upper Putah Creek Watershed (see Figure 3.10-1, *Watersheds*). Creeks flowing from the Planning Area's western mountain ranges flow year-round but become seasonally intermittent before reaching the Collayomi and Coyote Valleys. Putah Creek is the principal water course in the Planning Area. All other creeks in the basin, including Anderson, Bear Canyon, Harbin, Bucksnort, Butts, Soda, Gallagher, Coyote, Gunther, Jericho, Hunting, John Thomas, and Dry Creeks, are direct or indirect tributaries of Putah Creek (Lake County 2010). Hidden Valley Lake, Detert Reservoir, portions of Upper Bohn Lake, Lower Bohn Lake, McCreary Lake, Amel Lake, Guenoc Lake, Lake Bordeaux, and Lake Burgundy are also in this Planning Area.

Water Quality

There are no water bodies in the Middletown Planning Area that do not meet established water quality standards per Section 303(d) of the CWA (SWRCB 2024).

Groundwater

The Collayomi and Coyote Valley Groundwater Basins underlie the Middletown Planning Area (see Figure 3.10-2, *Groundwater Basins in Lake County*). The basins are not adjudicated and are categorized as low-priority basins.

The Collayomi Groundwater Basin is the source of water supply for Middletown and adjacent agricultural areas. Overall, there does not appear to be any increasing or decreasing trend on groundwater levels (Lake County WPD 2006). Although not a designated groundwater basin by DWR, the area east of Hidden Valley is within the Clear Lake Volcanics Groundwater Source Area, which shares a boundary with the Big Valley Groundwater Basin to the west. There are only a few scattered domestic and irrigation wells in this source area (DWR 2025a).

Flood Zones

There are two large 100-year floodplains in the Middletown Planning Area. One is associated with Coyote Creek, which runs through Coyote Valley just south of Hidden Valley Lake. The other large floodplain is in Collayomi Valley and Long Valley and is associated with Putah Creek and its tributaries. There are narrow 100-year floodplains along Dry Creek, Saint Helena Creek, and a tributary of Putah Creek north of SR-29. A small 100-year floodplain is also present along Bucksnort Creek between McCreary Lake and Detert Reservoir.

Dam Inundation Zones

Coyote Creek Dam is associated with Hidden Valley Lake. The dam inundation zone is south and southeast of the dam and follows the Coyote Creek drainage area. The inundation zone encompasses parts of Coyote Valley on the east side of the drainage area.

The Bar X Ranch Reservoir No. 2 Dam is also within the Middletown Planning Area. The dam is owned by a private entity and the inundation zone flows east from the dam in a narrow drainage about 1,500 feet wide, crossing SR-29 and eventually connecting to the Coyote Creek drainage.

The Bottoms Dam is owned and operated by Middletown Enterprises and the inundation zone extends north from the dam for about one mile and then to the northwest for about 2.7 miles. It ends just south of SR-29.

Guenoc Lake Dam is associated with Detert Reservoir and is owned by Langtry Farms Vineyard and Winery. The dam is at the south end of the reservoir and floodwater from a dam break would flow north and northeast along the Bucksnort Creek drainage area with some discharge into McCreary Lake.

North Lake Communities Planning Area

Topography

The North Lake Communities Planning Area consists of several prominent physiographic features, including Bachelor Valley and Middle Creek Valley, Blue Lakes, and Hogback Ridge. Elevations range between 1,331 feet above sea level at Clear Lake and 7,056 feet at the summit

of Snow Mountain. Hogback Ridge, which parallels the shore of Clear Lake, rises to 2,880 feet, resulting in a physical barrier to development in Nice. The North Lake Communities Planning Area is dominated by the presence of Clear Lake to the south and the Mayacamas Mountain Range to the west (Lake County ca. 1998).

Local Hydrology

The North Lake Communities Planning Area is within three watersheds: the Upper Main Eel River Watershed, the Upper Cache Watershed, and a small portion of the Planning Area is within the North Fork Cache Creek Watershed (see Figure 3.10-1, *Watersheds*). The Planning Area is interspersed with numerous creeks and streams that are tributaries to the Eel River and Middle Creek. In the northern portion of the Planning Area, Cold, Corbin, and Anderson Creeks are main tributaries to the Eel River and drain to the west eventually connecting to the Eel River. In the eastern portion of the Planning Area, the Middle Fork Stony Creek drains to the east and is a tributary to Stony Creek. Farther south are the Rice Creek, Bear Creek, and Rice Fork that drain to the west and are tributaries to the North Fork Cache Creek. In the southwestern portion of the Planning Area that is within the Upper Cache Creek Watershed, the main tributary, Clover Creek, drains to the north and connects to Middle Creek, which flows north to south throughout most of the Planning Area. Scotts Creek flows through the Blue Lakes area before joining Middle Creek. The major surface water bodies in the North Lake Communities Planning Area are Blue Lakes, Lower Blue Lakes, and Lake Pillsbury.

Water Quality

As shown in Table 3.10-2, *Impaired Water Bodies in Lake County,* Clear Lake, Blue Lakes, Lower Blue Lakes, and Middle Creek are identified as water bodies that do not meet established water quality standards per Section 303(d) of the CWA.

Groundwater

The Upper Lake Valley, Middle Creek, and Gravelly Valley Groundwater Basins are in the North Lake Communities Planning Area (see Figure 3.10-2, *Groundwater Basins in Lake County*). The Gravelly Valley Groundwater Basin is in the northern portion of the Planning Area to the east of Lake Pillsbury. Groundwater in this basin is primarily used for domestic use with a limited number of wells. The Middle Creek Groundwater Basin is a small narrow north-trending basin located north of the Upper Lake Valley Groundwater Basin. The basin is considered low-priority by DWR due to its limited population and a total of only 11 wells (DWR 2025b). The Upper Lake Valley Groundwater Basin is in the southern portion of the Planning Area and extends to Clear Lake to the south. This is generally a good water-producing aquifer. Groundwater levels are typically within 10 feet below ground surface (bgs) in the spring and have remained constant over the past 40 years (Lake County WPD 2006).

Flood Zones

The 100-year flood zone in the North Lake Communities Planning Area includes Lake Pillsbury, the area just north of Lake Pillsbury, and limited areas along Salmon Creek and Smokehouse Creek. There is also a 100-year floodplain that extends west from Scott Dam on Lake Pillsbury for about 1.22 miles along the Eel River and then branches north along Soda Creek for about 2 miles. The 100-year floodplain is west of Simmons Road and would not affect properties east of Simmons Road. The 100-year floodplain also extends west and then southwest along the Eel River for about 5 miles before entering Mendocino County. There are also small sections along the Rice Fork and Eel River south of Lake Pillsbury that are in the 100-year floodplain.

There is a 100-year floodplain in the southern portion of the North Lake Communities Planning Area. It extends north from Clear Lake, primarily between SR-20 and SR-29. To the north, Middle Creek and Clover Creek have very narrow 100-year floodplains that are contained within the creek beds. The area to the north along Scotts Creek that extends into Bachelor Valley is also in the 100-year floodplain. Farther to the west there is a 100-year floodplain in the Blue Lakes area; various resorts and housing are within this floodplain.

Dam Inundation Zones

There are two dam inundation zones within the North Lake Communities Planning Area. Scott Dam is located on the west side of Lake Pillsbury and the dam inundation zone mostly follows the Eel River to the west and southwest until exiting into Mendocino County. However, there is a branch of the dam inundation zone that extends north along Simmons Road in Potter Valley that could impact the CAL FIRE station, the Soda Creek store, and nearby structures and residences. There is also a dam inundation zone that originates at the Lake County Sanitation District No #2 reservoir and extends to the southwest before ending at Clear Lake.

Rivieras Planning Area

Topography

The Rivieras Planning Area is dominated by the presence of Mount Konocti and is made up of volcanic terrain. The Planning Area has varied topography, with Mount Konocti at 4,299 feet above sea level and the Clear Lake shoreline at 1,330 feet above sea level (Lake County 2007).

Local Hydrology

Although numerous gullies and small surface drainage channels occur in the Planning Area, the only significant creek in the Planning Area is Thurston Creek, which flows into Thurston Lake in the northern portion of the Lower Lakes Planning Area. The creek originates approximately 3.7 miles northwest of the lake and flows through Ely Flat. Several basins have been formed by

volcanic damming in this Planning Area (Lake County 2007). Little Borax Lake is also in this Planning Area.

Water Quality

As shown in Table 3.10-2, *Impaired Water Bodies in Lake County,* Clear Lake is identified as a water body that does not meet established water quality standards per Section 303(d) of the CWA.

Groundwater

There are no groundwater basins underlying the Planning Area (see Figure 3.10-2, *Groundwater Basins in Lake County*); however, agricultural operations and some smaller subdivisions in the Planning Area not adjacent to Clear Lake utilize groundwater from the Clear Lake Volcanics groundwater source area (Lake County 2007). The Clear Lake Volcanics groundwater source area is south of Clear Lake and shares a boundary with the Big Valley Groundwater Basin to the west. The Franciscan Formation bounds the south and east of the Planning Area. The amount of groundwater available to a well in the formation is highly dependent on the size, openness, frequency, and interconnection of fractures and joints encountered in the well (CDM 2006).

Flood Zones

Most of the 100-year floodplains in this Planning Area are limited to the immediate land along Clear Lake and a small area of land in Buckingham Park. However, there is a larger 100-year floodplain associated with Thurston Creek that is southwest from Clearlake Riviera and northwest from SR-281. The floodplain curves around following the riverbed and widens in the area around Hesse Plat just north of SR-29.

Dam Inundation Zones

There are no dam inundation areas within the Rivieras Planning Area.

3.10.3 Standards for Analysis

Appendix G, *Environmental Checklist Form*, of the California Environmental Quality Act (CEQA) Guidelines states that the proposed project would result in a significant impact related to hydrology and water quality if it would:

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.

c) 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 a 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.

    iv) Impede or redirect flood flows.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

3.10.4 Project Impact Discussion

a) Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

New development that could occur under the proposed General Plan 2050 would involve soil disturbance during the construction phases and changes in land uses during the operational phases that could generate pollutants and affect water quality. Stormwater runoff would discharge into storm drains and drainage ditches and ultimately flow into creeks, rivers, and Clear Lake.

Construction

Clearing, grading, excavation, and other construction activities have the potential to impact water quality due to soil erosion and increases in the amount of silt and debris carried in runoff. Additionally, the use of construction materials such as fuels, solvents, and paints may present a risk to surface water quality. The refueling and parking of construction vehicles and other equipment on-site during construction may result in oil, grease, or related pollutant leaks and

spills that could discharge into storm drain and drainage ditches with potential impacts to Clear Lake.

To minimize these potential impacts, future development that disturbs one acre or more of land would require compliance with the Construction General Permit Order WQ 2022-0057-DWQ, which includes the preparation and implementation of a SWPPP. A SWPPP requires the incorporation of BMPs to control sediment, erosion, and hazardous materials contamination of runoff during construction and prevent contaminants from reaching receiving water bodies. The Construction General Permit also requires that prior to the start of construction activities, the project applicant must file PRDs with the SWRCB, which includes a Notice of Intent, risk assessment, site map, annual fee, signed certification statement, and SWPPP. The SWRCB requires construction contractors to maintain a copy of the SWPPP at the site and implement all construction BMPs identified in the SWPPP during construction activities. Prior to the issuance of a grading permit, the project applicant is required to provide proof of filing of the PRDs with the SWRCB and Lake County.

Submittal of the PRDs and implementation of the SWPPP throughout the construction phase of the future development under the proposed General Plan 2050 would address anticipated and expected pollutants of concern from construction activities. As a result, water quality impacts associated with construction activities would be less than significant.

Operation

Future development under the proposed General Plan 2050 has the potential to generate pollutants, such as nutrients, pesticides, sediment, trash and debris, oxygen demanding substances, oil and grease, and pathogens. These pollutants could eventually end up in stormwater discharged from the site and impact downstream watercourses and Clear Lake. However, development under the proposed General Plan 2050 would be subject to the Phase II Small MS4 permit, which is currently in the process of being revised. New development and redevelopment projects that would create and/or replace 5,000 square feet or more of impervious surface would be required to implement low-impact development (LID) techniques. In addition, projects that create and/or replace greater than 22,000 square feet of impervious surface must implement peak flow controls to match pre-development peak flows from the 2-year, 24-hour rain event.

The LCCWP Stormwater Program, which is a joint effort between Lake County, the City of Clearlake and the City of Lakeport, is designed to reduce the impacts of increases in peak stormwater flows from development projects. The Low Impact Development Standards Manual provides technical guidance for projects that are regulated under the Phase II Small MS4 General Permit and describes ways to reduce the volume of stormwater runoff using site design measures, source control measures and LID treatment and retention measures. LID features include bioretention facilities, rain gardens, vegetated rooftops, rain barrels, and permeable

pavement. Submittal of a Stormwater Control Plan (SCP) during the design phase of a future potential development project is required prior to County approval. Lake County also has hydrology design standards for drainage, including culvert sizing and ditch design for open channel flow from drainage areas and roadways.

As part of the statewide mandate to reduce trash within receiving waters, the County is also required to adhere to the requirements of the California Trash Amendments. This includes the installation and maintenance of trash screening devices at all public curb inlets, grate inlets, and catch basin inlets or control measures for full trash capture equivalency. The trash screening devices must be approved by the SWRCB. Additionally, all development that discharges stormwater associated with industrial activity must also comply with the requirements of the General Industrial Permit.

Furthermore, the proposed General Plan 2050 contains policies and actions that require local planning and development decisions to protect water quality as shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation HYD. In particular, the following key policies and actions would minimize impacts to water quality in the EIR Study Area:

- Policy AR-4.3 encourages the widespread use of erosion-control programs and techniques in erodible agricultural areas, in cooperation with the Lake County Resource Conservation District.
- Policy GR-3.5* requires that geothermal resource developers obtain and comply with waste discharge permits for drilling sumps (including the analysis of discharged material) and geothermal releases to the air, water, or land and consider technological solutions to further reduce environmental impacts.
- Policy GR-5.4 requires geothermal operations to use best-available control technologies to prevent and rapidly detect water pollution.
- Policy HS-3.3 promotes regenerative agriculture techniques that improve soil health and ecosystem functioning, enhance groundwater recharge, and improve stormwater management.
- Policy HS-3.9 requires the implementation of pest and disease management practices that minimize impacts to Clear Lake's water quality and aquatic ecosystems, with special attention to preventing pesticide runoff and protecting native species from invasive aquatic pests.
- Policy HS-9.5 requires stringent controls on approvals of septic systems where there is a substantial likelihood of infiltration of floodwater into the systems, and/or the discharge from the systems into floodwaters.
- Policy HS-10.6 requires the review of new development proposals to ensure that soils, surface water, and groundwater are protected from contamination.

- Action HS-11.b requires the creation of a coordinated monitoring system for harmful algal blooms in Clear Lake and other water bodies, with an alert protocol to notify residents, especially those on private or small state water systems, when unsafe conditions are detected.
- Policy WR-1.1 strengthens County-Tribal government coordination to protect water quality, cultural resources, and ecosystem health in Clear Lake and its watershed and promote joint stewardship and integration of Traditional Ecological Knowledge with modern water management and restoration practices.
- Policy WR-1.2 prioritizes protection of surface and groundwater quality and supply when considering land use changes and development projects.
- Policy WR-1.4 requires review of local groundwater management plans and consultation with local water service agencies when considering the expansion of Community Growth Boundaries to ensure such expansions do not adversely affect water quality or supply.
- Policy WR-1.5 requires the continued monitoring of surface and groundwater resources and enforcement of provisions of the National Pollution Discharge Elimination System (NPDES) program to control nonpoint source water pollution.
- Policy WR-1.6 requires the use of passive design techniques, such as vegetative filters, wetlands, and swales in open space settings, to control nonpoint source pollution and implement nonpoint source pollution control measures where feasible, including for roadway oils and greases.
- Policy WR-1.7* requires review of proposed development projects with appropriate agencies to ensure potential impacts on surface water and groundwater quality are mitigated, including from water quality risks associated with soil erosion, pollutant discharge, floating debris, and runoff contamination. It also requires project applicants to include project features that improve water quality (e.g., vegetative filters, wetlands, and swales).
- Policy WR-1.9 requires that development along Clear Lake and major tributaries minimizes the potential impact of land disturbance and erosion on water quality and the potential for pollution discharge from sewage disposal systems and other potential polluting sources.
- Policy WR-1.10* requires new and expanded industrial uses that may directly or indirectly discharge pollutants to surface waters or critical groundwater basins to incorporate appropriate wastewater discharge-reduction measures, including on-site treatment, to protect water quality. It also requires such uses to monitor and report to the County on their compliance with discharge regulations.
- Policy WR-1.11* requires the continued requirement for development projects to control erosion and sediment and protect water quality during construction and post-construction through application of the County's Grading Ordinance and Stormwater Management Ordinance.

- Policy WR-1.13 encourages older developments without adequate sewage and stormwater disposal systems to upgrade these systems to conform to current standards that support water quality.
- Policy WR-1.14 supports collection of water quality and flow information for the county's three major drainage systems: the Eel River, Putah Creek, and Cache Creek drainage systems, including by encouraging local stakeholders to establish and fund gauging stations to monitor surface water flows.
- Action WR-1.a* requires the identification and implementation of additional development regulations and strategies to incorporate into land use practices, project siting, and design that protect the health of the county's watersheds, groundwater basins, and surface water drainage areas, including strategies or regulations to discourage or prohibit uses with the potential to discharge harmful pollutants, increase erosion, or otherwise degrade water quality.
- Action WR-1.e requires the establishment of a program to reduce or eliminate illicit discharges into the stormwater conveyance system, including through inspections, education, and agency coordination.
- Action WR-1.h requires the establishment of a program to assess abandoned mines for their potential to pollute groundwater and remediate identified issues.
- Policy WR-3.2 requires continued participation in all appropriate State, regional, and local water resources planning efforts that protect and sustain Lake County's water resources.
- Policy WR-3.5 requires leading and supporting efforts to protect watershed health and sustainability and coordinating these activities with other agencies and programs where appropriate.
- Policy WR-3.6 supports implementation of the five-county Westside Sacramento Integrated Regional Water Management Plan for the Cache Creek and Putah Creek watersheds.
- Action WR-3.c requires the identification of watersheds that drain into Clear Lake with high-pollution levels and the prioritization of restoration efforts in the most impacted watersheds.
- Policy WR-5.1 requires working with the University of California (UC) Cooperative Extension and the Lake County Resource Conservation District to promote BMPs for agriculture to reduce impacts related to algal blooms, including cover cropping, riparian buffers, nutrient management plans, and erosion-control techniques.
- Policy WR-5.2 supports ecosystem restoration and nature-based solutions through interagency coordination to reduce nutrient loads, improve lake health, and guide long-term declines in algal blooms.
- Policy WR-5.3 requires coordination with Tribal governments, water districts, scientific partners, and State agencies to support ongoing water quality monitoring and early detection systems for cyanobacteria to improve public health and water quality management.

- Policy WR-5.4 requires working with the agriculture community to reduce nutrient runoff into Clear Lake through BMPs that specifically limit nitrogen and phosphorus discharges.
- Policy WR-5.9 promotes the management of shoreline and watershed vegetation to reduce invasive species while protecting native plant communities that support Clear Lake's water quality and provide habitat for native species.
- Policies CM-C-3.8, EL-C-3.8, K-C-3.8, L-C-3.8, LL-C-3.8, M-C-3.8, NL-C-3.8, and R-C-3.8 encourage the use of road construction methods that reduce air, water, and noise pollution associated with road and highway development.
- Policies CM-OS-1.15, EL-OS-1.15, K-OS-1.15, L-OS-1.15, LL-OS-1.17, M-OS-1.15, NL-OS-1.15, and R-OS-1.15 encourage federal, State, and local agencies that manage public lands in the county to prevent vehicular travel in streambeds to minimize sedimentation and protect overall water quality, particularly Clear Lake hitch and their habitat.
- Actions CM-OS-1.d, EL-OS-1.d, K-OS-1.d, L-OS-1.d, LL-OS-1.d, M-OS-1.d, NL-OS-1.d and R-OS-1.d require improvement of County roads, where needed, to prevent vehicular travel in streambeds to minimize sedimentation and protect overall water quality, and in particular Clear Lake hitch habitat.
- Policies CM-PF-5.1, EL-PF-5.1, K-PF-5.1, L-PF-5.1, LL-PF-5.1, M-PF-5.1, NL-PF-5.1, and R-PF-5.1 require the County to ensure stormwater collection and drainage facilities are properly designed and sited to protect people and property while conserving water resources and protecting water quality.
- Policy M-SSA-7.2 encourages property owners along Putah Creek to install barriers to motorized vehicle access, whenever feasible, to discourage use by all-terrain vehicles (ATVs), which can cause erosion and sedimentation in the creek, habitat damage, and noise nuisances to local residents and businesses.

Because potential future development under the proposed General Plan 2050 has the potential to impair water quality and as such impacts from the proposed project are potentially **significant**.

Impact HYD-1: Impacts from operation of potential future development under the proposed General Plan 2050 could degrade surface and groundwater quality.

Significance with Mitigation: Implementation of the proposed General Plan 2050 policies and actions, as well as compliance with federal, State, and local regulations pertaining to the Construction General Permit Order WQ 2022-0057-DWQ, Phase II Small MS4 Permit, low-impact development techniques, the Lake County Watershed Protection District's Stormwater Program, and the California Trash Amendments would ensure that potential future development under the proposed project would comply with water quality standards and waste discharge requirements to prevent the degradation of surface and groundwater quality. Specifically, proposed General Plan 2050 Policy GR-3.5* requires geothermal resource developers to comply with waste discharge requirements for drilling sumps and geothermal

releases; Policy WR-1.7* requires review of proposed development projects with appropriate agencies to ensure potential impacts on surface water and groundwater quality are mitigated; Policy WR-1.10* requires new and expanded industrial uses that may directly or indirectly discharge pollutants to surface waters or critical groundwater basins to incorporate appropriate wastewater discharge-reduction measures; and Policy WR-1.11* requires development projects to control erosion and sediment and protect water quality during construction and post-construction through application of the County's Grading Ordinance and Stormwater Management Ordinance as part of the project approval process. Compliance with the State and local regulations and proposed General Plan 2050 policies and actions would mitigate impacts to water quality. Because potential future development under the proposed project would be required to comply with federal, State, and regional regulations, including the LCCO as well as proposed General Plan 2050 policies and actions, implementation of the proposed project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality; therefore, impacts would be **less than significant**.

b) Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Implementation of the proposed project would result in a significant environmental impact if it would substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. New development under the proposed General Plan 2050 could result in an increase in impervious surfaces and water demand, thus reducing groundwater recharge. Also, new projects that involve construction dewatering could have a temporary impact on shallow groundwater aquifers.

Groundwater Supply

Implementation of the General Plan 2050 is expected to increase the water demand by 1,145 AFY distributed among eleven water purveyors. Five of the water purveyors use groundwater as their water supply source, as shown in Table 3.19-12, *Increase in Water Demand with Proposed General Plan 2050 Buildout,* in Section 3.19, *Utilities and Service Systems*, of the Draft EIR. Groundwater levels typically decline during the summer period and recover during the winter when demands are much lower. Kelseyville County Waterworks District 3 is the only water purveyor that is within a groundwater basin (Big Valley) that has a GSP. The basin is not in overdraft and the amount of water that would be pumped in the Kelseyville County Waterworks District 3 with implementation of the proposed General Plan 2050 (205 AFY) would not exceed the sustainability goals of the GSP. The latest GSP Annual Report shows that groundwater elevations are stable, and groundwater storage is estimated to be 60,000 AF with an annual groundwater withdrawal of 25,100 AFY. The rest of the water purveyors are in groundwater

basins that do not have GSPs but are under the purview of the Lake County Groundwater Management Plan. The Coyote Valley, Collayomi Valley, Lower Lake Valley, and Upper Lake Valley groundwater basins have sufficient groundwater storage capacity for the estimated water demand increase associated with buildout of the General Plan 2050 (Lake County WPD 2025a).

In addition, Lake County complies with Executive Order N-3-23, which requires that new groundwater wells or the alteration of an existing well in the Big Valley Groundwater Basin to obtain written verification from a GSA managing the basin that the groundwater extraction would not interfere with any sustainable groundwater management program established in the GSP and would not decrease the likelihood of achieving the sustainability goal for the basin. In addition, it must be determined that the extraction of groundwater from the proposed well will not interfere with the production or functioning of existing nearby wells and is not likely to cause subsidence. This order does not apply to wells that would provide less than two AFY of groundwater for individual domestic users, or wells that would exclusively provide groundwater to public water supply systems.

Additionally, future development pursuant to the proposed General Plan 2050 would be required to implement the water-efficient requirements specified in the CALGreen and California Plumbing Codes and the MWELO requirements for water efficient landscaping. Future projects that meet the criteria under California Water Code Section 10912 would be required to prepare a WSA that demonstrates that project water demands would not exceed water supplies. Also, per-capita residential, commercial, and industrial water usage can be expected to decrease in the future with the implementation of water conservation practices. Therefore, the implementation of the General Plan 2050 would not substantially decrease groundwater supplies.

Groundwater Recharge

Although new projects pursuant to the proposed General Plan 2050 would increase the number of impervious surfaces and could potentially impact groundwater recharge, these projects would be required to implement BMPs and LID measures, which include on-site infiltration, where feasible. The Phase II Small MS4 permit and the LCCWP Stormwater Program require site design measures, source control measures, and stormwater treatment measures to be included in a SCP that must be submitted and approved by the County. These measures minimize the impact of impervious surfaces by including permeable pavement, drainage to landscape areas and bioretention areas, and the collection of rooftop runoff in rain barrels or cisterns. These measures would increase the potential for groundwater recharge.

If construction dewatering is required for projects that disturb one or more acres of land, the requirements in SWRCB Order No. 2022-0057-DWQ, which is part of the Construction General Permit, would be applicable. The Order specifies general dewatering discharge requirements, as well as monitoring and reporting requirements that must be submitted to SWRCB's SMART

website. Therefore, implementation of the General Plan 2050 would not substantially interfere with and have a less-than-significant impact on groundwater levels.

Furthermore, the proposed General Plan 2050 contains policies and actions that require local planning and development decisions to protect groundwater supplies and would serve to minimize impacts groundwater supply and recharge as shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation HYD. In particular, the following key policies and actions would serve to minimize impacts on groundwater recharge in the EIR Study Area:

- Policy GR-5.1 ensures that future geothermal projects do not adversely impact groundwater or surface water quality or diminish supply needed for domestic and agricultural uses and seeks opportunities to minimize adverse impacts of any existing geothermal operations.
- Policy GR-5.2 requires, when reviewing applications for geothermal development permits, the development and application of technologies that use less water.
- Policy HS-3.3 promotes regenerative agriculture techniques that improve soil health and ecosystem functioning, enhance groundwater recharge, and improve stormwater management.
- Policy HS-9.13 requires keeping riparian areas and drainages and areas defined as 100-year floodplains free from development that would adversely impact floodway capacity or characteristics, natural/riparian areas, or natural groundwater recharge areas.
- Policy WR-1.4 requires reviewing local groundwater management plans and consulting with local water service agencies when considering the expansion of Community Growth Boundaries to ensure such expansions do not adversely affect water quality or supply.
- Action WR-1.b* requires the identification and implementation of additional development regulations and strategies to incorporate into land use practices, project siting, and design that protect the health of the county's watersheds, groundwater basins, and surface water drainage areas, including strategies or regulations to discourage or prohibit uses with the potential to discharge harmful pollutants, increase erosion, or otherwise degrade water quality.
- Policy WR-2.1 requires managing groundwater resources to ensure sufficient supply to meet existing and future need and to maintain and enhance the natural environment.
- Policy WR-2.2 requires consulting applicable Groundwater Sustainability Plans and local groundwater management agencies when making decisions that could impact groundwater resources.
- Policy WR-2.3 requires managing stream channel systems and their watersheds to ensure critical groundwater recharge functions are maintained.
- Policy WR-2.4 prohibits new development that would create or significantly aggravate groundwater overdraft conditions, land subsidence, or other "undesirable results," as defined in Section 354.26 of the California Water Code.

- Policy WR-2.5 limits the export of groundwater outside its originating basin through application of the County's ordinances and police powers.
- Policy WR-2.7 supports studies that further the understanding of individual groundwater basins, source areas, and potential pollution sources, such as septic systems.
- Action WR-2.a requires the County to maintain and implement the Lake County Groundwater Management Plan to protect the county's groundwater resources.
- Action WR-2.b requires participation in the implementation and update of Groundwater Sustainability Plans to ensure the sustainability of water resources in the county.
- Action WR-2.c requires evaluating and quantifying long-term groundwater recharge capacity to sustain groundwater resources.
- Action WR-2.d requires identifying, inventorying, and mapping groundwater recharge areas and adopting design standards for these areas to ensure continued recharge capabilities, such as clustered development patterns, density limits, impervious surface reductions, stormwater capture and recharge requirements, and water reclamation features.
- Action WR-2.e requires updating the County Code of Ordinances to include requirements for incorporating stormwater management strategies into project design and siting to support groundwater recharge.
- Action WR-2.f requires developing, implementing, and maintaining a groundwater monitoring program that compiles data biannually on the behavior of groundwater source areas and basins, monitors sources of potential groundwater pollution, and supports stakeholder participation and partnerships. It requires collaboration with water service providers to incorporate applicable data collected through their water monitoring programs and work with local groundwater users to collect data on local well depths, yield, and water quality changes.
- Action WR-2.g requires assessing the feasibility of installing and monitoring additional groundwater monitoring wells in high-demand areas or where data gaps exist.
- Policy WR-3.1 requires preserving existing water supplies and pursuing viable opportunities to tap into new water sources, including through careful management of groundwater and surface water resources, promotion of water conservation programs, and effective stewardship and expansion of the county's water supply facilities.
- Policy WR-3.2 requires continuing to participate in all appropriate State, regional, and local water resources planning efforts that protect and sustain Lake County's water resources.
- Policy WR-4.4 promotes water-efficient management practices in agriculture and forestry industries, including drip irrigation, forest thinning, and watershed restoration.
- Policy WR-4.5 requires partnering with Tribal, State, and local agencies and stakeholders to identify and implement methods to improve the efficient use of water resources for agricultural, municipal, and environmental purposes.
- Policy WR-4.7 requires working with water districts to prepare for a reduced long-term water supply resulting from more frequent and severe drought events by implementing

extensive water conservation measures and ensuring sustainable water supplies, including fire-suppression needs.

- Policy WR-4.8* requires that new development projects demonstrate there is sufficient water supply to meet the additional demand associated with the proposed project prior to project approval and where there is not sufficient water, ensures potential impacts on water supply are mitigated.
- Policy WR-4.9 requires continuing to require new development to incorporate water conservation techniques in accordance with the California Green Building Code, as incorporated into the County Code of Ordinances, Chapter 5, Building Regulations, and encourages the use of additional strategies to conserve water that extends beyond requirements.
- Policy WR-4.11 requires employing efficient water use strategies at County-owned buildings and as part of County operations to serve as a model for efficient water use.
- Action WR-4.a requires exploring opportunities to expand the use of reclaimed wastewater (tertiary treated and secondary treated) for other reasonable and beneficial uses, such as groundwater recharge, irrigation of agricultural lands, irrigation of landscaped areas, geothermal recharge, and environmental restoration and enhancement projects.
- Policy CM-OS-1.2 supports protection and restoration of wetland, riparian, and other significant natural areas in the Cobb Mountain Planning Area for wildlife habitats, groundwater recharge, and passive recreation.
- Policy EL-OS-1.2 supports protection and restoration of wetland, riparian, and other significant natural areas in the East Lake Communities Planning Area for wildlife habitats, groundwater recharge, and passive recreation.
- Policy K-OS-1.2 supports protection and restoration of wetland, riparian, and other significant natural areas in the Kelseyville Planning Area for wildlife habitats, groundwater recharge, and passive recreation.
- Policy L-OS-1.2 supports protection and restoration of wetland, riparian, and other significant natural areas in the Lakeport Planning Area for wildlife habitats, groundwater recharge, and passive recreation.
- Policy LL-OS-1.2 supports protection and restoration of wetland, riparian, and other significant natural areas in the Lower Lake Planning Area for wildlife habitats, groundwater recharge, and passive recreation.
- Policy M-OS-1.2 supports protection and restoration of wetland, riparian, and other significant natural areas in the Middletown Planning Area for wildlife habitats, groundwater recharge, and passive recreation.
- Policy NL-OS-1.2 supports protection and restoration of wetland, riparian, and other significant natural areas in the North Lake Communities Planning Area for wildlife habitats, groundwater recharge, and passive recreation.

- Policy R-OS-1.2 supports protection and restoration of wetland, riparian, and other significant natural areas in the Rivieras Planning Area for wildlife habitats, groundwater recharge, and passive recreation.
- Policies CM-PF-5.3, EL-PF-5.3, K-PF-5.3, L-PF-5.3, LL-PF-5.3, M-PF-5.3, NL-PF-5.3, and R-PF-5.3 require development projects to use green infrastructure and low-impact development designs to prevent off-site drainage impacts and support groundwater recharge.
- Policies CM-PF-5.5, EL-PF-5.5, K-PF-5.5, L-PF-5.5, LL-PF-5.5, M-PF-5.5, NL-PF-5.5, and R-PF-5.5 encourage project designs that minimize drainage concentrations and impervious coverage, complement groundwater recharge, and where feasible, provide a natural watercourse appearance and maintain natural watershed functions.
- Policy L-SSA-5.6 requires the protection of the primary groundwater recharge area of Scotts Creek from any development that would jeopardize the source of Scotts Valley's primary irrigation water source and the City of Lakeport's domestic water supply.
- Action L-SSA-5.c requires the development of Groundwater Recharge Conservation Combining District regulations for Scotts Valley.

Because potential future development under the proposed General Plan 2050 has the potential to decrease groundwater supplies and interfere with groundwater recharge, impeding sustainable groundwater management, impacts from the proposed project are potentially **significant**.

Impact HYD-2: Impacts from operation of potential future development under the proposed General Plan 2050 could decrease groundwater supplies and interfere with groundwater recharge**.**

Significance with Mitigation: Implementation of the proposed General Plan 2050 policies and actions, as well as compliance with federal, State, and local regulations pertaining to Executive Order N-3-23, CalGREEN, California Plumbing Code, the State Model Water Efficient Landscaping Ordinance, Construction General Permit Order WQ 2022-0057-DWQ, and Phase II Small MS4 Permit, would ensure that potential future development under the proposed project would minimize impacts to groundwater supply and recharge. Specifically, proposed General Plan 2050 Action WR-1.b* requires development to use land use practices, project siting, and site design that protects the health of groundwater basins and Policy WR-4.8* require new development to demonstrate sufficient water supply to meet additional demands and incorporate water conservation measures consistent with the California Building Standards Code. Compliance with the federal, State, and local regulations and proposed General Plan 2050 policies and actions would mitigate impacts to groundwater supply and recharge. Because potential future development under the proposed project would be required to comply with federal, State, and regional regulations, including the LCCO as well as proposed General Plan 2050 policies and actions, implementation of the proposed project would not substantially decrease groundwater supply or interfere with groundwater recharge such that the project may

impede sustainable groundwater management; therefore, impacts would be **less than significant**.

c) Would the project 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 a 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.

iv) Impede or redirect flood flows.

Erosion and Siltation

New development or redevelopment within Lake County and changes in land use due to implementation of the proposed project would likely result in an increase in impervious surfaces. This, in turn, could result in an increase in stormwater runoff, higher peak discharges to storm drainage channels, and the potential to exacerbate creek bank erosion or cause destabilizing channel incision.

As discussed in impact discussion (b), all potential new development pursuant to the proposed General Plan 2050 would be required to implement construction-phase BMPs as well as post-construction site design, source control measures, and treatment controls in accordance with the requirements of the General Construction Permit, the Phase II Small MS4 Permit, and the LCCWP's *Low Impact Development Standards Manual*. Typical construction BMPs include silt fences, fiber rolls, catch basin inlet protection, water trucks, street sweeping, and stabilization of truck entrances and exits. Each new development or redevelopment project that disturbs one or more acre of land would also be required to prepare and submit a SWPPP to the SWRCB that describes the measures to control discharges from construction sites. The SWPPP must list BMPs that would be implemented to prevent soil erosion and discharge of other construction-related pollutants that could contaminate nearby water resources.

Once potential future development projects have been constructed, there are requirements in the Phase II Small MS4 permit for new development or redevelopment projects that must be implemented and include site design measures, source control measures, LID, and stormwater treatment measures that address stormwater runoff and would reduce the potential for erosion and siltation. Site design measures include minimizing impervious surfaces, conserving the natural areas of the site as much as possible, and protecting slopes and channels from erosion.

LID measures include the use of permeable pavements, directing runoff to pervious areas, and the construction of bioretention areas. The SCP must also include operation and maintenance procedures and an agreement to maintain any stormwater treatment facilities for perpetuity. Adherence to the streambed alteration agreement process under Sections 1601 to 1606 of the California Fish and Game Code would further reduce erosion and siltation impacts that may occur due to streambed alterations. Compliance with these regional and local regulatory requirements will ensure that erosion and siltation impacts from implementation of the proposed General Plan 2050 would be less than significant.

Flooding On- or Off-Site

New development and/or redevelopment and changes in land uses could result in increases in impervious surfaces, which in turn could result in an increase in stormwater runoff, higher peak discharges to drainage channels, and the potential to cause nuisance flooding in areas without adequate drainage facilities. However, all potential future development must comply with the requirements of the Phase II Small MS4 Permit and the LCCWP *Low Impact Development Standards Manual*. Regulated projects must implement BMPs, including LID and site design BMPs, which effectively minimize imperviousness, temporarily detain stormwater on-site, decrease surface water flows, and slow runoff rates. Projects that create and/or replace 20,000 square feet or more of impervious surface must implement peak flow controls to match pre-development peak flows from the 2-year, 24-hour rain event. Adherence to these regulatory requirements would minimize the amount of stormwater runoff from new development and redevelopment within Lake County. Therefore, the projects pursuant to the proposed General Plan 2050 would not result in flooding on- or off-site and impacts would be less than significant.

Stormwater Drainage System Capacity

As stated in impact discussions (a) and (b), an increase in impervious surfaces with new development or redevelopment could result in increases in stormwater runoff, which in turn could exceed the capacity of existing or planned stormwater drainage systems. Most of the unincorporated areas of Lake County rely on open channels and culverts for the storm drainage system, with ultimate discharge into creeks, rivers, and Clear Lake.

All potential future development and redevelopment projects would be required to comply with the Phase II Small MS4 permit requirements and follow the LCCWP's *Low Impact Development Standards Manual* when designing on-site stormwater treatment facilities. Lake County also has hydrology design standards for drainage, including culvert sizing and ditch design for open channel flow from drainage areas and roadways. Hydrology studies and SCPs are subject to County review for projects in the unincorporated areas to verify that the storm drain systems can accommodate stormwater runoff from the site and would not exceed the capacity of downstream drainage systems at the point of connection. Also, implementation of the provisions in the Phase II Small MS4 permit for new development, which include LID design and

bioretention areas, would minimize increases in peak flow rates and runoff volumes, thus reducing stormwater runoff to the storm drain system.

During the construction phase, potential future development projects would be required to prepare SWPPPs, thus limiting the discharge of pollutants from the site. During operation, projects must implement BMPs and LID measures that minimize the amount of stormwater runoff and associated pollutants. Therefore, new development pursuant to the proposed General Plan 2050 would not create substantial additional sources of polluted runoff.

With implementation of these regulatory requirements, there would not be significant increases in stormwater runoff that would exceed the capacity of existing or planned storm drain infrastructure and the impact would be less than significant.

Redirecting Flood Flows

The discussion above regarding on- and off-side flooding is also applicable to the analysis of impeding or redirecting flood flows. Since potential future development projects are required to comply with Phase II Small MS4 permit requirements, implement the procedures in the LCCWP *Low Impact Development Standards Manual,* and retain stormwater on-site via the use of LID design and bioretention facilities, any flood flows would also be temporarily retained on-site, which would minimize the potential for flooding impacts. Impact discussion (d) discusses the potential for impeding or redirecting flood flows with development in areas within the 100-year floodplain. Based on these discussions, impacts related to impeding or redirecting flood flows would be less than significant.

Although impacts from erosion and siltation, on or off-site flooding, stormwater drainage capacity, and redirecting flood flows would be less than significant through existing federal, State, and local regulations, the proposed General Plan 2050 contains additional policies and actions that require local planning and development decisions to protect existing drainage patterns and would serve to minimize impacts to existing drainage patterns related to erosion, siltation, runoff, or flood flows as shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation HYD. In particular, the following key policies and actions would serve to minimize impacts from erosion and siltation, on- or off-site flooding, stormwater drainage capacity, and redirecting flood flows in the EIR Study Area:

- Policy HS-9.8 promotes low-impact development, which uses vegetation and soil to capture, treat, and retain stormwater runoff, such as green infrastructure, pervious surfaces, and green streets, in new and existing development.
- Policy HS-9.10* requires project applicants to demonstrate that urban development project sites and projects within floodplain areas will not adversely impact downstream properties or contribute to flooding hazards prior to approval.

- Policy HS-9.13 requires keeping riparian areas and drainages and areas defined as 100-year floodplains free from development that would adversely impact floodway capacity or characteristics, natural/riparian areas, or natural groundwater recharge areas.
- Policy WR-1.6 requires the use of passive design techniques, such as vegetative filters, wetlands, and swales in open space settings, to control nonpoint source pollution and implement nonpoint source pollution control measures where feasible, including for roadway oils and greases.
- Policy WR-1.14 supports the collection of water quality and flow information for the county's three major drainage systems: the Eel River, Putah Creek, and Cache Creek drainage systems, including by encouraging local stakeholders to establish and fund gauging stations to monitor surface water flows.
- Action WR-1.b* requires the identification and implementation of additional development regulations and strategies to incorporate into land use practices, project siting, and design that protect the health of the county's watersheds, groundwater basins, and surface water drainage areas, including strategies or regulations to discourage or prohibit uses with the potential to discharge harmful pollutants, increase erosion, or otherwise degrade water quality.
- Action WR-1.e requires educating developers on BMPs to protect surface water and groundwater quality, including erosion control, through the preapplication development review, use permit, subdivision, and permit plan review processes and ongoing inspections.
- Action WR-1.f requires establishing a program to reduce or eliminate illicit discharges into the stormwater conveyance system, including through inspections, education, and agency coordination.
- Policies CM-OS-1.12, EL-OS-1.12, K-OS-1.13, L-OS-1.12, LL-OS-1.13, M-OS-1.12, NL-OS-1.12, and R-OS-1.12 require maintaining creeks in their natural state whenever possible and allows creeks and floodways to function as natural flood-protection features during storms.
- Policies CM-PF-5.6, EL-PF-5.6, K-PF-5.6, L-PF-5.6, LL-PF-5.6, M-PF-5.6, NL-PF-5.6, and R-PF-5.6 require the County to integrate green infrastructure, such as permeable paving surfaces, bioswales, and rain gardens, into County infrastructure projects, including road improvements and parks.
- Policies CM-PF-5.7, EL-PF-5.7, K-PF-5.7, L-PF-5.7, LL-PF-5.7, M-PF-5.7, NL-PF-5.7, and R-PF-5.7 encourage designs for stormwater detention basins that provide temporary or permanent wildlife habitat and/or recreational opportunities, where appropriate.

Compliance with and implementation of these proposed General Plan 2050 policies and actions, in conjunction with federal, State, and local requirements, would ensure future potential development under General Plan 2050 would minimize the alteration of existing drainage patterns through stormwater capture, LID site design, and stormwater quality control into natural systems. Therefore, the proposed General Plan 2050 would not result in substantial erosion or siltation and would not substantially increase the rate of surface runoff that would

result in flooding, impede or redirect flood flows, or exceed the capacity of the drainage system. Impacts would be **less than significant.**

Significance without Mitigation: Less than significant.

d) In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?

Flood Hazard Zones

Implementation of the proposed General Plan 2050 could involve development of projects in FEMA 100-year flood zones, as shown in Figure 3.10-3, *Flood Zones*. Future development in these areas would be subject to LCCO Chapter 25, *Floodplain Management,* which is applicable for all new construction projects in floodplains. This requires all new construction to be anchored against movement by floodwaters, be resistant to flood forces, be constructed of flood resistant materials, be flood-proofed or elevated so the lower floor is at least one foot above the level of the 100-year flood, and that all utilities be resistant to flood damage. Upon completion of construction, an Elevation Certificate confirming the elevation of the lowest floor must be sent to the County's Building & Safety Department.

FEMA's minimum level of flood protection for new development is a 100-year flood event. Compliance with this requirement, the County's floodplain requirements, and the proposed General Plan 2050 contains policies and actions that would reduce potential flood hazards and ensure that pollutants are not released during flood inundation as shown in Appendix G, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation HYD.

Dam Inundation

There are several portions of Lake County that are within dam inundation zones, as shown in Figure 3.10-4, *Dam Inundation Zones.* The probability of dam failure is low and there has never been a reported dam failure in Lake County (Lake County OES 2025). In addition, dam owners are required to maintain Emergency Action Plan (EAPs) that include procedures for damage assessment and emergency warnings. An EAP identifies potential emergency conditions at a dam and specifies preplanned actions to help minimize property damage and loss of life should those conditions occur. The Lake County Office of Emergency Services maintains copies of the most recent dam EAPs and inundation maps and uses this information to notify downstream areas in the event of a dam failure. The likelihood of catastrophic dam failure is very low.

Tsunamis and Seiches

Lake County is approximately 30 miles from the Pacific Ocean and is not in any tsunami inundation zone. Therefore, Lake County is not impacted by tsunami hazards. Although a seiche

could occur in Clear Lake due to shaking from a major earthquake, it most likely would cause minor shoreline inundation or damage to infrastructure such as boats and docks. However, there is a possibility that a seiche in Clear Lake could also damage boat fueling facilities thus releasing harmful substances into the environment.

The proposed General Plan 2050 contains policies and actions that require local planning and development decisions to prevent the release of pollutants due to project inundation and that would serve to minimize impacts to flood hazard, tsunami, or seiche zones as shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation HYD. In particular, the following key policies and actions would serve to minimize impacts to flood hazard, tsunami, or seiche zones in the EIR Study Area:

- Policy HS-1.5 discourages the location of new critical facilities and infrastructure within mapped hazard areas. When no feasible alternative location exists, it requires that new critical facilities be designed and constructed to withstand hazard events without loss of operation.
- Policy HS-9.1 requires all development within the Special Flood Hazard Area to minimize flood risks to structures and infrastructure, and to ensure safe access during flood conditions through compliance with Federal Emergency Management Agency regulations and the Lake County Flood Plain Management Ordinance.
- Policy HS-9.9 ensures projects proposed within potential dam inundation zones are reviewed by the County Sheriff's Office of Emergency Services and checked against evacuation plans on file for the area. If a project presents a direct threat to human life, appropriate hazard mitigation actions should be taken, including restriction of development in the subject area.
- Policy HS-9.15 requires all development to conform to the "FF" zoning combining district when applicable. It requires review by the Floodplain Manager, or their designee, for compliance with the County's Floodplain Management Ordinance (Chapter 25 of the County Code).
- Action HS-9.g requires the regular review of local floodplain management regulations to ensure that they align with FEMA's minimum criteria to reduce or avoid future flood damage in order to qualify for the sale of federally subsidized flood insurance through FEMA's National Flood Insurance Program.
- Action HS-9.i requires the review of new development proposals to determine if they are within a mapped floodplain and requires compliance with the Lake County Hydrology Design Standards.

The proposed General Plan 2050 contains policies and actions that minimize the potential risk of release of pollutants due to project inundation from flood or dam inundation hazards through consistency with federal, State, and local regulations. Additionally, proposed General Plan Policy HS-10.4 and Policy HS-10.5 prohibit new facilities that may use, store, or transport

hazardous materials from being built in flood or dam inundation zones. Compliance with and implementation of these proposed General Plan 2050 policies and actions, in conjunction with federal, State, and local regulatory requirements regarding construction in inundation zones, would ensure that there would not be a release of pollutants due to flooding or dam inundation, and impacts would be **less than significant.**

Significance without Mitigation: Less than significant.

e) Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Adherence to the Construction General Permit, the Phase II Small MS4 permit, and the LCCWP's *Low Impact Development Standards Manual* would ensure that surface and groundwater quality are not adversely impacted during construction and operation of future development under the proposed General Plan 2050. As a result, site development would not obstruct or conflict with the implementation of the Central Valley RWQCB's Water Quality Control Plan (Basin Plan).

The Big Valley Basin GSP was developed by the Lake County Watershed Protection District, which serves as the sole GSA in the Big Valley groundwater basin. This basin is a medium-priority basin, and the latest annual report indicates that the groundwater levels are generally stable and improving in Water Year 2024, with the second consecutive year of storage gains (WRD 2025). The LCWPD developed a Groundwater Management Plan in 2006 to provide guidance in managing all the other groundwater basins in Lake County. None of the groundwater basins are adjudicated and none are in critical overdraft conditions. Therefore, implementation of the General Plan 2050 would not conflict with or obstruct a GSP.

Furthermore, the proposed General Plan 2050 contains policies and actions that require local planning and development decisions to not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan as described under Impact HYD-1 and Impact HYD-2 and shown in Appendix G, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation HYD. Specifically, Action WR-2.a would ensure the Lake County Groundwater Management Plan is maintained to protect the county's groundwater resources and Action WR-2.b would require Groundwater Sustainability Plans to be updated and implemented to ensure the sustainability of water resources in the county. Additionally, Policy WR-3.6 would support the implementation of the five-county Westside Sacramento Integrated Regional Water Management Plan for the Cache Creek and Putah Creek watersheds.

Compliance with the Construction General Permit, Phase II Small MS4 permit, Big Valley GSP, and LCWPD Groundwater Management Plan, as well as the General Plan 2050 policies and actions, would ensure that the proposed project not obstruct and conflict with any water

quality plans or groundwater sustainable management plans, and therefore the impact would be **less than significant.**

Significance without Mitigation: Less than significant.

3.10.5 Cumulative Impact Discussion

The geographic context used for the cumulative assessment of hydrology and water quality encompasses the watersheds shown in Figure 3.10-1, *Watersheds,* which are located within and extend outside of Lake County.

Would the project have a cumulative effect related to hydrology?

New development in these watersheds could increase impervious areas, thus increasing runoff and flows into the storm drainage systems. However, all future development under implementation of the proposed project would be required to comply with the Phase II Small MS4 Permit and LCCWP's *Low Impact Development Standards Manual,* and implement BMPs that direct drainage to landscaped areas and incorporate bioretention facilities that reduce stormwater runoff into the site design. Implementation of these BMPs on a regional basis would reduce cumulative impacts to hydrology and drainage to a less-than-significant level.

All projects would be required to comply with various County ordinances and policies as well as numerous water quality regulations that control construction-related and operational discharge of pollutants into stormwater. The water quality regulations implemented by the Central Valley RWQCB take a basin-wide approach and consider water quality impairment in a regional context. For example, the NPDES Construction General Permit ties receiving water limitations and Basin Plan objectives to terms and conditions of the permit, and the Phase II Small MS4 Permit requires all permittees to manage stormwater systems and be collectively protective of water quality. Projects in these watersheds would implement structural and nonstructural source-control BMPs that reduce the potential for pollutants to enter runoff and treatment control BMPs that remove pollutants from stormwater. Therefore, cumulative water quality impacts would be less than significant after compliance with these permit requirements, and impacts would not be cumulatively considerable.

Projects in the watersheds may be constructed within 100-year flood zones or dam inundation zones. Such projects would be mandated to comply with NFIP and FEMA floodplain requirements. In addition, other jurisdictions within these watersheds regulate development within flood zones similarly to the LCCO and in compliance with FEMA standards to limit cumulative flood hazard impacts. Therefore, cumulative impacts to hydrology, drainage, and flooding would be **less than significant**, and impacts of the proposed project would not be cumulatively considerable.

Significance without Mitigation: Less than significant.

3.10.6 References

California Natural Resources Agency. 2024. Blue Ribbon Committee for the Rehabilitation of Clear Lake. Accessed June 19, 2024. https://resources.ca.gov/Initiatives/Blue-Ribbon-Committee-for-the-Rehabilitation-of-Clear-Lake.

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3.11 LAND USE AND PLANNING

This section of the Draft EIR describes the potential impacts to land use and planning associated with the adoption and implementation of the proposed project. This section describes the regulatory framework and existing conditions, identifies criteria used to determine impact significance, and provides an analysis of the potential impacts to land use and planning. The proposed General Plan 2050 policies and actions that would minimize any potentially significant impacts are shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, and denoted with the abbreviation LUP.

3.11.1 Regulatory Framework

STATE

California Housing Element Law

California Housing Element law includes provisions related to the requirements for housing elements of local government general plans (California Government Code Sections 65580–65589.8). Among these requirements, some of the necessary parts include an assessment of housing needs and an inventory of resources and constraints relevant to the meeting of these needs. Additionally, to ensure that counties and cities recognize their responsibilities in contributing to the attainment of the State housing goals, this section of the Government Code calls for local jurisdictions to plan for and allow the construction of a share of the region's projected housing needs, known as the Regional Housing Needs Allocation (RHNA). The Lake County 2019-2027 Housing Element was adopted on June 16, 2020, and is incorporated into the proposed General Plan by reference.

Cortese-Knox-Hertzberg Local Government Reorganization Act

The Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 establishes a Local Agency Formation Commission (LAFCo) in each county in California, and authorizes these commissions to review, approve, or deny proposals for boundary changes and incorporations for cities, counties, and special districts. The Lake County LAFCo establishes a Sphere of Influence (SOI) for the cities of Lakeport and Clearlake in Lake Couty that describes each city's probable future physical boundaries and service area. There are no annexations or deannexations of county lands to or from either city proposed as part of this project; however, when annexations or deannexations are proposed, the Lake County LAFCo has a responsibility to exercise their independent judgement while making decisions concerning appropriate local governmental boundaries and service providers.

LOCAL

While the County has other local regulations that regulate land use and guide land use decisions, all local area plans, master plans, and zoning in the county must be consistent with the General Plan. The General Plan is the community's overarching policy document that defines a vision for future change and sets the "ground rules" for: locating and designing new projects that enhance the character of the community, expanding the local economy, conserving and preserving environmental resources, improving public services and safety, minimizing hazards, and fostering community health. The General Plan, which includes a vision, guiding principles, goals, policies, and implementing measures, functions as the county's primary land use regulatory tool. It provides a basis for judging whether specific development proposals and public projects are in harmony with General Plan policies. It is the constitution for future change in Lake County. The General Plan must be used as the basis for all planning-related decisions made by County staff, the Planning Commission, and the Board of Supervisors.

Other decision-making bodies that rely on the General Plan to guide future decisions include the Airport Land Use Commission, Air Quality Management District Hearing Board, Big Valley Groundwater Management Zone Commission, Big Valley Advisory Council (Municipal Advisory Council), CeRTH (formally Lucerne Area Town Hall [LATH]), Cobb Municipal Advisory Council, Countywide Parks & Recreation Advisory Board, East Region Town Hall (Municipal Advisory Council), Fish & Wildlife Advisory Committee, Heritage Commission, Lake County Agricultural Advisory Committee, Lake County / City Areawide Planning Council, Lakeport Fire Protection District Board of Directors, Middletown Area Town Hall (Municipal Advisory Council), North Bay Cooperative Library Advisory Board, Parks and Recreation Commission, Public Works Department, Scotts Valley Community Advisory Council, Seismic Monitoring Advisory Solid Waste Management Task Force, Spring Valley County Service Area Number 2 Advisory Board Committee**,** the Traffic and Safety Committee, and Western Region Town Hall (WRTH).

Lampson Field Master Plan Report

Lampson Field is a general aviation airport and the sole public use facility in Lake County. The Lake County Public Works Department oversees the operation, maintenance, and improvements to the airport. Lampson Field is in the western part of Lake County approximately 2.2 miles from the edge of the city of Clear Lake and 3.3 miles south of city of Lakeport. The Lampson Field Airport Master Plan (Airport Master Plan) was adopted in 1993 and provides a framework for future projects within Lampson Field as well as outlines potential needs over a time frame of more than 20 years. The Master Plan includes an Airport Layout Plan, Building Area Plan, and Airspace Plan. It provides specific facility requirements and outlines what types of projects are allowed in the area (BOS 1993).

Airport Land Use Compatibility Plan

Lake County's Airport Land Use Commission (ALUC) adopted the *Lake County Airport Land Use Compatibility Plan* (ALUCP) in 2007 to ensure land uses surrounding the Lampson Field Airport are compatible with airport-serving uses. The ALUCP evaluates all surrounding land within the airport influence area (AIA), defined as any land on which current or future airport-related noise, overflight, safety, or airspace protection factors may impact existing land uses. The ALUCP sets forth the criteria and policies which the Lake County ALUC will use in assessing the compatibility between Lampson Field and proposed development in the surrounding area and requires that any proposed project, specific plan, general plan, zoning ordinance, or building regulation, proposed within the AIA, is reviewed by the ALUC to ensure consistency with the ALUCP (LCALUC 2007). The commission also holds regular meetings to discuss and resolve land use conflicts, ensuring that the interests of both the airport/heliports and the local communities are balanced effectively.

Land Trust Conservation Priority Plan

Updated in 2018, the Lake County Land Trust Conservation Priority Plan provides countywide conservation opportunities through the acquisition of, or establishment of conservation easements on unique properties potentially threatened with development or conversion to other land uses over a 10-year time frame. The areas of high conservation priority include Big Valley Wetlands, Middle Creek and Scotts Creek Watersheds, Berryessa Snow Mountain Connectivity, Middle Creek Restoration/Rodman Slough, and Guenoc Area (LCLT 2018).

Paper Subdivision Management Plan

The primary purpose of the Paper Subdivision Management Plan is to identify options for reducing the numerous local impacts resulting from the existence of approximately 10,000 unbuildable lots commonly referred to as "Paper Subdivisions." Six subdivisions are recognized along the northern and eastern shores of Clear Lake; one subdivision is located near the eastern county line along Cache Creek and three more are in Cobb. The plan reviews the past actions taken by the County and identifies additional potential actions that could be taken or explored further to better manage paper lots to protect the environment and aid in the implementation of various long-range planning goals and policies.

3.11.2 Existing Conditions

The term "existing land use" refers to the existing built environment, which may be different from the General Plan or Zoning designations that the County applies for planning purposes. The current 2008 Lake County General Plan is the primary planning document for Lake County and the proposed General Plan 2050 is intended to ensure consistency between the General Plan, Zoning Ordinance, and federal and State laws and regional plans. Pursuant to the California Environmental Quality Act (CEQA) and the CEQA Guidelines, implementation of the

proposed project has the potential to conflict with "land use" plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect. For the purposes of this EIR, a "land use" plan is a policy or regulation that addresses how land is used. The land use plans adopted for the purpose of avoiding or mitigating an environmental effect are described in Section 3.11.1, *Regulatory Framework*, and the evaluation for the potential to conflict with these land use plans is provided in Section 3.11.4, *Project Impact Discussion*.

COUNTYWIDE AREA

Most of Lake County's 1,329 square miles is unincorporated land, as described in Table 2-1, *Acreage by Jurisdictional Area,* and Figure 2-2, *Lake County by Jurisdictional Area,* of Chapter 2, *Project Description,* of this Draft EIR. There are two incorporated cities: the City of Lakeport, which spans 2.7 square miles along the west shore of Clear Lake, and the City of Clearlake, which encompasses approximately 10.6 square miles along the southeast shore of Clear Lake. Open space uses, including agriculture, natural resource, and public and recreation lands, constitute most of the county's unincorporated areas.

PLANNING AREAS

Cobb Mountain Planning Area

Most of the Cobb Mountain Planning Area is Agricultural, Rural, or Rural Residential land or designated as Resource Conservation. There are Suburban Residential and Low-Density Residential pockets around Cobb, Loch Lomond, and Glenview.

East Lake Communities Planning Area

Most of the East Lake Communities Planning Area is designated as Public Facilities dispersed with Rural and Agriculture Lands. Around the communities of Lucerne, Spring Valley, Kono Tayee, and Clearlake Oaks is Rural, Suburban, Low Density, and Medium Density Residential.

Kelseyville Planning Area

The northern part of the Kelseyville Planning Area is Agricultural land surrounded by mostly Rural Lands. There is land designated as Public Lands on the western side of the area and land designated as Resource Conservation in the southern part of the area. Low-, Medium-, and High-Density Residential land surrounds Kelseyville with small areas of Commercial and Industrial uses. Lampson Field is also in the northern part of the Kelseyville Planning Area.

Lakeport Planning Area

Almost the entire western part of the Lakeport Planning Area is designated as Public Lands. West of State Route (SR-) 29 is designated as Agricultural and Rural Lands. Along the shore and around Lakeport, there is Low-, Medium-, and High-Density Residential land as well as Suburban

Residential Reserve. Additionally, Lampson Field is just south of the Lakeport Planning Area boundary and portions of the Lakeport Planning Area are included in the Airport Approach Zoning Combining District.

Lower Lake Planning Area

Most of the Lower Lake Planning Area is designated as Rural Lands with pockets of Agriculture. The northern and southwestern parts of the area are designated as Public Lands with Resource Conservation land in the southwestern area. Rural Residential lands surround Lower Lake and Hidden Valley with Low-Density Residential, Community Commercial, and Industrial uses.

Middletown Planning Area

Most of the Middletown Planning Area is designated as Rural Lands dispersed with Agriculture and land designated as Resource Conservation or Rural Residential. Low-Density Residential and Public Facilities surround Middletown and Hidden Valley.

North Lake Communities Planning Area

The largest of all areas, most of the North Lake Communities Planning Area, is designated as Public Lands with small pockets of Rural Lands. Suburban Residential Reserve land surrounds Lake Pillsbury Ranch and along SR 20 near Bachelor Valley, Upper Lake, and Nice. Upper Lake is also surrounded by Agriculture Land.

Rivieras Planning Area

The inland area of the Rivieras Planning Area is designated as Rural Residential with a few Public Facilities. Along the shores and around the communities of Soda Bay, Buckingham, Riviera Heights, Riviera West, and Clearlake Riviera is mainly Low-Density Residential.

3.11.3 Standards for Analysis

Appendix G, *Environmental Checklist Form*, of the CEQA Guidelines states that the proposed project would result in a significant impact related to land use if it would:

a) Physically divide an established community.

b) 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.

3.11.4 Project Impact Discussion

a) Would the project physically divide an established community?

The physical division of an established community typically refers to the construction of a physical feature or the removal of a means of access that would impair mobility within an existing community or between a community and outlying areas.

Potential future development from implementation of the proposed General Plan 2050 would not result in a change in land use or zoning that would cause the construction or removal of any physical features or means of access throughout the EIR Study Area or the region. Future development from implementation of the proposed project is expected to occur throughout the EIR Study Area where future development would have vehicular connections and non-motorized transportation options. Overall, the land uses in the proposed General Plan are largely consistent with existing development patterns. While the proposed General Plan 2050 does not prohibit development opportunities outside of infill locations, it does include policies and actions that require local planning and development decisions to consider land use change impacts and protect connectivity and compatibility as shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation LUP.

Additionally, the proposed General Plan 2050 maintains the existing roadway patterns and would not include any new major roadways or other physical features through existing neighborhoods that would create new physical barriers in the EIR Study Area. Therefore, implementation of the proposed project would not physically divide an established community. Impacts would be **less than significant**.

Significance without Mitigation: Less than significant.

b) Would the project 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?

While the proposed General Plan 2050 is the primary planning document for Lake County and the proposed update is intended to ensure consistency between the General Plan, Zoning Ordinance, and federal and State laws, implementation of the proposed project has the potential to conflict with “land use” plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect. As stated, for the purposes of this EIR, a “land use” plan is a policy or regulation that addresses how land is used. The following discusses the proposed project and its relationship with the land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect, as listed in Section 3.11.1, *Regulatory Framework.*

Lampson Field Master Plan Report and Lake County Airport Land Use Compatibility Plan

The airport area is within the Kelseyville and Lakeport Planning Areas. This restricts certain land uses, densities, and heights, and requires a certain amount of open space. All future development due to implementation of the proposed project would be required to comply with the Lake County ALUCP and other regulations governing airport safety, like the Federal Aviation Administration.

Accordingly, the County would be required to coordinate with agencies and jurisdictions regarding development in Kelseyville and Lakeport Planning Areas and near the airport to ensure that future development is consistent with the Lake County ALUCP. Therefore, the proposed project would not conflict with or be inconsistent with the Lampson Field Master Plan Report or Lake County ALUCP, resulting in a less-than-significant impact.

Lake County Land Trust Conservation Priority Plan

The Land Trust Conservation Priority Plan provides guidance to support the conservation of easements on unique properties potentially threatened with development or conversion to other land uses. Future development from implementation of the proposed project is expected to occur throughout the EIR Study Area and would be concentrated in the form of infill/intensification on sites either already developed and/or underutilized, and/or near existing development. The proposed General Plan 2025 prioritizes conservation and protection of Lake County's open space through its goals, policies, and actions. The policies and actions that would support the goals of the Land Trust Conservation Priority Plan are shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation LUP.

Overall, the proposed General Plan 2050 goals, policies, actions support the goals of the Land Trust Conservation Priority Plan, and the impact is less than significant.

Lake County Paper Subdivision Management Plan

Paper subdivisions are known to exist in Lake County. The proposed General Plan 2025 includes goals, policies, and actions that address this problem. The policies and actions that would support the goals of the Paper Subdivision Management Plan are shown in Appendix G, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation LUP.

Overall, the proposed General Plan 2050 goals, policies, actions support the goals of the Paper Subdivision Management Plan, and the impact is less than significant.

Non-Land-Use Plans, Policies, and Regulations

Plans, policies, and regulations concerning a wide range of topics can also have direct and indirect effects on land use decision making. The proposed General Plan 2050's potential to conflict with other applicable plans, policies, and regulations adopted for the purpose of avoiding or mitigating an environmental effect are discussed in detail in the other environmental topic sections of this Draft EIR. Specifically, these discussions are in Section 3.3, *Air Quality*; Section 3.4*, Biological Resources*; Section 3.5, *Cultural Resources*; Section 3.8, *Greenhouse Gas Emissions*; Section 3.9, *Hazards and Hazardous Materials*; Section 3.10, *Hydrology and Water Quality*; Section 3.13, *Noise*; Section 3.14, *Population and Housing*; Section 3.15, *Public Services*; Section 3.16, *Recreation*; Section 3.17, *Transportation*; Section 3.18, *Tribal Cultural Resources;* Section 3.19, *Utilities and Service Systems*; and Section 3.20, *Wildfire*. Some of these key regulations include:

- **Air Quality.** The Lake County Air Quality Management District (LCAQMD) has prepared several plans to attain the National and California ambient air quality standards. LCAQMD applies air pollution regulations to all major stationary pollution sources and monitors air quality. Since the Lake County Air Basin is in attainment of both State and federal air quality standards, LCAQMD has not adopted an Air Quality Management Plan, and instead uses its rules and regulations to address air quality standards.
- **Biological Resources**. The federal Endangered Species Act and California Endangered Species Act protect plants and animals that are listed as endangered or threatened by the United States Fish and Wildlife Service, the National Marine Fisheries Service, and the California Department of Fish and Wildlife. The Migratory Bird Treaty Act protects migratory birds, any of their parts, eggs, and nests. The Bald and Golden Eagle Protection Act of 1940, as amended, provides for the protection of bald eagles and golden eagles. The federal and State Clean Water Acts protect habitat for animals and plants. The Native Plant Protection Act of 1977 was created with the intent to "preserve, protect and enhance rare and endangered plants in this State."
- **Cultural and Tribal Cultural Resources.** The National Historic Preservation Act defines the responsibilities of federal agencies to protect and preserve Historic Properties. The American Indian Religious Freedom Act and the Native American Graves Protection and Repatriation Act of 1990 protect Native American artifacts. California Government Code Section 65352.3-5, formerly known as Senate Bill 18, and Assembly Bill 52 are both intended to protect Native American resources as well.
- **Hydrology and Water Quality**. The federal and State Clean Water Acts include regulations for protecting water quality. Lake County is within the jurisdiction of the Central Valley Regional Water Quality Control Board, which provides region-specific plans.

- **Natural Hazards.** Lake County adopted the Lake County Local Hazard Mitigation Plan. The local hazard mitigation plan identifies the natural hazards faced by the County, assesses vulnerabilities to these hazards, and identifies mitigation strategies that can be taken to reduce or alleviate the loss of life, personal injury, and property damage that otherwise might result from said natural hazards. Mitigation actions are suggested and carried out by various County departments.
- **Population and Housing.** Lake County adopted the 6th Cycle Housing Element on June 16, 2020, and the Department of Housing and Community Development (HCD) has approved the Lake County RHNA Plan.
- **Utilities and Service Systems.** The National Pollutant Discharge Elimination System permit program was established by the Clean Water Act to regulate municipal and industrial discharges to surface waters of the United States, including discharges from municipal separate storm sewer systems.

Summary

In summary, the proposed project is the primary planning document for Lake County. The proposed General Plan 2050 is intended to ensure consistency between the General Plan, Zoning Ordinance, and federal and State laws. The proposed General Plan 2050 contains policies and actions that require local planning and development decisions to consider land use conflicts. These are shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation LUP. In particular, the following key policies and actions would serve to minimize planning conflicts in the EIR Study Area:

- Policy HS-6.1 requires that development around Lampson Field Airport be consistent with the safety policies and land use compatibility guidelines in the adopted Lake County Airport Land Use Compatibility Plan.
- Policy HS-6.2 requires that development within the airport approach and departure zones comply with Part 77 of the Federal Aviation Administration Regulations (FAA regulations that address objects affecting navigable airspace).
- Action HS-6.a requires review of all development projects within the vicinity of Lampson Field Airport for consistency with the Lake County Airport Land Use Compatibility Plan, ensuring projects comply with height restrictions, density requirements, and other safety criteria.
- Action HS-6.b requires referral of projects within the Airport Influence Area that require General Plan amendments, zoning changes, or other discretionary entitlements to the Airport Land Use Commission for review and consistency determination with the Airport Land Use Compatibility Plan.

Because the proposed General Plan 2050 is the overriding planning document for the County, and it would replace the current General Plan, the impact would be l**ess than significant.**

Significance without Mitigation: Less than significant.

3.11.5 Cumulative Impact Discussion

The geographic context for the cumulative land use and planning impacts would occur from potential future development under the proposed project combined with impacts of development on lands adjacent to the county.

Would the project have a cumulative effect related to land use?

As discussed in impact discussions (a) and (b), the proposed project would not divide an established community or conflict with established plans, policies, and regulations. The proposed project would not conflict with any State, regional, or local land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect. Potential future development over the buildout horizon of the proposed project would not create substantial land use impacts. Development would largely be taking place in already developed areas and would not require development or demolition that would create land use conflicts or divide established communities. Therefore, the proposed project would not result in a cumulatively considerable contribution to cumulative impacts related to land use changes, and cumulative impacts would be **less than significant.**

Significance without Mitigation: Less than significant.

3.11.6 References

County of Lake Board of Supervisors (BOS). 1993, June 15. *Lampson Field Master Plan Report.*

_____. 2015, March 10. *Lake County Paper Subdivision Management Plan.*

Lake County Airport Land Use Commission (LCALUC). 2007, October. *Lake County Airport Land Use Compatibility Plan.*

Lake County Land Trust (LCLT). 2018. *Lake County Land Trust Conservation Priority Plan.*

3.12 MINERAL RESOURCES

This section of the Draft EIR describes the potential impacts to mineral resources associated with the adoption and implementation of the proposed project. This section describes the regulatory framework and existing conditions, identifies criteria used to determine impact significance, and provides an analysis of the potential impacts to mineral resources. The proposed General Plan 2050 policies and actions that would minimize any potentially significant impacts are shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, and denoted with the abbreviation MIN.

3.12.1 Regulatory Framework

STATE

Surface Mining and Reclamation Act

The California Department of Conservation, Geological Survey (California Geological Survey) classifies lands into Aggregate and Mineral Resource Zones (MRZs) based on guidelines adopted by the California State Mining and Geology Board (SMGB), as mandated by the Surface Mining and Reclamation Act of 1975 (Public Resources Code Sections 2710 et seq.). Cities and counties are required to incorporate MRZs delineated by the State into their general plans (Public Resources Code Section 2762(a)(1)). The MRZs identify whether known or inferred significant mineral resources are present in areas. MRZs are grouped by the State into four categories based on geologic factors, with MRZ-2 lands having the greatest importance. MRZ-2 sites are underlain by demonstrated mineral resources considered important to the region or the State as a whole. The other categories include MRZ-3 areas of undetermined mineral resource significance, MRZ-4 areas of unknown mineral resource potential, and MRZ-1 areas where geologic information indicates no significant mineral deposits are present. The SMGB also divides aggregate resources (MRZ-2 areas) into regions and resource sectors.

LOCAL

Code of Ordinances

The Lake County Code of Ordinances (LCCO) includes various directives pertaining to mineral resources. The LCCO is organized by chapter, article, and section. Most provisions related to mineral resources are included in Chapter 24, *Surface Mining and Reclamation*, as follows:

- Section 24-1, *Purpose and Intent*, declares that the extraction of minerals is essential to the continued economic well-being of the County and to the needs of society and that the reclamation of mined lands is necessary to prevent or minimize adverse effects on the environment and to protect the public health and safety. The reclamation of mined land as

permitted in this chapter will permit the continued mining of minerals and will provide for the protection and subsequent beneficial use of the mined and reclaimed land. This section also notes that gravel extraction from the creeks of Lake County is a mining activity in the county for which special consideration must be given to minimize the adverse effects of the environment.

- Section 24-4, *Aggregate Resource Management Plan*, requires the County Community Development Department to prepare and update as necessary an Aggregate Resource Management Plan (ARMP) as an element of the Lake County General Plan. The ARMP is to contain an inventory of existing and potential mining sites, a discussion of types and methods of mining and processing methods, an analysis of the aggregate supply versus the demand in the county, and management policies for aggregate mining and reclamation. A program EIR is also to prepared for the ARMP to enable the issuance of permits to mine and approval of reclamation plans without additional environmental review, except as may be required by an application that exceeds the scope of the ARMP.
- Section 24-5, *Administrative General Permit*, and Section 24-7, *Permit, Reclamation Plan Requirements, and Review Procedure*, outline the requirements of obtaining a permit for gravel extraction and mining, respectively. Mining permits are not to be granted without an approved administrative gravel permit, or an approved reclamation plan and financial assurances for reclamation. Section 24-8, *Standards for Reclamation*, requires all reclamation plans to comply with the provisions of the Surface Mining and Reclamation Act. Section 24-9, *Financial Assurances*, provides guidelines for preparing financial assurances.
- Section 24-12, *Periodic Review and Annual Report Requirements*, requires inspections of surface mining operations to determine if operations comply with the approved permit to mine and/or reclamation plan, approved financial assurances, and State regulations. Surface mining operators are also required to forward annual surface mining reports to the State Department of Conservation.
- Section 24-16, *Interim Management Plans*, requires surface mining operators to submit a proposed interim management plan to the County Community Development Department within 90 days of an operation becoming idle. The interim management plan is to comply with the requirements of the Surface Mining and Reclamation Act, including but not limited to all permit to mine conditions, and shall provide measures the operator will implement to maintain the site in a stable condition, taking into consideration public health and safety. Interim management plans are not considered a project for the purposes of environmental review. If approved, the interim management plan can remain in effect for a period not to exceed 5 years.
- Section 24-17, *Fees*, grants the County Board of Supervisors the right to establish such fees, to be paid by the surface mining operator, as it deems necessary to cover the reasonable costs incurred in implementing this chapter and the State regulations, including but not limited to, processing of applications, annual reports, inspections, monitoring, enforcement, and compliance.

- Section 24-18, *Mineral Resource Protection*, requires that mineral resource areas that have been classified by the California Geological Survey or designated by the SMGB, as well as existing surface mining operations that are in compliance with this chapter, are protected to the extent possible from intrusion by incompatible land uses that may impede or preclude mineral extraction or processing that is consistent with the Lake County General Plan. The General Plan, resource maps, and ARMP are required to be amended to reflect mineral information (classification and/or designation reports) within 12 months of receipt from the SMGB of such information. Land use decisions within the county are guided by information provided on the location of identified mineral resources of regional significance and conservation and potential development of identified mineral resource areas will be considered and encouraged. Recordation on property titles of the presence of important mineral resources within the identified mineral resource areas may be encouraged as a condition of approval of any development project in the impacted area. Prior to approving a use that would otherwise be incompatible with mineral resource protection, conditions of approval may be applied to encroaching development projects to minimize potential conflicts. The County is required to comply with the procedures and requirements of the Surface Mining and Reclamation Act for mineral resource management, including the preparation of a statement of findings before taking an action that would thereafter have the potential for mineral extraction in areas of regional or statewide significance.

Aggregate Resources Management Plan

Adopted on November 19, 1992, the ARMP is an element of the Lake County General Plan and is intended to serve as a management tool for government and industry and includes a program EIR, identifying and providing mitigation for adverse environmental impact associated with this industry (Lake County 1992). The goals of the ARMP are to

- Assure an adequate supply of aggregate for future growth;
- Mine and develop aggregate resources in a manner that preserves and safeguards the local environment and quality of life;
- Encourage and support innovative mining techniques which assure an adequate supply of aggregate while reducing environmental impacts:
- Use the reclamation of mining projects as an opportunity to restore creeks and reestablish fish and wildlife habitat;
- Ensure the joint participation of residents, industry, and agencies in a well-defined and consistent regulatory process; and
- Provide effective and systematic monitoring and reclamation of aggregate mining projects.

The ARMP includes general and specific policies and implementation measures to support these goals.

3.12.2 Existing Conditions

COUNTYWIDE AREA

According to the California Geological Survey, no mineral land within the county is classified by the Surface Mining and Reclamation Act (CGS 2022). However, the California Geological Survey has mapped mine locations in Lake County. Details on the active and reclamation in progress mines in Lake County are summarized in Table 3-12.1, *Lake County Mines*. Reclamation is the combined process by which adverse environmental effects of surface mining are minimized and mined lands are returned to a beneficial use. Reclamation is considered "in progress" when activities like site stabilization, recontouring, or revegetation occurs. A mine is considered "reclaimed" when the land has been restored and meets approved post-mining land-use goals. Different areas of the same mine can also be considered active at the same time.

Locations of these mines are shown on Figure 3.12-1, *Lake County Mines and Potential Quarry Sites*, along with the potential quarry sites identified in the ARMP. Lake County consists of many aggregate resources, which are principally used for building and road construction. The extraction of sand and gravel, components of aggregate, makes up most of the County's mining activity. The bulk of aggregate used in Lake County is mined within the county boundaries due to the high cost of transporting the heavy, bulk material (Lake County 1992).

Table 3.12-1 Lake County Mines

Mine Name (ID)	Status	Operation Type	Primary Product	Planning Area
Clearlake Cinder Chip Co. (91-17-0015)	Idle; Reclamation not started	Quarry	Cinders	East Lake Communities
Clearlake Lava (91-17-0012)	Active; Reclamation in progress	Open Pit	Sand and Gravel	East Lake Communities
Clearlake Lava Rock (91-17-0040)	Active; Reclamation in progress	Plant or Mill	Sand and Gravel	East Lake Communities
Davis Pit, Blue Rock (91-17-0001)	Active; Reclamation in progress	Streambed or Gravel Bar Skimming and Pitting	Sand and Gravel	Lakeport
Diamond J (91-17-0034)	Reclaimed; Reclamation in progress	Quarry	Not reported	Middletown
Diamond J. Ranch: Gravel Bar	Reclaimed; Reclamation in progress	Streambed or Gravel Bar	Rock	Middletown

Table 3.12-1 Lake County Mines

Mine Name (ID)	Status	Operation Type	Primary Product	Planning Area
(Johnson Ranch) (91-17-0032)		Skimming and Pitting		
DNA Ridge Rock (91-17-0039)	Active; Reclamation in progress	Open Pit	Sand and Gravel	Rivieras
DNA River Rock (91-17-0023)	Reclaimed; Reclamation not started	Quarry	Sand and Gravel	Middletown
Hale Ranch Quarry (91-17-0030)	Reclaimed; Reclamation not started	Quarry	Rock	North Lake Communities
Keithly Ranch/ Highway 175 Quarry (91-17-0035)	Active; Reclamation not started	Quarry	Stone	Kelseyville
Luchetti Ranch Gravel Bar (91-17-0038)	Reclaimed; Reclamation in progress	Streambed or Gravel Bar Skimming and Pitting	Sand and Gravel	Middletown
McLaughlin (91-17-0041)	Closed – no intent to resume; Reclamation in progress	Open Pit	Gold (Lode)	Lower Lake
Middle Creek Terrace Pond Project (91-17-0037)	Active; Reclamation in progress	Open Pit	Sand and Gravel	North Lake Communities
Middletown Quarry – Merged w/ 17-0034 (91-17-0026)	Closed – merged; Reclamation not started	Open Pit, Plant or Mill	Rock	Middletown
Point Lake View (91-17-0013)	Active; Reclamation not started	Plant or Mill	Sand and Gravel	Lower Lake
Provedello Ponds (91-17-0006)	Closed – no intent to resume; Reclamation in progress	Open Pit	Sand and Gravel	East Lake Communities

Table 3.12-1 Lake County Mines

Mine Name (ID)	Status	Operation Type	Primary Product	Planning Area
S-Bar-S Quarry (91-17-0003)	Active; Reclamation in progress	Quarry	Decorative Rock	Rivieras
Young Pond (91-17-0031)	Closed – no intent to resume; Reclamation in progress	Not reported	Not reported	North Lake Communities

Source: DOC 2024.

Most of the aggregate used in Lake County comes from 17 of the larger creeks draining the Putah and Cache Creek basins, with Middle, Putah, and Cache Creeks providing the bulk of the resources. Floodplains are created by the creeks and typically contain the same quality of aggregate available in active creek channels. Terraces also occur along the creeks, laid down as stream-transported sediments (alluvium) over the past hundreds or thousands of years. While many terraces support uses that conflict within mining activities, preventing terrace mining from becoming a viable source of aggregate, new techniques may open selected terrace areas as a major new source of aggregate (Lake County 1992).

There are five types of quarries, based on the type of rock being mined, in production in Lake County:

- **Hardrock.** These quarries produce large material for riverbank protection and crushed aggregate for concrete and other uses. As the term “hardrock” implies, these sites consist of dense hard rock.
- **Cinder Cone.** These volcanic cones are mined for scoria, a red porous rock used for trench fil, decorative rock, and cinderblock.
- **Dacite and Other Volcanics.** These sites provide a variety of quarried volcanic or igneous material. These include white rock (opalized dacite), scoria, and sulferated soils. The uses are similar to those for scoria products. The sulferated soils are used in agriculture.
- **Cache Formation.** The cache formation is an extensive deposit of lake and river gravel deposits, located in a range of low hills and canyons. The aggregate may be suitable for all use categories.
- **Shale and Borrow Pits.** This category consists of a variety of materials mined at widely distributed sites in the county usually developed as a matter of convenience to supply fill to local projects. These sites are recognized differently from quarries at an operational level. Borrow pits are typically associated with specific projects while quarries are sites which typically provide mined material for various projects.

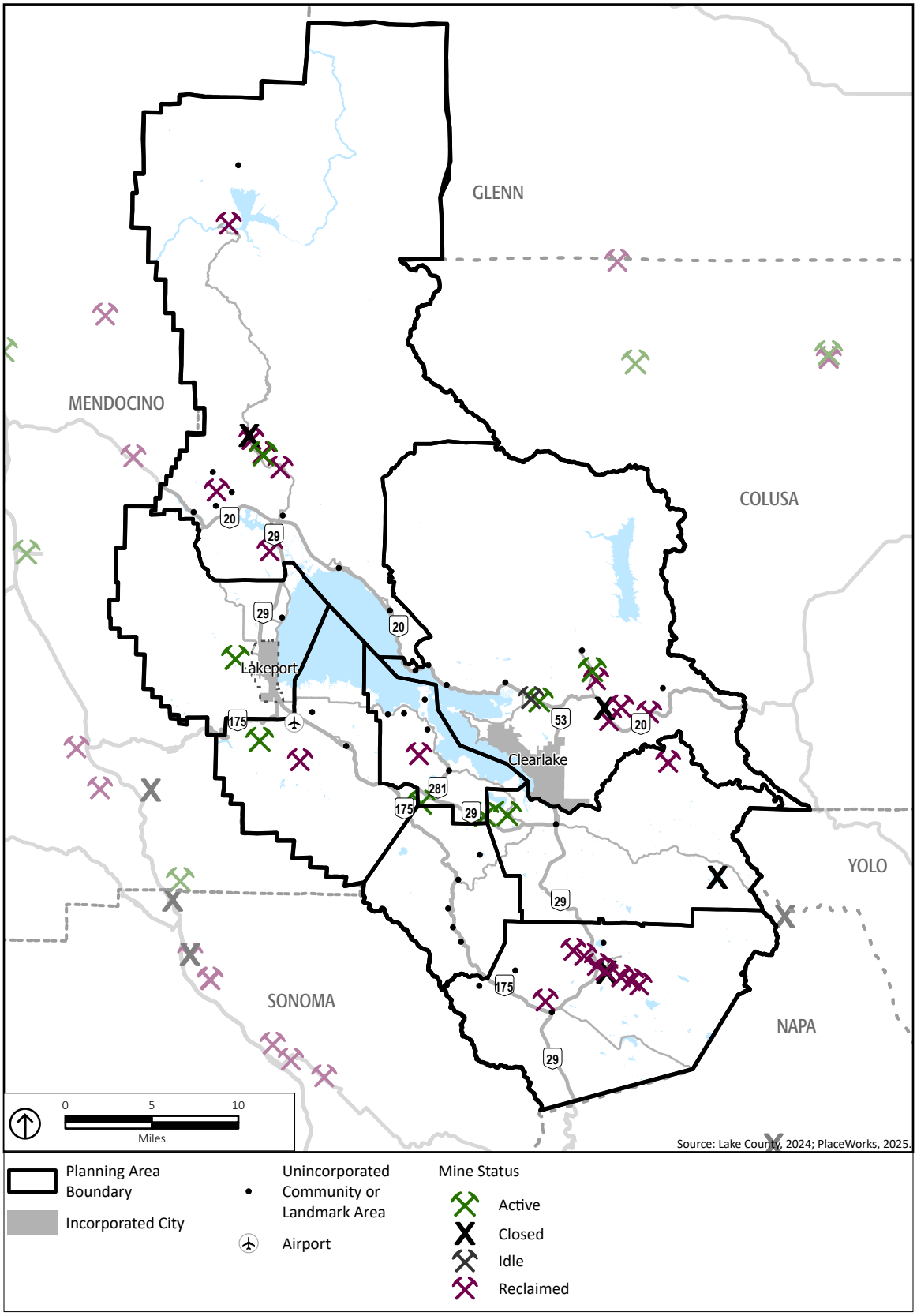

Figure 3.12-1
Lake County Mines and Potential Quarry Sites

"The Geysers" is the world's largest geothermal field, spanning an area of around 30 square miles in Sonoma, Lake, and Mendocino counties, and consists of 18 geothermal power plants and draws steam from more than 350 wells (Lake County 2024). Much of Lake County is in the Clear Lake Volcanic Field which explains its productive geothermal power plants and numerous hot springs. Geothermal energy is the thermal energy stored inside the earth's crust. Rocks close to the magma or high heat flow get heated, resulting in molten rocks containing minerals. The molten rocks interact with rainwater which percolates through major faults and fractures resulting in the formation of dilute brine. Geothermal fluids interact with the host rocks and tend to become increasingly saturated with various minerals such as silica, lithium, manganese, zinc, and sulfur, which can be extracted to obtain marketable products (Bakane 2013).

PLANNING AREAS

Cobb Mountain Planning Area

The Geysers geothermal steamfield, centered in the Mayacmas Mountains, is the dominant mineral resource found in the Cobb Mountain Planning Area. Significant warm mineral springs located in the Area include Howard, Spiers, and Seigler Springs. Other mineral extraction activities in the Area are limited. There are no large-scale commercial gravel mining operations. Historically, small mercury mines were developed in the Cobb Mountain Planning Area but have long since been abandoned (Lake County 1989).

The ARMP identifies two potential quarry sites in the Cobb Mountain Planning Area: High Valley Creek Area and Cambel Back Ridge. The High Valley Creek Area site occupies approximately 800 acres of an irregular, northwest trending area located just northeast and slightly below the main ridgeline of the Mayacamas Mountains, near Caldwell Pines. The Camel Back Ridge site is about 6 to 8 miles southeast of Kelseyville and adjacent to Bottle Rock Road and consists of several irregularly shaped areas ranging from 40 to 120 acres, spread out over approximately 1.5 miles in a northwesterly direction (Lake County 1992).

East Lake Communities Area

Most of the active mining operations in the East Lake Communities Planning Area are located along the North Fork of Cache River near State Route (SR-) 20. The City of Clearlake mining facilities in the area are north of SR-20 between Clearlake Oaks and the intersections of SR-20 and SR-53. They produce cinder and hard rock (Lake County 2009). The closed Provedello Pond undergoing reclamation is adjacent to SR-20 about 3 miles east of the intersection of SR-20 and SR-53. When it was in operation, it produced sand and gravel.

The ARMP identifies two potential quarry sites in the East Lake Communities Planning Area: Round Mountain and Quackenbush Mountain. The Round Mountain area is made up of two closely adjacent sites approximately 1.25 miles northeast of Clearlake Oaks at the east end of

High Valley. The irregularly shaped Quackenbush Mountain site is located on top of Quackenbush Mountain and occupies approximately 300 to 350 acres (Lake County 1992).

Kelseyville Planning Area

The Kelseyville Planning Area historically contained mineral springs, some which are the sites of summer resorts and health spas while others are less commercially developed (Lake County 1995). Keithly Ranch/Highway 175 Quarry is an active quarry producing stone in this Planning Area, located about 2.5 miles west of SR-29 on SR-176. The ARMP does not identify any potential quarry sites in the Kelseyville Planning Area (Lake County 1992).

Lakeport Planning Area

Within the Lakeport Planning Area, there are two sources of aggregate, Scotts Creek and its associated terraces, and two additional potential quarry sites identified in the ARMP. In-channel gravel permits and projects on Scotts Creek allow mining of 5,000 cubic yards on an annual basis (Lake County 2000). Davis Pit, Blue Rock is a streambed or gravel bar skimming and pitting operation producing sand and gravel in this Planning Area.

The ARMP also identifies two potential quarry sites in the Lakeport Planning Area: Little Cow Mountain and South Fork East. The Little Cow Mountain site partially lies within the Lakeport Planning Area and is approximately 4,000 acres. The site encompasses parts of Cow Mountain, Little Cow Mountain, Scotts Mountain, and McGregor Ridge. The approximately 2,000-acre South Fork East site is about 2.5 miles southwest of the City of Lakeport at the confluence of the north and south forks of Scotts Creek (Lake County 1992).

Lower Lake Planning Area

Mining activities in the Lower Lake area include open pit mining for gold and the production of crushed rock from volcanic cinder. Historically, the Knoxville mining district, which includes the eastern portion of the Lower Lake Planning Area, produced mercury and silver. Numerous small, abandoned mining operations are found in this Planning Area. The McLaughlin mine complex is the largest single mining operation in the region, with gold processing facilities located on approximately 2,500 acres in Lake County. The mine's projected lifespan is more than 20 years and long-term operation beyond this is dependent on various economic and technical factors, including potential new mineral discoveries in the region. Crushed cinder rock is mined at Point Lake View along Point Lakeview Road, 3 miles east of Lower Lake and 0.5 miles southeast of Thurston Lake Thurston Lake. An estimated 50,000 cubic yards are mined annually at this 126-acre site (Lake County 1988).

The ARMP identifies three potential quarry sites in the Lower Lake Planning Area: Excelsior Valley, Spruce Grove Area, and Jerusalem Grade North. The Excelsior Valley site is located about 2 miles southeast of Lower Lake between Excelsior Valley in the north and Little High Valley in

the south. The site occupies approximately 300 to 350 acres, stretching 1.5 miles long and 1.5 miles wide. The Spruce Grove Area site is approximately 7,000 feet long and averages about 4,000 feet in width, located 0.75 miles northeast of SR-53 and 0.5 miles of Spruce Grove Road. The Jerusalem Grade North site is 0.5 miles east of the Spruce Grove Area site, 0.25 miles northeast of the intersection of Spruce Grove and Jerusalem roads. The Jerusalem Grade North site stretches 4,000 feet in length by 2,000 feet in width, occupying approximately 160 to 180 acres (Lake County 1992).

Middletown Planning Area

Existing mining activities in the Middletown Planning Area consists of surface mining (gravel extraction) along the creeks, primarily Putah Creek (Lake County 2010). The two quarries in the Planning Area identified by California Geological Survey, are Diamond J and DNA River Rock, which produce sand and gravel. The other two streambed or gravel bar skimming and pitting operations are Diamond J. Ranch: Gravel Bar, which produces rock, and Luchetti Ranch Gravel Bar, which produced sand and gravel.

The ARMP identifies the Jerusalem Grade South potential quarry site in the Middletown Area. The Jerusalem Grade South site is immediately south of the Jerusalem Grade North site in the Lower Lake Planning Area. The northern site boundary is peripheral to Jerusalem Road at a point about 0.25 miles east of the intersection of Spruce Grove and Jerusalem roads. The site occupies approximately 7000 acres, 1.5 miles long and 1 mile wide (Lake County 1992).

North Lake Communities Planning Area

The California Geological Survey identifies three mines in the North Lake Communities Planning Area. Hale Ranch Quarry produces rock and is west of SR-29, approximately 2 miles south of the intersection of SR-20 and SR-29. Middle Creek Terrace Pond Project is an open pit operation locant along Elk Mountain Road that produces sand and gravel. Young Pond is located off White Rock Canyon Road but is closed and undergoing reclamation.

The ARMP identifies three potential quarry sites in the North Lake Communities Planning Area: White Rock Mountain, Black Oak Springs, and Little Cow Mountain. The White Rock Mountain site is about 10 miles northwest of Lakeport, stretching roughly 3.4 miles long and 2.3 miles wide, encompassing 2,000 acres. The Black Oak Springs site is approximately 1.5 miles southwest of Blue Lakes in the Cow Mountain area and occupies between 1,200 and 1,500 acres. The approximately 4,000-acre Little Cow Mountain site encompasses areas within the North Lake Communities Planning Area and Lakeport Planning Area (Lake County 1992).

Rivieras Planning Area

On the east side of Manning Flat is DNA Ridge Rock, an open pit operation producing sand and gravel, in the Rivieras Planning Area. The mining operation encompasses 20 acres of an approximately 300-acre parcel (Lake County 2007). The S-Bar-S Quarry is an active quarry located just south of SR-29, approximately 6 miles southeast of Kelseyville. A variety of volcanic rock types are mined at this 200-acre quarry site, including opalized dacite, rhyolite, scoria cinders, obsidian nodules, and sulfurated soils.

The ARMP does not identify any potential new quarry sites in the Rivieras Planning Area (Lake County 1992).

3.12.3 Standards for Analysis

Appendix G, *Environmental Checklist Form*, of the California Environmental Quality Act (CEQA) Guidelines states that the proposed project would result in a significant impact related to mineral resources if it would:

a) 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.

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

3.12.4 Project Impact Discussion

a) Would the project 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?

As described in Section 3.12.2, *Existing Conditions*, while the EIR Study Area does not include any classified mineral land, it includes aggregate resources mines. Table 3.12-2, *Mining Sites Proposed Land Use Designations*, list the proposed General Plan 2050 land use designations for each of the mining sites.

Table 3.12-2 Mining Sites Proposed Land Use Designations

Mine Name (ID)	Status	Planning Area	Proposed General Plan 2050 Land Use Designation
Clearlake Cinder Chip Co. (91-17-0015)	Idle; Reclamation not started	East Lake Communities	Rural Residential
Clearlake Lava (91-17-0012)	Active; Reclamation in progress	East Lake Communities	Rural Lands
Clearlake Lava Rock (91-17-0040)	Active; Reclamation in progress	East Lake Communities	Rural Lands
Davis Pit, Blue Rock (91-17-0001)	Active; Reclamation in progress	Lakeport	Rural Lands
Diamond J (91-17-0034)	Reclaimed; Reclamation in progress	Middletown	Rural Lands
Diamond J. Ranch: Gravel Bar (Johnson Ranch) (91-17-0032)	Reclaimed; Reclamation in progress	Middletown	Rural Lands
DNA Ridge Rock (91-17-0039)	Active; Reclamation in progress	Rivieras	Rural Lands
DNA River Rock (91-17-0023)	Reclaimed; Reclamation not started	Middletown	Resource Conservation
Hale Ranch Quarry (91-17-0030)	Reclaimed; Reclamation not started	North Lake Communities	Rural Lands
Keithly Ranch/Highway 175 Quarry (91-17-0035)	Active; Reclamation not started	Kelseyville	Rural Lands
Luchetti Ranch Gravel Bar (91-17-0038)	Reclaimed; Reclamation in progress	Middletown	Rural Lands
McLaughlin (91-17-0041)	Closed – no intent to resume; Reclamation in progress	Lower Lake	Rural Lands
Middle Creek Terrace Pond Project (91-17-0037)	Active; Reclamation in progress	North Lake Communities	Rural Lands
Middletown Quarry – Merged w/ 17-0034 (91-17-0026)	Closed – merged; Reclamation not started	Middletown	Low Density Residential
Point Lake View (91-17-0013)	Active; Reclamation not started	Lower Lake	Rural Lands
Provedello Ponds (91-17-0006)	Closed – no intent to resume; Reclamation in progress	East Lake Communities	Rural Lands
S-Bar-S Quarry (91-17-0003)	Active; Reclamation in progress	Rivieras	Rural Lands
Young Pond (91-17-0031)	Closed – no intent to resume; Reclamation in progress	North Lake Communities	Rural Residential

Source: DOC 2024.

SMGB policy states that land uses that require a high public or private investment in structures, land improvements, and landscaping, or that would otherwise prevent mining (i.e., high-density residential development, public facilities, intensive industrial and commercial uses) are inherently incompatible with the conservation and extraction of mineral resources. Those land uses that require a low public or private investment in structures, land improvements, and landscaping that would allow mining (i.e., extensive industrial, recreation, agricultural, and open space uses) could be compatible. As shown in Table 3.12-2, *Mining Sites Proposed Land Use Designations*, the mining sites have proposed General Plan 2050 land use designations of Resource Conservation, Rural Lands, Rural Residential, and Low Density Residential, which either do not allow development or only allow low density development. Therefore, the proposed land use designation of the mining sites within the EIR Study Area would be compatible with the conservation and extraction of mineral resources.

Mining operations within the EIR Study Area would be subject to the development regulations contained in the LCCO, as well as the policies and implementation measures of the ARMP. Furthermore, the proposed General Plan 2050 contains policies and actions that require local planning and development decisions to consider impacts related to the loss of mineral resources as shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation MIN. In particular, the following key policies would serve to minimize the loss of mineral resources in the EIR Study Area:

- Policies CM-OS-5.2, EL-OS-5.2, K-OS-5.5, L-OS-5.3, LL-OS-5.3, M-OS-5.3, NL-OS-5.3, and R-OS-5.3 ensure that all mining operations are performed in compliance with the policies and implementation measures included in the Lake County Aggregate Resources Management Plan (Appendix A to the General Plan).
- Policies CM-OS-5.3, EL-OS-5.3, K-OS-5.6, L-OS-5.3, LL-OS-5.4, M-OS-5.4, NL-OS-5.4, and R-OS-5.4 require new development adjacent to existing mining operations to be designed to provide a buffer between the proposed use and the mining operation. It requires new mining operations to provide a buffer between the mine and existing or likely adjacent uses to minimize incompatibility issues and mitigate environmental and aesthetic impacts. Required buffer distances will be based on an evaluation of noise, aesthetics, drainage, operating conditions, topography, lighting, traffic, operating hours, and air quality.

Through land use compatibility under SMGB policy and compliance with the LCCO, ARMP, and proposed General Plan 2050 policies and actions, implementation of the proposed project would not result in the loss of availability of a known mineral resource. Therefore, this impact is **less than significant**.

Significance without Mitigation: Less than significant.

b) Would the project 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?

As discussed in impact discussion (a), the proposed land use designations under the General Plan 2050 for the mining sites would be compatible with the conservation and extraction of mineral resources, according to SMGB policy. Mining operations would be required to comply with the LCCO and ARMP. Furthermore, potential future development under the proposed project would be required to comply with the proposed General Plan 2050 policies and actions to minimize the potential impacts on mineral resources. In particular, the key policies provided in impact discussion (a) would also serve to minimize the loss of availability of a locally important mineral resource recovery site. Therefore, implementation of the proposed project would not result in loss of any locally important mineral resource recovery sites, and the impact would be **less than significant.**

Significance without Mitigation: Less than significant.

3.12.5 Cumulative Impact Discussion

As discussed in Chapter 3, *Environmental Analysis,* of this Draft EIR, the cumulative setting includes growth within the EIR Study Area in combination with projected overall growth trends within Lake County and adjacent counties. The geographic scope of cumulative impacts to mineral resources are all regionally significant mineral resource areas and recovery sites countywide.

Would the project have a cumulative effect related to mineral resources?

The EIR Study Area does not have any classified mineral lands. The proposed land use designations under the General Plan 2050 for the mining sites in the EIR Study Area would be compatible with the conservation and extraction of mineral resources, according to SMGB policy. Mining operations would be required to comply with the LCCO and ARMP. Furthermore, potential future development under the proposed project would be required to comply with the proposed General Plan 2050 policies and actions to minimize the potential impacts on mineral resources. With adherence to existing regulations, potential future development under the proposed project would not create substantial impacts to mineral resources in Lake County or the surrounding communities. Therefore, the proposed project would not result in a cumulatively considerable impact on mineral resources and cumulative impacts would be **less than significant.**

Significance without Mitigation: Less than significant.

3.12.6 References

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3.13 NOISE

This section of the Draft EIR describes the potential noise impacts associated with the adoption and implementation of the proposed project. This section describes the regulatory framework and existing conditions, identifies criteria used to determine impact significance, and provides an analysis of the potential noise impacts. The proposed General Plan 2050 policies and actions that would minimize any potentially significant impacts are shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, and denoted with the abbreviation NOI. Where policies and actions are required for mitigation, those policies and actions are described in this section and denoted with an asterisk (*).

This section also presents an introduction to Lake County's major existing human-made noise sources and the noise levels that are generated in the developed environment, a presentation of existing traffic noise levels affecting the county, and identifies criteria used to determine impact significance.

The background information on noise issues and noise-related constraints, a description of sound and vibration fundamentals, and the traffic noise levels and noise contours is included in Appendix E, *Noise Data*, of this Draft EIR.

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.
- **Decibel (dB).** A 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 Noise Level (L_{eq})** is the average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.
- **L_{max}** is the instantaneous maximum noise level for a specified period of time.
- **L_{min}** is the minimum, instantaneous noise level experienced during a given period of time.
- **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). This is also 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 Average (L_{dn})** is a 24-hour average L_{eq} with a 10-dBA "weighting" added to noise during the hours of 10:00 pm to 7:00 am to account for noise sensitivity in the nighttime. The logarithmic effect of these additions is that a 60 dBA 24-hour L_{eq} would result in a measurement of 66.4 dBA L_{dn}.
- **Community Noise Equivalent Level (CNEL).** The energy-average of the A-weighted sound levels occurring during a 24-hour period, with 5 dBA added to the levels occurring during the period from 7:00 p.m. to 10:00 p.m. and 10 dBA added to the sound levels occurring during the period from 10:00 p.m. to 7:00 a.m. *Note: For general community/environmental noise, CNEL and L_{dn} values rarely differ by more than 1 dBA. As a matter of practice, L_{dn} and CNEL values are considered to be equivalent/interchangeable.*
- **Peak Particle Velocity (PPV).** The peak rate of speed at which soil particles move (e.g., inches per second) due to ground vibration. The PPV is defined as the maximum instantaneous positive or negative peak of the vibration wave.
- **Root Mean Square Velocity (RMS).** The RMS velocity is defined as the average of the squared amplitude of the signal.
- **Vibration Decibel (VdB).** A unitless measure of vibration, expressed on a logarithmic scale and with respect to a defined reference vibration velocity. In the United States, the standard reference velocity is 1 micro-inch per second ($1x10^{-6}$ in/sec).
- **Noise-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 examples.

3.13.1 Regulatory Framework

FEDERAL

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 23 Code of Federal Regulations Part 772, *Procedures for Abatement of Highway Traffic Noise and Construction Noise*. The Federal Highway Administration (FHWA) has adopted noise abatement criteria for sensitive receivers such as picnic areas, recreation areas, playgrounds, active sport 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 noise abatement criteria to be 1 dBA below the noise abatement criteria for noise sensitive receivers identified as Category B activity areas (e.g., 66 dBA L_{eq} is considered approaching the noise abatement criteria) (Caltrans Division of Environmental Analysis 2020).

United States Environmental Protection Agency

In addition to FHWA standards, the United States Environmental Protection Agency (USEPA) has identified the relationship between noise levels and human response. The USEPA has determined that over a 24-hour period, a 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 a 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.

The USEPA has 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 difficulty of actually achieving a goal of 55 dBA L_{dn}, have settled on the 65 dBA L_{dn} level 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 Health and Safety Administration under the USEPA. 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. The Occupational Safety and Health Administration has a noise exposure standard that is set at the noise threshold where hearing loss may occur from long-term exposures. The maximum allowable level is 90 dBA, averaging over eight hours. If the noise is above 90 dBA, the allowable exposure time is correspondingly shorter.

United States Department of Housing and Urban Development

The US 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 within 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.

Federal Interagency Committee on Noise

The Federal Interagency Committee on Noise (FICON) thresholds of significance assist in the evaluation of increased traffic noise. The 2000 FICON findings provide guidance as to the significance of changes in ambient noise levels due to transportation noise sources. FICON recommendations are based on studies that relate aircraft and traffic noise levels to the percentage of persons highly annoyed by the noise. FICON's measure of substantial increase for transportation noise exposure is as follows:

- If the existing ambient noise levels at existing and future noise-sensitive land uses (e.g., residential, etc.) are less than 60 dBA CNEL/L_{dn} and the project creates a readily perceptible 5 dBA CNEL/L_{dn} or greater noise level increase and the resulting noise level would exceed acceptable exterior noise standards; or
- If the existing noise levels range from 60 to 65 dBA CNEL/L_{dn} and the project creates a barely perceptible 3 dBA CNEL/L_{dn} or greater noise level increase and the resulting noise level would exceed acceptable exterior noise standards; or
- If the existing noise levels already exceed 65 dBA CNEL/L_{dn}, and the project creates a community noise level increase of greater than 1.5 dBA CNEL/L_{dn}.

National Institute of Occupational Safety and Health

A division of the US Department of Health and Human Services, the National Institute for Occupational Safety and Health (NIOSH) has established a construction-related noise level threshold as identified in the Criteria for a Recommended Standard: Occupational Noise Exposure prepared in 1998. NIOSH identifies a noise level threshold based on the duration of exposure to the source. The NIOSH construction-related noise level threshold starts at 85 dBA for more than 8 hours per day; for every 3-dBA increase, the exposure time is cut in half. This reduction results in noise level thresholds of 88 dBA for more than 4 hours per day, 92 dBA for more than 1 hour per day, 96 dBA for more than 30 minutes per day, and up to 100 dBA for more than 15 minutes per day. The intention of these thresholds is to protect people from hearing losses resulting from occupational noise exposure.

Federal Aviation Administration

Aircraft noise is regulated primarily by the Federal Aviation Administration (FAA). The FAA sets noise standards for aircraft, establishes noise certification requirements for new aircraft and engines, and works with airports and communities to manage and mitigate the impact of aircraft noise on surrounding areas. The FAA Advisory Circular Number 150 5020 2, entitled "Noise Assessment Guidelines for New Helicopters" recommends the use of a cumulative noise measure, the 24-hour equivalent sound level [L_{eq}(24)], so that the relative contributions of the heliport and other sound sources within the community may 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 single-event level (SEL) values over a 24-hour

period. Additionally, the FAA works in conjunction with other federal agencies, such as the U.S. Environmental Protection Agency, to address noise issues related to aviation.

Public Law 96 193 also directs the FAA to identify land uses which 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. These recommended noise levels are included in Table 3.13-1, *Normally Compatible Community Sound Levels*.

Table 3.13-1 Normally Compatible Community Sound Levels

Type of Area	$L_{eq}(24)$
Residential	
Suburban	57
Urban	67
City	72
Commercial	72
Industrial	77

Source: FAA 2004.

Notes: The L_{eq} is the equivalent continuous noise level, which describes sound levels that vary over time, resulting in a single decibel value that takes into account the total sound energy over the period of time of interest.

STATE

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 cities 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, Title 24, Part 2, Volume 1, Chapter 12, Section 1207.11.2, *Allowable Interior Noise Levels*, requires that interior noise levels attributable to exterior sources shall not exceed 45 dB in any habitable room. The noise metric is evaluated as either the L_{dn} or the CNEL, consistent with the noise element of the local general plan.

California Building Code: CALGreen

The State of California's noise insulation standards are codified in the California Code of Regulations, Title 24, 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 (Section 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 in locations where the aircraft exterior noise level exceeds 65 dBA CNEL are generally incompatible, unless an aviation easement for aircraft noise has been acquired by the airport proprietor, or the residence is a high-rise apartment or condominium that has an interior CNEL of 45 dBA or less in all habitable rooms despite aircraft noise, and an air circulation or air conditioning system, as appropriate. Assembly Bill 2776 requires any person who intends to sell or lease residential properties within an airport influence area (AIA) to disclose that fact to the person buying the property.

LOCAL

Code of Ordinances

The Lake County Code of Ordinances (LCCO) includes various directives pertaining to noise. The LCCO is organized by chapter, article, and section. Most provisions related to noise are included in Chapter 15, *Recreation,* and Chapter 21, *Zoning*, in Article XLI, *General Performance Standards*.

- **Chapter 15, *Recreation.*** Section 15-4, *Excessive Noise,* outlines the requirements for motorboats to minimize noise.

- **Chapter 21, *Zoning*.** Section 41.11, *Noise,* states that the maximum sound emissions for any use must not exceed equivalent sound pressure levels in decibels, A-Weighted Scale, for any one hour as stipulated in Table 3.13-2, *Maximum One-Hour Equivalent Sound Pressure Levels (A-Weighted – dBA)*. These maximums are applicable beyond any property lines of the property containing the noise. For noises of short duration or impulsive character, such as hammering, maximum one-hour sound pressure levels permitted beyond the property of origin shall be seven decibels less than those listed in Table 3.13-2, *Maximum One-Hour Equivalent Sound Pressure Levels (A-Weighted – dBA)*.

Table 3.13-2 Maximum One-Hour Equivalent Sound Pressure Levels (A-Weighted – dBA)

Time of Day	Receiving Property Zoning District		
	Residential	Commercial	Industrial
7:00 am – 10:00 pm	55 dBA	60 dBA	65 dBA
10:00 pm – 7:00 am	45 dBA	55 dBA	60 dB A

Source: Lake County Zoning Ordinance, Section 41.11.

Exemptions to the local noise standards are outlined in Section 41.11 (e), *Exemptions*. Provided standard, reasonable practices are being followed, the following situations and sources of noise are exempt for the standard noise standards:

- Emergency equipment operated on an irregular or unscheduled basis.
- Warning devices operated continuously for no more than five (5) minutes.
- Bells, chimes, or carillons.
- Non-electronically amplified sounds at sporting, amusement, and entertainment events.
- Construction site sounds between 7:00 am and 7:00 pm.
- Lawn and plant care machinery fitted with correctly functioning sound suppression equipment and operated between 7:00 am and 8:00 pm.
- Aircraft when subject to federal or state regulations.
- Agricultural equipment when operated on property zoned for agricultural activities.

Airport Land Use Compatibility Plan

Lake County's Airport Land Use Commission (ALUC) adopted the *Lake County Airport Land Use Compatibility Plan* (ALUCP) in 2007 to ensure land uses surrounding the Lampson Field Airport are compatible with airport-serving uses. The ALUCP evaluates all surrounding land within the AIA, defined as any land on which current or future airport-related noise, overflight, safety, or airspace protection factors may impact existing land uses. The ALUCP sets forth the criteria and policies which the Lake County ALUC will use in assessing the compatibility between Lampson Field and proposed development in the surrounding area and requires that any proposed

project, specific plan, general plan, zoning ordinance, or building regulation, proposed within the AIA, is reviewed by the ALUC to ensure consistency with the ALUCP (LCALUC 2007). The commission also holds regular meetings to discuss and resolve land use conflicts, ensuring that the interests of both the airport/heliports and the local communities are balanced effectively.

3.13.2 Existing Conditions

COUNTYWIDE AREA

Community Noise

Community noise varies continuously over a period of time with respect to the contributing sound sources of the community noise environment. Community noise is primarily the product of many distant noise sources, which constitute a relatively stable background noise exposure, with the individual contributors unidentifiable. The background noise level changes throughout a typical day, but does so gradually, corresponding with the addition and subtraction of distant noise sources such as traffic and atmospheric conditions. What makes community noise constantly variable throughout a day, besides the slowly changing background noise, is the addition of short duration single event noise sources (e.g., aircraft flyovers, motor vehicles, sirens), which are readily identifiable to the individual receptor. These successive additions of sound to the community noise environment vary the community noise level from instant to instant, requiring the measurement of noise exposure over a period of time to legitimately characterize a community noise environment and evaluate cumulative noise impacts. This time-varying characteristic of environmental noise is described using statistical noise descriptors, as described above.

The primary noise source influencing unincorporated Lake County is related to vehicular traffic on the highways/state routes traversing the County, including Highway 20, traversing the East Lake Communities Planning Area and the North Lake Communities Planning Area; Highway 29, traversing the North Lake Communities Planning Area, Lakeport Planning Area, Kelseyville Planning Area, Rivieras Planning Area, Lower Lake Planning Area and Middletown Planning Area; Highway 53, located in the East Lake Communities Planning Area; Highway 175, traversing the Lakeport Planning Area, Kelseyville Planning Area, Cobb Mountain Planning Area, and Middletown Planning Area; and Highway 281, located in the Rivieras Planning Area.

Other noise sources affecting Lake County include aircraft overflight and airport noise from operations associated with the Lampson Field Airport, located two miles south of the incorporated city of Lakeport within the Kelseyville Planning Area adjacent to the Lakeport Planning Area; Sutter Lakeside Hospital Heliport, located three miles north of Lakeport within the Lakeport Planning Area; and St. Helena Hospital Clearlake Heliport located in the city of Clearlake. Additionally, while not located within Lake County, the County's community noise is minimally influenced by overflights associated with the Ukiah Municipal Airport and Adventist

Health – Ukiah Valley Heliport, both of which are located in Ukiah, California in Mendocino County.

Noise produced by industrial or commercial activity has a negligible effect on the ambient noise environment of Lake County. However, as the incorporated cities in Lake County (Lakeport and Clearlake) continue to develop and urbanize, noise from everyday urban activities in these cities, such as commercial traffic, construction, and increased population density, can become a more pronounced noise source affecting the neighboring unincorporated county areas just beyond their city limits.

Lake County is notably affected by recreational boating activities associated with Clear Lake, a known hub of recreational activities. Popular activities include boating, jet skiing, fishing, and other water sports. Motorboat and jet ski engines produce substantial noise levels, particularly at high speeds. Boat engines generate more noise at higher speeds due to increased engine RPMs (revolutions per minute) and the resulting exhaust noise. Additionally, activities like water skiing and wakeboarding, which require powerful boats, contribute to elevated noise levels. While traditional fishing from the shore or non-motorized boats has minimal noise impact, many recreationalists on Clear Lake use motorized boats to quickly move between locations, contributing to increased noise levels. Noise from fishing boats can be less intrusive than high-speed recreational boating but still adds to the overall noise environment. Various events are also hosted on Clear Lake, including fishing tournaments. These events often attract large crowds and often involve amplified music and announcements, which add to the ambient noise. Chapter 15, *Recreation*, of the LCCO regulates noise generated on Clear Lake by limiting noise from individual boats to 90 dBA at 50 feet. Additionally, Chapter 15, *Recreation*, of the LCCO restricts boating from certain areas of the lake and limits boat speed to less than five miles per hour in other areas of the lake. By limiting the speed of boats, the engines operate at lower RPMs, producing less noise. Studies have shown that reducing boat speeds can significantly decrease noise levels. For instance, a boat traveling at 35 miles per hour can be twice as loud as one traveling at 12 miles per hour.

The American National Standards Institute (ANSI) Standard 12.9-2013/Part 3 *Quantities and Procedures for Description and Measurement of Environmental Sound – Part 3: Short-Term Measurements with an Observer Present* provides a table of approximate background sound levels in L_{dn}, daytime L_{eq}, and nighttime L_{eq}, based on land use and population density. The ANSI standard estimation divides land uses into six distinct categories. Descriptions of these land use categories, along with the typical daytime and nighttime levels, are provided in Table 3.13-3, *ANSI Standard 12.9-2013/Part 3 A-weighted Sound Levels Corresponding to Land Use and Population Density*. At times, one could reasonably expect the occurrence of periods that are both louder and quieter than the levels listed in the table. ANSI notes, "*95% prediction interval [confidence interval] is on the order of ±10 dB*."

Table 3.13-3 ANSI Standard 12.9-2013/Part 3 A-weighted Sound Levels Corresponding to Land Use and Population Density

Category	Land Use	Description	People per Square Mile	dBA		
				Typical CNEL/L_{dn}	Daytime L_{eq}	Nighttime L_{eq}
1	Noisy Commercial & Industrial Areas and Very Noisy Residential Areas	Very heavy traffic conditions, such as in busy, downtown commercial areas; at intersections for mass transportation or other vehicles, including elevated trains, heavy motor trucks, and other heavy traffic; and at street corners where many motor buses and heavy trucks accelerate.	63,840	67	66	58
2	Moderate Commercial & Industrial Areas and Noisy Residential Areas	Heavy traffic areas with conditions similar to Category 1, but with somewhat less traffic; routes of relatively heavy or fast automobile traffic, but where heavy truck traffic is not extremely dense.	20,000	62	61	54
3	Quiet Commercial, Industrial Areas and Normal Urban & Noisy Suburban Residential Areas	Light traffic conditions where no mass-transportation vehicles and relatively few automobiles and trucks pass, and where these vehicles generally travel at moderate speeds; residential areas and commercial streets, and intersections, with little traffic, compose this category.	6,384	57	55	49
4	Quiet Urban & Normal Suburban Residential Areas	These areas are similar to Category 3, but for this group, the background is either distant traffic or is unidentifiable; typically, the population density is one-third the density of Category 3.	2,000	52	50	44

Table 3.13-3 ANSI Standard 12.9-2013/Part 3 A-weighted Sound Levels Corresponding to Land Use and Population Density

Category	Land Use	Description	People per Square Mile	dBA		
				Typical CNEL/L_{dn}	Daytime L_{eq}	Nighttime L_{eq}
5	Quiet Residential Areas	These areas are isolated, far from significant sources of sound, and may be situated in shielded areas, such as a small-wooded valley.	638	47	45	39
6	Very Quiet Sparse Suburban or rural Residential Areas	These areas are similar to Category 4 but are usually in sparse suburban or rural areas; and, for this group, there are few if any nearby sources of sound.	200	42	40	34

Source: ANSI 2013.

While there are areas of unincorporated Lake County subject to ambient noise Category 2 during certain times of the year, such as the areas adjacent to the cities of Lakeport and Clearlake during the peak summer recreational season, most of the County's communities, such as Kelseyville, Lucerne and Middletown, could be considered ambient noise Category 3 or Category 4 while the more rural areas of the County could be considered ambient noise Categories 5 and 6.

Aircraft Noise

The County experiences noise from aircraft departing from and arriving at area airports and heliports (Lampon Field Airport in the Kelseyville Planning Area, Gravelly Valley Airstrip in the North Lake Communities Planning Area, Sutter Lakeside Hospital Heliport in the Lakeport Planning Area, and St. Helena Hospital Clearlake Heliport in the city of Clearlake). Lake County is not authorized to regulate aircraft noise. As described in Section 3.13.1, Regulatory Framework, in Lake County, the ALUC addresses airport and land use compatibility by focusing on the orderly operation of airports and the County's two heliports. Minimizing noise impacts from aircraft is one of the primary objectives of the ALUC.

Lampson Field Airport

Lampson Field Airport is a general aviation facility serving Lake County. Owned by Lake County, Lampson Field Airport is two miles south of the incorporated city of Lakeport. Lampson Field consists of a single 3,700-foot east/west runway designated Runway 7-25. There are currently 31 aircraft based at Lampson Field Airport, averaging 209 operations daily (AirNav.com 2022). The primary runway is 3,600 feet in length and oriented northwest/southeast.

Gravelly Valley Airstrip

The Gravelly Valley Airstrip is located just north of Lake Pillsbury and is owned by the US Forest Service. It is used only on occasion, by private small planes to access Lake Pillsbury recreation areas or as needed during the fire season. The airport is unattended and does not provide any services. The airport contains one runway approximately 4,050-feet long with a gravel surface in fair condition.

Sutter Lakeside Hospital Heliport

Sutter Lakeside Hospital Heliport is a private, medical use heliport associated with the Sutter Lakeside Hospital. Owned by the Sutter Lakeside Hospital, this heliport is three miles north of the incorporated city of Lakeport at 5176 Hill Road East. It is 40 x 40 feet in size and designed to accommodate Bell 222-type helicopters. Helicopter operations generate complex noise patterns that impact the environment and communities surrounding heliports and flight paths. The noise dynamics associated with helicopter operations are complex and multifaceted, influenced by rotor mechanics, flight maneuvers, environmental conditions, and measurement techniques. According to the FAA, the Bell 222 helicopter generates substantial noise levels

during different operational modes, with maximum noise levels occurring during takeoff and low-altitude flyovers (Newman 1984).

St. Helena Hospital Clearlake Heliport

St. Helena Hospital Clearlake Heliport, located in the City of Clearlake, is a private, medical use heliport associated with the St. Helena Hospital. Owned by Adventist Health, this heliport is located at 15630 18th Avenue in Clearlake. It is 43 x 43 feet in size. Similar to operations at the Sutter Lakeside Hospital Heliport, helicopters using the St. Helena Hospital Clearlake Heliport generate substantial noise levels during different operational modes, with maximum noise levels occurring during takeoff and low-altitude flyovers.

In addition to these facilities located within Lake County, the County's community noise is minimally influenced by overflights associated with the Ukiah Municipal Airport and Adventist Health – Ukiah Valley Heliport, both of which are located in Ukiah, California in Mendocino County.

Traffic Noise

Traffic noise levels depend primarily on the speed of the traffic and the volume of trucks. The primary source of noise from automobiles is high-frequency tire noise, which increases with speed. Trucks and older automobiles produce engine and exhaust noise, and trucks can also generate wind noise. Tire noise from cars is produced at ground level (i.e., where the tire contacts the road), whereas truck noise can be generated at a height of 10 to 15 feet above the road, depending on the height of the exhaust pipe(s) and engine. As a result, sound walls are not as effective at reducing truck noise unless they are very tall.

The dominant noise source throughout much of Lake County is vehicle traffic on its highways. These include:

- Highway 20, traversing the East Lake Communities Planning Area and the North Lake Communities Planning Area
- Highway 29, traversing the North Lake Communities Planning Area, Lakeport Planning Area, Kelseyville Planning Area, Rivieras Planning Area, Lower Lake Planning Area and Middletown Planning Area
- Highway 53, located in the East Lake Communities Planning Area
- Highway 175, traversing the Lakeport Planning Area, Kelseyville Planning Area, Cobb Mountain Planning Area, and Middletown Planning Area
- Highway 281, located in the Rivieras Planning Area.

Existing noise levels from highways and roads have been calculated for the sections that traverse through Lake County, including both highway and non-highway routes. This task was accomplished using the FHWA Highway Traffic Noise Prediction Model (FHWA-RD-77-108) (see

Appendix E, *Noise Data*) and traffic volumes obtained Fehr & Peers (2025). The model calculates the average noise level at specific locations based on traffic volumes, average speeds, roadway geometry, and site environmental conditions. The average vehicle noise rates (energy rates) used in the FHWA model have been modified to reflect average vehicle noise rates identified for California by the California Department of Transportation (Caltrans). The Caltrans data shows that California automobile noise is 0.8 to 1.0 dBA higher than national levels and that medium and heavy truck noise is 0.3 to 3.0 dBA lower than national levels. The average daily noise levels along these highway and roadway segments are presented in Table 3.13-4, *Existing Highway and Roadway Noise Levels*.

Table 3.13-4 Existing Highway and Roadway Noise Levels

Roadway Segment	Volume (Average Daily Trips)	CNEL/L_{dn} at 100 Feet	Distance to CNEL/L_{dn} Contour (feet) [a,b]			
			70 dBA	65 dBA	60 dBA	55 dBA
Highway 20						
Between Lake/ Mendocino County Line & Hwy 29 Junction	10,050	**61.7**	-	60	130	281
Between Blue Lakes Rd & Hwy 29 Junction	9,800	**60.5**	-	50	108	233
Between HWY 29 Junction & Lucerne Cutoff	9,800	**60.5**	-	50	108	233
Between Lucerne Cutoff & Hammond Ave	12,000	**61.4**	-	57	124	267
Between Hammond Ave & Manzanita Dr	12,000	**63.5**	37	80	171	+350
Between Manzanita Dr & Foothill Dr	12,000	**58.9**	-	39	84	182
Between Foothill Dr & Bell Ray Ave	12,000	**58.9**	-	39	84	182
Between Bell Ray Ave & Rosemont Dr	10,300	**58.2**	-	35	76	164
Between Rosemont Dr & Road 208K	10,300	**60.7**	-	52	112	241
Between Road 208K & Sulphur Bank Dr	10,300	**58.2**	-	35	76	164
Between Sulphur Bank Dr & HWY 53 Junction	10,300	**64.7**	44	95	205	+350
Between HWY 53 Junction & Old Long Valley Road	7,300	**60.3**	-	49	105	227
Between Old Long Valley Road & Lake/Colusa County Line	7,300	**63.2**	35	76	163	+350
Highway 29						
Between Lake/Napa County Line & Sheveland Rd/Dry Creek Cutoff	10,800	**64.0**	40	86	185	+350
Between Sheveland Rd/Dry Creek Cutoff & HWY 175 Junction	10,800	**62.0**	-	63	137	294
Between HWY 175 Junction & Hidden Valley Rd	12,800	**63.8**	39	83	179	+350
Between Hidden Valley Rd & Clayton Creek Rd	10,900	**63.1**	35	75	161	346
Between Clayton Creek Rd & Lee Barr Dr	11,700	**62.4**	-	67	144	311
Between Lee Barr Dr & Marshview Way	11,700	**61.3**	-	56	122	262
Between Marshview Way & Diener Dr/Rd 543	11,700	**63.4**	36	78	169	+350
Between Diener Dr/Rd 543 & Konocti Rock Company Rd	9,300	**61.4**	-	57	124	266
Between Konocti Rock Company Rd & HWY 175 Junction	9,300	**63.7**	-	82	177	+350

Table 3.13-4 Existing Highway and Roadway Noise Levels

Roadway Segment	Volume (Average Daily Trips)	CNEL/L_{dn} at 100 Feet	Distance to CNEL/L_{dn} Contour (feet) [a,b]			
			70 dBA	65 dBA	60 dBA	55 dBA
Between HWY 175 Junction & Cruickshank Rd	13,500	**64.0**	40	86	185	+350
Between Cruickshank Rd & Thomas Dr	13,500	**61.9**	-	63	135	291
Between Thomas Dr & HWY 175 Junction	13,500	**63.0**	34	74	159	342
Between HWY 175 Junction & Todd Rd	13,500	**61.9**	-	62	134	288
Between Todd Rd & 11th St	13,500	**64.3**	-	90	194	+350
Between 11th St & Lucerne Cutoff	7,000	**62.4**	-	67	145	313
Between Lucerne Cutoff & Tule Lake Rd	7,000	**60.2**	-	48	102	221
Between Tule Lake Rd & HWY 20 Junction	7,000	**61.2**	-	56	120	258
Highway 53						
Between HWY 29 & Anderson Ranch Parkway	17,700	**63.2**	-	76	164	+350
Between Anderson Ranch Parkway & Clearlake City Limits (south)	17,700	**66.5**	58	125	269	+350
Between Clearlake City Limits (north) & HWY 20 Junction	8,500	**61.0**	-	54	116	251
Highway 175						
Between Lake/Mendocino County Line & Dixon Dr)	1,900	**55.5**	-	-	50	108
Between Dixon Dr & HWY 29 Junction (south of Lakeport)	1,900	**50.9**	-	-	-	53
Between HWY 29 Junction & Cobb Post Office/High Rd (south of Kelseyville)	840	**50.9**	-	-	-	54
Between Cobb Post Office/High Road & Dry Creek Rd	2,700	**56.0**	-	-	54	117
Between Dry Creek Rd & HWY 29 Junction (at Middletown)	2,700	**52.4**	-	-	-	67
Highway 281						
Between Konocti Bay Rd & Point Lakeview Rd	6,400	**59.8**	-	45	96	208
Between Point Lakeview Rd & HWY 29 Junction	6,400	**56.2**	-	-	55	119

Table 3.13-4 Existing Highway and Roadway Noise Levels

Roadway Segment	Volume (Average Daily Trips)	CNEL/L_{dn} at 100 Feet	Distance to CNEL/L_{dn} Contour (feet) [a,b]			
			70 dBA	65 dBA	60 dBA	55 dBA
11th Street						
Between HWY 29 NB & Central Park Ave	9,426	**57.8**	-	33	72	155
Between Central Park Ave & Mellor St	9,426	**56.9**	-	-	62	134
Between Mellor St & N Main St	9,426	**56.9**	-	-	62	133
Bottle Rock Road						
Between HWY 29 & Cold Creek Rd	1,806	**50.7**	-	-	-	51
Between Cold Creek Rd & Sulphur Creek Rd	1,806	**53.2**	-	-	35	75
Between Sulphur Creek Rd & HWY 175	1,369	**49.5**	-	-	-	43
Hartmann Road						
Between HWY 29 & Stinson Rd	6,376	**56.1**	-	-	55	119
Lakeshore Boulevard						
Between 20th St & Hill Rd E	4,518	**54.6**	-	-	44	95
Between Hill Rd E & Nice-Lucerne Cutoff	4,518	**57.1**	-	-	65	139
Lakeshore Drive						
Between W 40th St & Old HWY 53	14,228	**59.7**	-	44	95	205
Between Old HWY 53 & Arrowhead Rd	14,228	**58.7**	-	38	81	175
Loch Lomond Road						
Between HW 175 & Sycamore Rd	1,089	**48.5**	-	-	-	37
Main Street (Kelseyville)						
Between HWY 29 & Merritt Rd	3,647	**53.7**	-	-	38	82
Main Street (Lower Lake)						
Between HWY 29 & Mill St	3,498	**53.5**	-	-	37	80
Merritt Road						
Between HWY 29 & Loasa Rd	3,347	**52.4**	-	-	-	67

Table 3.13-4 Existing Highway and Roadway Noise Levels

Roadway Segment	Volume (Average Daily Trips)	CNEL/L_{dn} at 100 Feet	Distance to CNEL/L_{dn} Contour (feet) [a,b]			
			70 dBA	65 dBA	60 dBA	55 dBA
Nice-Lucerne Cutoff Road						
Between HWY 29 & HWY 20	5,040	**57.6**	-	32	69	150
Old Highway 53						
Between Cache Creek Way & Olympic Dr	6,184	**58.5**	-	37	80	171
Olympic Drive						
Between HWY 53 and Lakeshore Dr	8,835	**58.9**	-	39	84	181
Park Way						
Between Hill Rd E & Lakeshore Blvd	2,136	**51.4**	-	-	-	57
Point Lakeview Road						
Between Soda Bay Rd & Wheeler Dr	2,251	**51.6**	-	-	-	59
S Main Street						
Between Soda Bay Rd & Lakeport Blvd	9,685	**58.0**	-	34	73	157
Between Lakeport Blvd & Peckham Ct	9,685	**58.0**	-	-	73	158
Between Peckham Ct & Martin St	9,685	**58.0**	-	34	73	157
Scotts Valley Road						
Between HWY 20 & Hendricks Rd	843	**49.9**	-	-	-	45
Between Hendricks Rd & Mountain View Rd	843	**47.4**	-	-	-	-
Sieglar Canyon Road						
Between HWY 29 & Perini Rd (southern)	870	**46.5**	-	-	-	-
Soda Bay Road						
Between HWY 29 & Montezuma Way	5,098	**55.2**	-	-	48	103
Between Montezuma Way & HWY 29	1,704	**50.4**	-	-	-	49

Table 3.13-4 Existing Highway and Roadway Noise Levels

Roadway Segment	Volume (Average Daily Trips)	CNEL/L_{dn} at 100 Feet	Distance to CNEL/L_{dn} Contour (feet) [a,b]			
			70 dBA	65 dBA	60 dBA	55 dBA
Spruce Grove Road						
Between HWY 29 & Tinilyn Dr	685	**46.4**	-	-	-	-

Notes:

a. Distance to L_{dn} contours do not account for the noise attenuation attributable to intervening structures and topography.

b. All contour distances +350 feet are capped at 350 feet from roadway centerlines.

Refer to Appendix E, *Noise Data,* for traffic noise modeling assumptions and results.

Source: Traffic noise levels were calculated using the FHWA Highway Noise Prediction Model in conjunction with the trip generation rate identified by Fehr & Peers (2025).

Existing noise contours are presented on Figures N-1, N-3, N-5, N-7, N-9, N-11, N-13, and N-15 of the proposed General Plan 2050 Noise Element. The noise contours shown represent the predicted noise level based on highway volumes, the percentage of trucks, speed, and other factors.

3.13.3 Standards for Analysis

SIGNIFICANCE CRITERIA

Appendix G, *Environmental Checklist Form*, of the California Environmental Quality Act (CEQA) Guidelines states that the proposed project would result in a significant impact related to noise if it would:

a) Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

b) Generate excessive groundborne vibration or groundborne noise levels.

c) For a project within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, if the project would expose people residing or working in the project area to excessive noise levels.

THRESHOLD GUIDANCE

A project might have a significant effect on the environment if it would substantially increase the ambient noise levels in the area or expose people to severe noise levels. A change in level of at least 5 dBA is required before any noticeable change in community response is expected. Based on this fact and the existing Noise Element policies, a significant increase in traffic noise is considered to be an increase in the existing ambient noise environment of at least 5 dBA CNEL/L_{dn}. Based on Section 41.11, *Noise*, of the County's Zoning Ordinance, an individual project would also be considered to have a significant impact if its onsite noise sources generate noise levels above the maximum one-hour stationary-source standards identified in Table 3.13-2, *Maximum One-Hour Equivalent Sound Pressure Levels (A-Weighted – dBA)*.

Buildout of the proposed land use plan under the proposed project could result in siting sensitive uses (e.g., residential) near major sources of noise and vibration (freeways, rail lines, industrial uses, etc.). Developing new sensitive land uses near sources of noise emissions could expose persons that inhabit these sensitive land uses to potential noise levels that exceed the County's sound level standards. 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. As a result of the California Supreme Court decision regarding the assessment of the environment's impacts on projects (*California 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. Therefore, CEQA does not require an analysis of the potential environmental effects from siting sensitive receptors near existing sources, and this type of analysis is not provided in the impact discussion. However, the proposed General Plan 2050 includes policies that would require design features to minimize noise and vibration impacts and to comply with the County's sound level standards.

METHODOLOGY

This is a program-level analysis that considers the potential impacts from adoption of the proposed General Plan 2050 by assessing proposed policies contained within, and development and activities that may occur under it. Impacts relative to noise and vibration are evaluated using the thresholds of significance identified above and based on information included in the proposed General Plan 2050 and existing and future traffic volumes provided by Fehr & Peers Transportation Consultants (Fehr & Peers 2025). The proposed General Plan 2050 does not propose specific development projects but, for the purposes of environmental review, establishes the potential buildout of the proposed General Plan 2050. This represents the maximum feasible development that the County has projected can reasonably be expected to occur throughout the proposed General Plan horizon. To capture the potential impact of future development under the proposed General Plan 2050, this analysis utilizes the baseline existing conditions described above and analyzes the impacts of urban development through the projection period. Roadside noise levels were calculated for the same roadways analyzed under existing conditions. The street segments selected for analysis are those forecast to experience the greatest percentage increase in traffic generated by future development under the proposed General Plan 2050 and are therefore expected to be most directly impacted. Transportation-source noise levels have been calculated using the FHWA Highway Noise Prediction Model (FHWA-RD-77-108) with traffic counts provided by Fehr & Peers Transportation Consultants (2025). The model calculates the average noise level at specific locations based on traffic volumes, average speeds, roadway geometry, and site environmental conditions. The average vehicle noise rates (energy rates) used in the FHWA model have been modified to reflect average vehicle noise rates identified for California by Caltrans. The Caltrans data shows that California automobile noise is 0.8 to 1.0 dBA higher than national levels and that medium and heavy truck noise is 0.3 to 3.0 dBA lower than national levels.

3.13.4 Project Impact Discussion

a) Would the project generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Temporary Construction Noise

Under the proposed project, the primary source of temporary noise within the EIR Study Area would be demolition and construction activities associated with development projects and activities. Construction activities would involve both off-road construction equipment (e.g., excavators, dozers, cranes, etc.) and transport of workers and equipment to and from construction sites. Table 3.13-5, *Reference Construction Equipment Noise Levels (50 Feet from Source)*, shows typical noise levels produced by the types of off-road equipment that would likely be used during future construction within the EIR Study Area. It is noted that future development over the buildout horizon could potentially require installation of pile foundations that may utilize impact pile drivers or similar equipment that may be expected to generate high noise levels.

Construction noise is currently an intermittent source of temporary noise within the EIR Study Area and will continue to be so regardless of the proposed project. Noise levels near individual construction sites associated with development and activities under the proposed project would not be substantially different from noise levels under existing conditions. Since specific future projects within the EIR Study Area are unknown at this time, it is conservatively assumed that the construction areas associated with these future projects could be located within 50 feet of sensitive land uses. As depicted in Table 3.13-5, *Reference Construction Equipment Noise Levels (50 Feet from Source)*, noise levels generated by individual pieces of construction equipment typically range from approximately 74 dBA to 101.3 dBA L_{max} at 50 feet and 67.7 dBA to 94.3 dBA L_{eq} at 50 feet. Average hourly noise levels associated with construction projects can vary, depending on the activities performed. Short-term increases in vehicle traffic, including worker commute trips and haul truck trips, may also result in temporary increases in ambient noise levels at nearby receptors. During each stage of construction, a different mix of equipment would operate, and noise levels would vary based on the amount of equipment on-site and the location of the activity. Construction noise levels drop off at a rate of about 6 dBA per doubling of distance between the noise source and the receptor. Intervening structures or terrain would result in lower noise levels at distant receivers.

Table 3.13-5 Reference Construction Equipment Noise Levels (50 feet from source)

Equipment	Typical Noise Level (dBA) at 50 Feet from Source	
	L_{max}	L_{eq}
Aerial Lift	74.7	67.7
Air Compressor	77.7	73.7
Backhoe	77.6	73.6
Blasting	94.0	73.0
Boring Jack (Power Unit)	83.0	80.0
Boring Jack (Horizontal)	82.0	76.0
Chain Saw	83.7	76.7
Compactor (Ground)	83.2	76.2
Concrete Mixer Truck	78.8	74.8
Concrete Mixer (Vibratory)	80.0	73.0
Concrete Pump Truck	81.4	79.4
Concrete Saw	89.9	82.6
Crane	80.6	72.6
Dozer	81.7	77.7
Drill Rig	84.4	77.4
Drill Rig Truck	79.1	72.2
Drum Mixer	80.0	77.0
Dump Truck	76.5	72.5
Excavator	80.7	76.7
Front End Loader	79.1	75.1
Generator	80.6	77.6
Gradall	83.4	79.4
Grader	85.0	81.0
Hydraulic Break Ram	90.0	80.0
Impact Hammer/Hoe Ram (Mounted)	90.3	83.3
Jackhammer	88.9	81.9
Other Equipment	85.0	82.0
Pavement Scarifier	89.5	82.5
Paver	77.2	74.2
Pile Driver (Impact)	101.3	94.3
Pile Driver (Vibratory)	100.8	93.8
Pneumatic Tools	85.2	82.2
Pumps	80.9	77.9
Rock Drill	81.0	74.0
Roller	80.0	73.0
Scraper	83.6	79.6
Tractor	84.0	80.0

Table 3.13-5 Reference Construction Equipment Noise Levels (50 feet from source)

Equipment	Typical Noise Level (dBA) at 50 Feet from Source	
	L_{max}	L_{eq}
Truck (Flat Bed)	74.3	70.3
Truck (Pick Up)	75.0	71.0
Vacuum Street Sweeper	81.6	71.6
Welder	74.0	70.0

Source: FHWA 2006

The County's regulations with respect to noise are included in LCCO Section 41.11*, Noise*. Exemptions, outlined in Section 41.11, detail exemptions to the noise codes and ordinances. This part of the ordinance states that noise sources associated with construction are exempted from County noise standards as long as it is limited to between the hours of 7:00 a.m. to 7:00 p.m. It is common construction noise to be regulated in this manner since construction noise is temporary, short term, intermittent in nature, and cease on completion of construction. In addition, the proposed General Plan 2050 policies and actions that would minimize any potentially significant impacts related to construction noise are shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, and denoted with the abbreviation NOI. In particular, the following policies would serve to minimize construction noise:

- Policy N-1.5* requires a project-specific acoustic study for projects that may exceed County noise standards to be prepared by a qualified technician and subject to review by County staff. At a minimum, studies will assess the noise environment in the project vicinity, describe the noise generation of the proposed project, recommend mitigation strategies, and provide a noise monitoring program.
- Policy N-1.7 requires contractors to use noise-reducing measures when construction occurs within 300 feet of residential uses or other sensitive receptors, such as using hydraulic- or electric-powered impact tools (e.g., jack hammers and hoe rams) wherever possible or selecting haul routes that avoid the greatest amount of sensitive-use areas.

Implementation of the proposed project anticipates an increase in development intensity to accommodate new population and employment growth. As described, 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.

In most cases, construction of individual developments associated with implementation of the proposed project would temporarily increase the ambient noise environment in the vicinity of each individual project, potentially affecting existing and future nearby sensitive uses. Because the LCCO finds that noise sources associated with construction are exempted from County noise standards as long as it is limited to between the hours of 7:00 a.m. to 7:00 p.m., potential future development during these times is considered to have a less-than-significant impact with respect to construction noise. However, due to the unknown nature of project-level details, the combination of construction equipment used, including projects that have request exceptions to the LCCO construction hours, the temporary program-level construction noise impacts associated with implementation of the proposed project are considered potentially **significant**.

Impact NOI-1: Construction activities associated with potential future development could expose sensitive receptors to excessive noise from construction equipment.

Significance with Mitigation: Implementation of the proposed General Plan 2050 policies and actions, as well as compliance with the LCCO pertaining to temporary construction noise would ensure community members are not exposed to high noise levels from construction equipment. Specifically, proposed Policy N-1.5* NOI requires a project-specific acoustic study for projects that may exceed County noise standards to be prepared by a qualified technician and subject to review by County staff and recommend mitigation strategies. Accordingly, with the ongoing implementation of the LCCO and proposed General Plan 2050 policies and actions, construction noise from potential future development in in the EIR Study Area would be **less than significant**.

Stationary Source Noise

Potential future development over the buildout horizon of the proposed project could generate substantial stationary noise. Such sources could generate noise from heating, ventilation, and air conditioning (HVAC) mechanical equipment, back-up diesel generators in some cases, parking lot activity, backup beepers from internal truck and equipment maneuvering, and other sources. Table 3.13-6*, Reference Stationary Noise Levels (at the Source)*, identifies noise levels generally associated with common stationary noise sources.

Table 3.13-6 Reference Stationary Noise Levels (at the source)

Stationary Noise Source	L_{eq}
Commercial Car Wash [a]	79.1 dBA
Drive Thru Activity (speaker) [b]	89.1 dBA
Gasoline Dispensing Station [c]	64.7 dBA
Generators [d]	75.0 dBA
HVAC Mechanical Equipment [e]	56.8 dBA
Parking Garage [f]	52.6 dBA
Regional Shopping Center Parking Lot [g]	61.1 dBA
Small Parking Lot [h]	53.2 dBA
Tire and Lube Service Station [i]	62.3 dBA
Truck Backup Beeper [j]	79.0 dBA
Truck Yard/Warehouse [k]	62.4 dBA

Notes:

a. The average of two noise measurements conducted at commercial carwashes in 2019 and 2022.
b. The average of six noise measurements conducted within fast food restaurant drive thru while drive thru speaker in use.
c. The average of five noise measurements conducted within the fuel canopy of gasoline dispensing stations in 2019 and 2021.
d. Generac Mobile Diesel Generator Set Specification Sheet 2020.
e. One noise measurement conducted at an operating HVAC unit in 2017.
f. One noise measurement conducted within a parking garage in 2019.
g. One noise measurement conducted within a Safeway parking lot in 2019.
h. The average of three noise measurements conducted within a strip mall parking lot in 2022, hotel parking lot in 2021, and medical facility parking lot in 2020.
i. The average of two noise measurements conducted at a Big O Tires in 2019 and a Jiffy Lube in 2022.
j. City of San Jose 2014 Midpoint at 237 Loading Dock Noise Study.
k. The average of five noise measurements conducted at four truck yards and one distribution center in 2021.

Stationary source noise is currently a notable source of noise within the EIR Study Area and would continue to be so regardless of the proposed project. While implementation of the proposed project anticipates an increase in development intensity to accommodate new population and employment growth, noise levels near individual sources under the proposed project would not be substantially different from what they would be under existing conditions.

Stationary equipment included in any future development under implementation of the proposed project would be required to adhere to the regulations included in LCCO Section 41.11, *Noise*. Section 41.11 states that the maximum sound emissions for any use must not exceed equivalent sound pressure levels in decibels, A-Weighted Scale, for any one hour as stipulated in Table 3.13-2, *Maximum One-Hour Equivalent Sound Pressure Levels (A-Weighted – dBA)*. These maximums are applicable beyond any property lines of the property containing the

noise. In addition, the proposed General Plan 2050 policies and actions that would minimize any potentially significant impacts related to noise from stationary sources are shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation NOI, and described further under "Traffic Noise."

However, like construction noise, due to the unknown nature of project-level details, impacts related to stationary noise associated with implementation of the proposed project are considered **potentially significant.**

Impact NOI-2: Operational noise from stationary sources associated with potential future development could expose sensitive receptors to excessive noise from stationary equipment.

Significance with Mitigation: Implementation of the proposed General Plan 2050 policies and actions, as well as compliance with the LCCO pertaining to operational noise would ensure community members are not exposed to high noise levels from stationary equipment from future development in the EIR Study Area. Specifically, proposed N-1.4* requires the County to prohibit the development of new noise-generating land uses adjacent to existing sensitive noise receptors (e.g., housing, schools, and health care facilities), if CNEL is expected to exceed 55 dBA during daytime hours (7:00 a.m. to 10:00 p.m.) or 45 dBA during nighttime hours (10:00 p.m. to 7:00 a.m.), unless effective mitigation measures are incorporated into the project design, and Policy N-1.5*requires a project-specific acoustic and vibration study for projects that may exceed County noise and vibration standards to be prepared by a qualified technician and subject to review by County staff and recommend mitigation strategies. These noise analyses would determine if the noise level at a future project site is consistent with the noise levels presented in Table N-2 of the proposed General Plan 2050. At a minimum, studies will assess the noise environment in the project vicinity, describe the noise generation of the proposed project, recommend mitigation strategies, and provide a noise monitoring program. With the ongoing implementation of the LCCO and proposed General Plan 2050 policies and actions, noise from stationary noise due to potential future development in the EIR Study Area would be **less than significant**.

Traffic Noise

Future development and activities due to implementation of the proposed project are expected to affect the community noise environment mainly by generating additional traffic. Transportation-source noise levels were calculated using the FHWA Highway Noise Prediction Model (FHWA-RD-77-108) with traffic counts provided by Fehr & Peers Transportation Consultants (2025) (see Appendix B, *Transportation Data)*. The model calculates the average noise level at specific locations based on traffic volumes, average speeds, roadway geometry, and site environmental conditions. The average vehicle noise rates (energy rates) used in the FHWA model have been modified to reflect average vehicle noise rates identified for California by Caltrans. The Caltrans data shows that California automobile noise is 0.8 to 1.0 dBA higher than national levels and that medium and heavy truck noise is 0.3 to 3.0 dBA lower than

national levels. Future traffic noise contours are mapped on Figures N-2, N-4, N-6, N-8, N-10, N-12, N-14, and N-16 of the proposed General Plan 2050 Noise Element. Table 3.13-7, *Future (General Plan Buildout) Roadway Noise Levels*, shows the calculated off-site roadway noise levels under existing traffic levels compared to future buildout under the proposed project.

As previously described in Section 3.13.3, *Standards for Analysis*, a change in level of at least 5 dBA is required before any noticeable change in community response is expected. Based on this fact, a significant increase in traffic noise is considered to be an increase in the existing ambient noise environment of at least 5 dBA CNEL/L_{dn}. As reflected in Table 3.13-7, *Future (General Plan Buildout) Roadway Noise Levels*, this analysis included a large sample of highways and local roadways segments but did not include all roadways within the EIR Study Area. The analyzed segments were selected to illustrate potential changes in roadway noise throughout Lake County. Therefore, additional roadways segments in Lake County may experience increased traffic noise.

Table 3.13-7 Future (General Plan Buildout) Roadway Noise Levels

Roadway Segment	CNEL/L_{dn} at 100 Feet		Difference	Significant Increase	Distance to CNEL/L_{dn} Contour (feet)[1,2]			
	Existing Conditions	General Plan Buildout Conditions			70 dBA	65 dBA	60 dBA	55 dBA
Highway 20								
Between Lake/ Mendocino County Line & Hwy 29 Junction	61.7	61.8	+0.1	**No**	-	61	132	285
Between Blue Lakes Rd & Hwy 29 Junction	60.5	60.6	+0.1	**No**	-	51	110	237
Between HWY 29 Junction & Lucerne Cutoff	60.5	60.6	+0.1	**No**	-	51	110	237
Between Lucerne Cutoff & Hammond Ave	61.4	61.4	+0.0	**No**	-	57	124	267
Between Hammond Ave & Manzanita Dr	63.5	63.5	+0.0	**No**	37	80	171	+350
Between Manzanita Dr & Foothill Dr	58.9	58.9	+0.0	**No**	-	39	84	182
Between Foothill Dr & Bell Ray Ave	58.9	59.0	+0.1	**No**	-	40	85	184
Between Bell Ray Ave & Rosemont Dr	58.2	58.5	+0.3	**No**	-	37	79	170
Between Rosemont Dr & Road 208K	60.7	61.0	+0.3	**No**	-	54	116	251
Between Road 208K & Sulphur Bank Dr	58.2	58.5	+0.3	**No**	-	37	79	170
Between Sulphur Bank Dr & HWY 53 Junction	64.7	64.9	+0.2	**No**	46	99	213	+350
Between HWY 53 Junction & Old Long Valley Road	60.3	60.4	+0.1	**No**	-	49	107	230
Between Old Long Valley Road & Lake/Colusa County Line	63.2	63.3	+0.1	**No**	36	77	165	+350
Highway 29								
Between Lake/Napa County Line & Sheveland Rd/Dry Creek Cutoff	64.0	64.6	+0.6	**No**	43	94	202	+350
Between Sheveland Rd/Dry Creek Cutoff & HWY 175 Junction	62.0	62.6	+0.6	**No**	32	69	149	321
Between HWY 175 Junction & Hidden Valley Rd	63.8	65.2	+1.4	**No**	48	103	222	+350

Table 3.13-7 Future (General Plan Buildout) Roadway Noise Levels

Roadway Segment	CNEL/L_{dn} at 100 Feet		Difference	Significant Increase	Distance to CNEL/L_{dn} Contour (feet)[1,2]			
	Existing Conditions	General Plan Buildout Conditions			70 dBA	65 dBA	60 dBA	55 dBA
Between Hidden Valley Rd & Clayton Creek Rd	63.1	65.0	+1.9	**No**	47	100	216	+350
Between Clayton Creek Rd & Lee Barr Dr	62.4	63.9	+1.5	**No**	39	85	183	+350
Between Lee Barr Dr & Marshview Way	61.3	62.1	+0.8	**No**	-	64	138	298
Between Marshview Way & Diener Dr/Rd 543	63.4	64.2	+0.8	**No**	41	89	192	+350
Between Diener Dr/Rd 543 & Konocti Rock Company Rd	61.4	61.7	+0.3	**No**	-	60	130	281
Between Konocti Rock Company Rd & HWY 175 Junction	63.7	64.1	+0.3	**No**	-	87	186	+350
Between HWY 175 Junction & Cruickshank Rd	64.0	64.0	+0.0	**No**	40	86	185	+350
Between Cruickshank Rd & Thomas Dr	61.9	61.9	+0.0	**No**	-	63	135	291
Between Thomas Dr & HWY 175 Junction	63.0	63.0	+0.0	**No**	34	74	159	342
Between HWY 175 Junction & Todd Rd	61.9	61.9	+0.0	**No**	-	62	134	288
Between Todd Rd & 11th St	64.3	64.3	+0.0	**No**	-	90	194	+350
Between 11th St & Lucerne Cutoff	62.4	62.7	+0.3	**No**	-	71	152	328
Between Lucerne Cutoff & Tule Lake Rd	60.2	60.5	+0.3	**No**	-	50	107	231
Between Tule Lake Rd & HWY 20 Junction	61.2	61.5	+0.3	**No**	-	58	126	271
Highway 53								
Between HWY 29 & Anderson Ranch Parkway	63.2	64.6	+1.4	**No**	-	94	202	+350
Between Anderson Ranch Parkway & Clearlake City Limits (south)	66.5	67.8	+1.3	**No**	71	154	331	+350

Table 3.13-7 Future (General Plan Buildout) Roadway Noise Levels

Roadway Segment	CNEL/L_{dn} at 100 Feet		Difference	Significant Increase	Distance to CNEL/L_{dn} Contour (feet)[1,2]			
	Existing Conditions	General Plan Buildout Conditions			70 dBA	65 dBA	60 dBA	55 dBA
Between Clearlake City Limits (north) & HWY 20 Junction	61.0	61.9	+0.9	**No**	-	62	135	290
Highway 175								
Between Lake/Mendocino County Line & Dixon Dr)	55.5	55.5	+0.0	**No**	-	-	50	108
Between Dixon Dr & HWY 29 Junction (south of Lakeport)	50.9	50.9	+0.0	**No**	-	-	-	53
Between HWY 29 Junction & Cobb Post Office/High Rd (south of Kelseyville)	50.9	50.9	+0.0	**No**	-	-	-	54
Between Cobb Post Office/High Road & Dry Creek Rd	56.0	58.0	+2.0	**No**	-	34	74	159
Between Dry Creek Rd & HWY 29 Junction (at Middletown)	52.4	54.4	+2.0	**No**	-	-	42	91
Highway 281								
Between Konocti Bay Rd & Point Lakeview Rd	59.8	61.0	+1.2	**No**	-	54	116	250
Between Point Lakeview Rd & HWY 29 Junction	56.2	57.4	+1.2	**No**	-	-	67	143
11th Street								
Between HWY 29 NB & Central Park Ave	57.8	57.8	+0.0	**No**	-	33	72	155
Between Central Park Ave & Mellor St	56.9	56.9	+0.0	**No**	-	-	62	134
Between Mellor St & N Main St	56.9	56.9	+0.0	**No**	-	-	62	133
Bottle Rock Road								
Between HWY 29 & Cold Creek Rd	50.7	53.8	+3.1	**No**	-	-	39	83
Between Cold Creek Rd & Sulphur Creek Rd	53.2	56.3	+3.1	**No**	-	-	57	122

Table 3.13-7 Future (General Plan Buildout) Roadway Noise Levels

Roadway Segment	CNEL/L_{dn} at 100 Feet		Difference	Significant Increase	Distance to CNEL/L_{dn} Contour (feet)[1,2]			
	Existing Conditions	General Plan Buildout Conditions			70 dBA	65 dBA	60 dBA	55 dBA
Between Sulphur Creek Rd & HWY 175	49.5	53.6	+4.1	**No**	-	-	38	81
Hartmann Road								
Between HWY 29 & Stinson Rd	56.1	56.9	+0.8	**No**	-	-	62	134
Lakeshore Boulevard								
Between 20th St & Hill Rd E	54.6	55.0	+0.4	**No**	-	-	46	100
Between Hill Rd E & Nice-Lucerne Cutoff	57.1	57.5	+0.4	**No**	-	-	68	146
Lakeshore Drive								
Between W 40th St & Old HWY 53	59.7	59.8	+0.1	**No**	-	45	97	209
Between Old HWY 53 & Arrowhead Rd	58.7	58.8	+0.1	**No**	-	39	83	179
Loch Lomond Road								
Between HW 175 & Sycamore Rd	48.5	50.2	+1.7	**No**	-	-	-	67
Main Street (Kelseyville)								
Between HWY 29 & Merritt Rd	53.7	55.4	+1.7	**No**	-	-	49	107
Main Street (Lower Lake)								
Between HWY 29 & Mill St	53.5	53.9	+0.4	**No**	-	-	39	85
Merritt Road								
Between HWY 29 & Loasa Rd	52.4	52.4	+0.0	**No**	-	-	-	67
Nice-Lucerne Cutoff Road								
Between HWY 29 & HWY 20	57.6	58.8	+1.2	**No**	-	39	83	180
Old Highway 53								
Between Cache Creek Way & Olympic Dr	58.5	58.8	+0.3	**No**	-	39	83	180
Olympic Drive								
Between HWY 53 and Lakeshore Dr	58.9	59.0	+0.1	**No**	-	40	85	183

Table 3.13-7 Future (General Plan Buildout) Roadway Noise Levels

Roadway Segment	CNEL/L_{dn} at 100 Feet		Difference	Significant Increase	Distance to CNEL/L_{dn} Contour (feet)[1,2]			
	Existing Conditions	General Plan Buildout Conditions			70 dBA	65 dBA	60 dBA	55 dBA
Park Way								
Between Hill Rd E & Lakeshore Blvd	51.4	52.4	+1.0	**No**	-	-	-	67
Point Lakeview Road								
Between Soda Bay Rd & Wheeler Dr	51.6	53.6	+2.0	**No**	-	-	37	81
S Main Street								
Between Soda Bay Rd & Lakeport Blvd	58.0	58.0	+0.0	**No**	-	34	73	157
Between Lakeport Blvd & Peckham Ct	58.0	58.0	+0.0	**No**	-	-	74	158
Between Peckham Ct & Martin St	58.0	58.0	+0.0	**No**	-	34	73	157
Scotts Valley Road								
Between HWY 20 & Hendricks Rd	49.9	49.8	-0.1	**No**	-	-	-	45
Between Hendricks Rd & Mountain View Rd	47.4	47.3	-0.1	**No**	-	-	-	-
Sieglar Canyon Road								
Between HWY 29 & Perini Rd (southern)	46.5	47.1	+0.6	**No**	-	-	-	-
Soda Bay Road								
Between HWY 29 & Montezuma Way	55.2	55.2	+0.0	**No**	-	-	48	103
Between Montezuma Way & HWY 29	50.4	51.6	+1.2	**No**	-	-	-	60
Spruce Grove Road								
Between HWY 29 & Tinilyn Dr	46.4	46.7	+0.3	**No**	-	-	-	-

Refer to Appendix E, *Noise Data,* for traffic noise modeling assumptions and results.

Source: Traffic noise levels were calculated using the FHWA Highway Noise Prediction Model in conjunction with the trip generation rate identified by Fehr & Peers (2025).

As shown in Table 3.13-7, *Future (General Plan Buildout) Roadway Noise Levels*, none of the roadway segments would experience a significant increase in noise due to the proposed project. Furthermore, the proposed General Plan 2050 contains policies and actions that require local planning and development decisions to protect residents and visitors from excessive noise, including traffic noise as shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation NOI. In particular, the following key policies and actions would serve to minimize impacts due to noise:

- Policy N-1.1* considers the compatibility of proposed development with the noise environment. Require projects that would locate land uses in areas where the projected ambient noise level is greater than the "normally acceptable" noise level indicated in Table N-1 to provide an acoustical analysis that recommends appropriate mitigation to meet the noise compatibility standards.
- Policy N-1.2 prohibits the development of new noise-sensitive land uses in areas where current or projected CNEL from existing noise-generating uses exceed 55 dBA during daytime hours (7:00 a.m. to 10:00 p.m.) or 45 dBA during nighttime hours (10:00 p.m. to 7:00 a.m.), as measured at the property line of the proposed use, unless effective mitigation measures are incorporated into the project design.
- Policy N-1.3 requires residential uses to have an indoor noise level below 45 dBA CNEL.
- Policy N-1.4 prohibits the development of new noise-generating land uses adjacent to existing sensitive noise receptors, such as housing, schools, and health care facilities, if CNEL is expected to exceed 55 dBA during daytime hours (7:00 a.m. to 10:00 p.m.) or 45 dBA during nighttime hours (10:00 p.m. to 7:00 a.m.), measured at the property line of the noise-sensitive land use, unless effective mitigation measures are incorporated into the project design.
- Policy N-1.5* requires a project-specific acoustic study for projects that may exceed County noise standards to be prepared by a qualified technician and subject to review by County staff. At a minimum, studies will assess the noise environment in the project vicinity, describe the noise generation of the proposed project, recommend mitigation strategies, and provide a noise monitoring program.
- Policy N-1.6 encourages strategic site planning, architectural layout, and building materials selections as methods of noise attenuation, including the following techniques:
  - Increase the distance between the noise source and receiver through building setbacks and/or dedication of noise easements.
  - Place noise-tolerant land uses, such as parking lots, maintenance facilities, and utility areas between the noise source and receiver.
  - Use noise-tolerant structures, such as garages or carports, to shield noise-sensitive areas.
  - Orient buildings to shield outdoor spaces from a noise sources.
  - Use berming and heavy landscaping to reduce noise levels.

  - Cluster office, commercial, or multifamily residential structures to reduce interior open-space noise levels.
  - For commercial, agricultural, or industrial uses abutting residential parcels, locate automobile and delivery access the maximum practical distance away from residential uses.
  - Use multi-glazed or multi-pane windows, tight-fitting doors, and dense building materials.
- Policy N-1.7 requires contractors to use noise-reducing measures when construction occurs within 300 feet of residential uses or other sensitive receptors, such as using hydraulic- or electric-powered impact tools (e.g., jack hammers and hoe rams) wherever possible or selecting haul routes that avoid the greatest amount of sensitive-use areas.
- Policy N-1.8 promotes effective noise abatement measures along highways and major roads to reduce noise impacts on adjacent existing and proposed land uses. Potential noise abatement measures could include:
  - Installation of walls or landscaped berms.
  - Increased setbacks from major roads and/or additional insulation.
  - Use of open space as a buffer.
  - Incorporation of other strategic site planning or architectural treatments.

  Where possible, use less-intrusive noise mitigation (e.g., landscaped berms and open space buffers) rather than sound walls to preserve view corridors.
- Policy N-1.9 coordinates with the California Department of Transportation (Caltrans) to mitigate noise impacts on sensitive receptors near existing and proposed State roadway facilities and encourage the use of noise buffers or insulation measures.
- Policy N-1.10 supports California Highway Patrol's and Lake County Sheriff's enforcement of California Vehicle Code related to compliance with vehicle noise emissions and modified exhaust systems standards.
- Policy N-1.11 ensures new equipment and vehicles purchased by the County are equipped with the best available noise-reduction technology, when feasible, and are well-maintained to reduce noise impacts.

With implementation of the proposed General Plan policies and actions would ensure future transportation noise impacts would not have a negative effect on the residents of Lake County, and based on the results shown in Table 3.13-7, future traffic levels resulting from the development and activities under the proposed project would result in a **less-than-significant impact** related to traffic noise sources.

Significance without Mitigation: Less than significant.

b) Would the project generate excessive groundborne vibration or groundborne noise levels?

Construction vibration is a potential occurrence within Lake County and would continue to be so regardless of whether the General Plan 2050 is adopted. Construction-related vibration near individual construction sites associated with development and activities under the proposed General Plan 2050 would not be substantially different from what they would be under the 2008 General Plan. Construction activities will occur in a variety of locations throughout Lake County and will most likely require the use of off-road equipment known to generate some degree of vibration. Receptors sensitive to vibration include structures (especially older masonry structures), people (especially residents, the elderly, and the sick), and equipment (e.g., magnetic resonance imaging equipment, high resolution lithographic, optical and electron microscopes). Regarding the potential effects of groundborne vibration to people, except for long-term occupational exposure, vibration levels rarely affect human health.

The majority of construction equipment is not situated at any one location during construction activities but rather spread throughout a construction site and at various distances from sensitive receptors. Since specific future projects under the proposed General Plan 2050 are unknown at this time, it is conservatively assumed that the construction areas associated with these future projects could be located within 50 feet of sensitive structures. The primary vibration-generating activities would occur during grading, placement of underground utilities, and construction of foundations. Table 3.13-8, *Representative Vibration Source Levels for Construction Equipment*, shows the typical vibration levels produced by construction equipment at 50 feet.

Table 3.13-8 Representative Vibration Source Levels for Construction Equipment

Equipment	Peak Particle Velocity (PPV) at 50 Feet (inches per second)	Vibration Level Vibration Velocity at 50 Feet (VdB)
Pile Driver (Impact)	0.225	95
Pile Driver (Sonic)	0.059	84
Vibratory Roller	0.073	85
Hoe Ram	0.031	78
Large Bulldozer	0.031	78
Caisson Drilling	0.031	78
Loaded Trucks	0.026	77
Jackhammer	0.012	70
Small Bulldozer	0.001	49

Source: Caltrans 2020

Vibrations generated by heavy construction equipment, pile driving, and blasting can travel through the ground and impact nearby buildings, infrastructure, and sensitive receptors. In addition to physical damage, excessive construction vibration can affect underground utilities, including water and sewer lines, by causing pipe misalignment or fractures. Accordingly, regulating construction vibration is essential to protect both structures and the well-being of individuals in the surrounding community.

Similar to construction noise described in impact discussion (a), potential future development over the buildout horizon of the proposed General Plan 2050 could cause vibration induced impacts and the temporary program-level construction vibration impacts associated with implementation of the proposed General Plan 2050 are considered **potentially significant.**

Impact NOI-3: Construction activities associated with potential future development could expose sensitive receptors to excessive vibration from construction equipment.

Significance with Mitigation: Implementation of the proposed General Plan 2050 policies pertaining to vibration would ensure that potential future development under the proposed project would not create an excessive vibration level. Specifically, propose Policy N-1.5* NOI requires a project-specific acoustic and vibration study for projects that may exceed County noise and vibration standards to be prepared by a qualified technician and subject to review by County staff and recommend mitigation strategies and Policy N-1.12* would require future projects to limit groundborne vibration below 0.3 peak particle velocity (PPV) (in/sec) at the nearest receiving offsite structure. This would ensure nearby residents, visitors, and structures are not exposed to excessive vibration levels; therefore, impacts would be **less than significant.**

c) For a project within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, if the project would expose people residing or working in the project area to excessive noise levels?

In Lake County, the ALUC addresses airport and land use compatibility by focusing on the orderly operations of Lampson Field Airport and the County's two heliports. Gravelly Valley Airstrip is not addressed by the ALUC because it is not surrounded by development. A primary objective is to minimize noise impacts associated with airport operations. The Lake County ALUC works in collaboration with the Lake County, and the cities of Lakeport and Clearlake governments. This collaborative effort ensures that zoning and land use decisions are compatible with airport operations. The ALUC provides recommendations on appropriate land uses in areas surrounding the airport and heliports, particularly for noise-sensitive developments such as residential neighborhoods, schools, and hospitals. These guidelines are crucial for preventing noise pollution and ensuring the safety and well-being of the community. The commission also holds regular meetings to discuss and resolve land use conflicts, ensuring

that the interests of both the airport/heliports and the local communities are balanced effectively.

A fundamental strategy to minimize noise impacts is to avoid placing noise-sensitive land uses—such as schools, hospitals, residential areas, and recreational facilities—in areas where noise levels exceed acceptable thresholds. The proposed General Plan 2050 Noise Element establishes policy guidance to minimize noise impacts within the community and sets noise control measures for the operational phases of land use projects. By identifying noise-sensitive areas and establishing noise compatibility guidelines (outlined in Table N-2 of the proposed General Plan 2050 Noise Element), this approach helps shape the distribution, location, and intensity of future land uses, ensuring that noise-related issues can be effectively mitigated through careful planning and project design. In particular, the following key policies and action would serve to minimize potential noise in the vicinity of an airport:

- Policy HS-6.1 requires that development around Lampson Field Airport be consistent with the safety policies and land use compatibility guidelines in the adopted Lake County Airport Land Use Compatibility Plan.
- Action HS-6.a require review of all development projects within the vicinity of Lampson Field Airport for consistency with the Lake County Airport Land Use Compatibility Plan, ensuring projects comply with height restrictions, density requirements, and other safety criteria.
- Policy N-1.1 considers the compatibility of proposed development with the noise environment. Require projects that would locate land uses in areas where the projected ambient noise level is greater than the “normally acceptable” noise level indicated in Table N-1 to provide an acoustical analysis that recommends appropriate mitigation to meet the noise compatibility standards.

Policy N-1.1 focuses on the requirement of acoustical analysis and application of appropriate mitigation for projects located in areas where the projected ambient noise level is greater than the “normally acceptable” noise level (indicated in Table N-2 of the Noise Element). Under this policy, noise associated with airport operation would be captured in the measurement of ambient conditions and projects would be required to install appropriate mitigations. Further, proposed General Plan 2050 Policy N-1.1 focuses on the requirement of acoustical analysis and application of appropriate mitigation for projects located in areas where the projected ambient noise level is greater than the “normally acceptable” noise level (indicated in Table N-2 of the Noise Element). Under this policy, noise associated with airport operation would be captured in the measurement of ambient conditions and projects would be required to install appropriate mitigations. Additionally, proposed Policy HS-6.1 would require that all future development around Lampson Field Airport be consistent with the safety policies and land use compatibility guidelines in the adopted Lake County Airport Land Use Compatibility Plan. Proposed Action HS-6.a requires the county to review all development projects within the vicinity of Lampson Field Airport for consistency with the Lake County Airport Land Use Compatibility Plan, ensuring projects comply with height restrictions, density requirements, and other safety criteria, and

Action HS-6.b, requires the County to refer projects within the Airport Influence Area that require General Plan amendments, zoning changes, or other discretionary entitlements to the Airport Land Use Commission for review and consistency determination with the Airport Land Use Compatibility Plan.

These policies address the effects of the excessive airport noise on the project. However, because implementation of the proposed General Plan 2050 would not cause a direct increase in flights and does not introduce any sensitive receptors such as schools, hospitals, residential areas, and recreational facilities in the AIA, impacts from future potential projects in the EIR Study Area would be **less than significant.**

Significance without Mitigation: Less than significant.

3.13.5 Cumulative Impact Discussion

As discussed in Chapter 3, *Environmental Analysis*, of this Draft EIR, the cumulative setting includes growth within the EIR Study Area in combination with projected overall growth trends within Lake County and adjacent counties. The cumulative setting for noise includes potential future development under the proposed project combined with effects of development on lands adjacent to unincorporated Lake County. The traffic noise levels are based on cumulative traffic conditions that take into account cumulative development in the Lake County region.

Would the project have a cumulative effect related to noise?

The analysis of the proposed project addresses cumulative impacts with regard to noise, groundborne noise, and vibration. Although multiple simultaneous nearby noise sources may, in combination, result in higher overall noise levels, this effect is captured and accounted for by the ambient noise level metrics that form the basis of the thresholds of significance for noise analysis. Any measurement of sound or ambient noise, whether for the purpose of evaluating land use compatibility, establishing compliance with exterior and interior noise standards, or determining point-source violations of a noise ordinance, necessarily will incorporate noise from all other nearby perceptible sources.

Construction noise impacts primarily affect the areas immediately adjacent to the construction site. Future development under implementation of the proposed General Plan 2050 could be constructed contemporaneously and could result in high noise levels. Construction activities generate high noise levels from heavy equipment, pile driving, and vehicle operations, which can disrupt residents, particularly during nighttime hours when people are sleeping or engaging in quiet activities. Lake County's Zoning Ordinance exempts construction noise from County standards as long as the construction activity occurs between the hours of 7:00 a.m. to 7:00 p.m. Although the potential exists for construction projects under the proposed General Plan 2050 and other foreseeable development to occur simultaneously and in proximity to one

another, the regulation of construction hours helps control cumulative noise impacts. Further, the proposed General Plan 2050 Policy N-1.5* would ensure that noise and vibration mitigation strategies or a noise monitoring program is established when required and proposed General Plan 2050 Policy N-1.7 requires contractors to use noise- and vibration-reducing measures when construction occurs within 300 feet of residential uses or other sensitive receptors.

Similarly, the potential for a cumulative vibration-related damage impact is minimal as vibration impacts are based on approximate levels. Thus, worst-case groundborne vibration levels from construction are determined by whichever individual piece of equipment generates the highest vibration levels. Unlike the analysis for average noise levels, in which noise levels of multiple pieces of equipment can be combined to generate a maximum combined noise level, approximate vibration levels do not combine in this manner. Vibration from multiple construction sites, even if they are located close to one another, would not combine to raise the maximum vibration level. Therefore, with proposed General Plan Policy N-1.12* future development would ensure that any cumulative effects from groundborne vibration would not be in excess of 0.3 peak particle velocity (in/sec) at the nearest receiving offsite structure, including areas outside of the EIR Study Area.

Long-term stationary noise sources associated with the development and activities under the proposed General Plan 2050, combined with other cumulative projects, could cause local noise level increases. Noise levels associated with the proposed General Plan 2050 and cumulative development combined could result in higher noise levels than considered separately. However, as previously described, Section 41.11, *Noise,* of the Lake County Zoning Ordinance establishes regulations to protect the inhabitants of the County against all forms of nuisances, including stationary source noise, as shown in Table 3.13-2, *Maximum One-Hour Equivalent Sound Pressure Levels (A-Weighted – dBA)*. These maximums are applicable beyond any property lines of the property containing the noise. With adherence to Section 41.11, *Noise,* of the Lake County Zoning Ordinance, and proposed General Plan 2050 Policy N-1.4* which would prohibit the development of new noise-generating land uses adjacent to existing sensitive noise receptors, future development under the proposed General Plan 2050 and cumulative development combined would not create cumulatively considerable stationary noise sources.

The discussion of cumulative operational traffic noise impacts assesses whether future development under the proposed General Plan 2050, in conjunction with overall countywide growth and other cumulative projects, would significantly affect the roadway noise and, if so, whether its contribution to the cumulative impact would be considerable. The analysis contained in the traffic noise discussion in impact discussion (a) above is largely a cumulative analysis in that the transportation modeling also includes the countywide and regional changes in housing units and employment that would occur through the General Plan horizon. Thus, impact discussion (a) considers the changes in travel demand projected to occur through the General Plan 2050 horizon due to land use growth, and the cumulative transportation and infrastructure projects anticipated to be completed both inside and outside Lake County. The

potential for cumulative impacts associated with noise and vibration would be l**ess than significant.**

Significance without Mitigation: Less than significant.

3.13.6 References

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3.14 POPULATION AND HOUSING

This section of the Draft EIR describes the potential impacts to population and housing associated with the adoption and implementation of the proposed project. This section describes the regulatory framework and existing conditions, identifies criteria used to determine impact significance, and provides an analysis of the potential impacts to population and housing. The proposed General Plan 2050 policies and actions that would minimize any potentially significant impacts are shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, and denoted with the abbreviation POP.

3.14.1 Regulatory Framework

STATE

California Housing Element Law

California Housing Element Law includes provisions related to the requirements for housing elements of local government general plans (CA Government Code Sections 65580–65589.8). Requirements include an assessment of housing needs and an inventory of resources and constraints relevant to the meeting of these needs. Additionally, to ensure that counties and cities recognize their responsibilities for contributing to the attainment of the State housing goals, the Government Code calls for local jurisdictions to plan for and allow the construction of a share of the region's projected housing needs. The Lake County 2019-2027 Housing Element (6th Cycle) adopted on June 16, 2020, is incorporated into the General Plan by reference.

Housing Accountability Act

The Housing Accountability Act (HAA), codified in Government Code Section 65589.5, was passed in 1982 and amended under Assembly Bill (AB) 678 and Senate Bill (SB) 167 in 2017 with the aim to limit the ability of local government to restrict the development of new housing. Specifically, the HAA prohibits a local agency from disapproving, or conditioning approval in a manner that renders infeasible, a housing development project for very low-, low-, or moderate-income households or an emergency shelter unless the local agency makes specified written findings based on a preponderance of evidence in the record.

Housing Crisis Act

The Housing Crisis Act of 2019, commonly known by its legislative bill number (SB 330), aims to address California's housing shortage by expediting the approval process for housing development of all types, particularly in regions suffering the worst housing shortages and highest rates of displacements. To address the crisis, SB 330 prohibits some local discretionary land use controls currently in place and generally requires cities and counties to approve all

housing developments that comply with current zoning codes and general plans. SB 330 requires that a housing development project only be subject to the ordinances, policies, and standards adopted and in effect when a preliminary application is submitted, notwithstanding the provisions of the HAA or any other law, subject to certain exceptions.

Assembly Bill 1397

California's AB 1397 amended Government Code Sections 65580, 65583, and 65583.2, relating to housing by revising what could be included in a local government's inventory of land suitable for residential development. AB 1397 changed the definition of land suitable for residential development to increase the number of multifamily sites. Identified sites must be "available" and "suitable" for residential development and have a "realistic and demonstrated potential" for redevelopment during the planning period. In addition, AB 1397 requires housing element inventory sites to be 0.5 acre to 10 acres, have sufficient infrastructure, or be included in a program to provide such infrastructure, to support and be accessible for housing development. The local government must specify the realistic unit count for each site and whether it can accommodate housing at various income levels.

Senate Bill 166

SB 166 (2017) requires a local government to ensure that its housing element inventory can accommodate its share of the regional housing need throughout the planning period. It prohibits them from reducing, requiring, or permitting the reduction of the residential density to a lower residential density than what was used by the California Department of Housing and Community Development (HCD) for certification of the housing element, unless the city or county makes written findings supported by substantial evidence that the reduction is consistent with the adopted general plan, including the housing element. In such cases, any remaining sites identified in the housing element update must be adequate to accommodate the jurisdiction's share of the regional housing need. A local government may reduce the residential density for a parcel only if it identifies sufficient sites remaining within the housing element as replacement sites, so that there is no net loss of residential unit capacity.

LOCAL

Code of Ordinances

The Lake County Code of Ordinances (LCCO) includes various directives pertaining to population and housing, all within Chapter 17, *Zoning.* The Lake County Zoning Ordinance serves to provide a guide for orderly growth and development of the County. The ordinance is organized by section and article.

- Article 3, *Establishment of Districts,* establishes the various districts that are within the County and outlines the base zoning districts and symbols. Some of the base zoning districts include Agricultural Districts, Resource Districts, Residential Districts, Commercial Districts,

and Industrial Districts. Along with these base districts are combining districts, these districts can be combined with other districts. Overall, there are twenty-one districts and fifteen combining districts.

- Article 7, *Regulations for the Rural Lands or "RL" District,* outlines regulations to preserve the character of this district. Housing is allowed, but densities shall not exceed 1 unit per 20 acres.
- Article 8, *Regulations for the Rural Residential or "RR" District*, provides regulations for single-family residential development in a semi-rural setting. The densities for this district are set at one unit per five acres.
- Article 9, *Regulations for the Suburban Reserve District or "SR" District*, outlines regulations to provide for large lot residential development. The maximum permitted density is 40,000 square feet per dwelling unit.
- Article 10, *Regulations for the Single-family Residential District or "R1" District,* outlines regulations to establish areas for individual residential dwelling units at relatively low densities to enhance traditional neighborhood character of single-family units. The maximum permitted density is 6,000 square feet per dwelling unit.
- Article 11, *Regulations for the Two-family Residential District or "R2" District,* outlines regulations to establish individual and common wall, shared residential dwelling units at low to medium densities. The maximum permitted density for a single-family dwelling is 6,000 square feet, for a duplex it is 4,000 square feet per dwelling unit.
- Article 12, *Regulations for the Multi-family Residential District or the "R3" District,* outlines regulations to establish areas for high density residential development while allowing for a wide range of living accommodations from duplex units to townhouses to apartment buildings.
- Article 44, *Regulations for Residential Condominium Conversions*, outlines regulations to ensure safe housing through establishing performance criteria for the conversion of existing residential structures to owner occupied single-family residential uses.

Lake County Housing Element

Lake County adopted the 6th Cycle Housing Element on June 16, 2020, and is for 2019 to 2027. The Housing Element is required to identify and analyze existing and projected housing needs and include statements of the County's goals, policies, quantified objectives, and scheduled programs for the preservation, improvement, and development of housing. State law (Government Code Sections 65580–65589.8) mandates the content of the Housing Element and requires an analysis of:

- Population and employment trends
- The fair share of the regional housing needs
- Household characteristics

- An inventory of land suitable for residential development
- Governmental and non-governmental constraints on the improvement, maintenance, and development of housing
- Special housing needs
- Opportunities for energy conservation
- Publicly assisted housing developments that may convert to non-assisted housing developments

The purpose of these requirements is to demonstrate adequate housing resources to meet the assigned Regional Housing Needs Allocation (RHNA) for all housing categories. The Lake County Housing Element includes the following policies applicable to population and housing:

- **Policy HE-1.1 Fair Share Allocation**. The County shall ensure that there are adequate sites and facilities available to meet its regional fair share allocation of 794 units (198 very low, 122 low, 142 moderate, 332 above moderate).
- **Policy HE-1.2 Consistency with Fair Share Allocation.** The County shall ensure that community and area plan updates, which are prepared in conformance with the County's General Plan, guarantee the availability of suitable sites with appropriate zoning and densities to allow projected housing needs and a variety of housing types. Any future area plan or General Plan updates shall undergo review for consistency with all other Elements of the General Plan.
- **Policy HE-1.3 Support for Affordable Housing.** The County shall encourage and support affordable housing for all economic segments within all communities.
- **Policy HE-1.4 Incentives for Affordable Housing Production.** The County shall encourage housing developers to produce affordable units by providing assistance and incentives for projects that include new affordable units available to lower/moderate income households.
- **Policy HE-1.5 Attraction of Affordable Housing Developers.** The County shall seek to attract affordable housing developers to Lake County from throughout Northern California.
- **Policy HE-1.6 Use of Innovated Housing Techniques.** The County shall encourage innovative housing, site plan design, and construction techniques to promote new affordable housing by the private sector.
- **Policy HE-1.7 Support for Self-Help Housing.** The County shall continue to support self-help housing.
- **Policy HE-1.8 Public Education on Housing Programs.** The County shall ensure that developers and county residents, including Limited-English proficient residents, are made aware of key housing programs and development opportunities.
- **Policy HE-1.10 Rental Housing Opportunities.** The County shall place a priority on the development of new rental housing.

- **Policy HE-1.11 Funding Assistance.** Based on the availability of staff resources, the County shall pursue those available federal, state, and local funds which it deems appropriate to the County's situation to assist in new housing production.
- **Policy HE-1.13 Development at Maximum Density.** The County shall encourage developers/builders to construct their projects at the maximum density allowed under the High Density Residential (HDR) land use designation and R-3 (Multi-Family Residential) zoning district unless there are issues of site constraints or the affordability of the units would be compromised.
- **Policy HE-1.14 Use of Planned Development Residential Zoning.** The County shall support rezoning of the specific "R1" zoned sites that are designated Medium Density Residential to "PDR", Planned Development Residential zoning to promote maximum density and design flexibility when development projects are proposed.
- **Policy HE-1.16 Promote Infill Development.** The County shall promote infill development on appropriate sites in existing neighborhoods and reuse of underutilized parcels throughout the county.
- **Policy HE-1.17 Consistency with Surrounding Neighborhoods.** The County shall ensure that infill development maintains or enhances the positive qualities of the surrounding neighborhoods.
- **Policy HE-1.18 Provision of Second Residential Units.** The County shall continue to allow second residential units when consistent with the general plan's land use designation and when in compliance with the appropriate health and safety requirements.
- **Policy HE-1.19 Inclusion of Mixed Use/Mixed Income Housing.** The County shall promote, where appropriate, mixed-use and mixed-income housing in new development.
- **Policy HE-1.28 Parcel Consolidation.** The County shall work with for-profit and non-profit developers in consolidating parcels (lot line adjustments, access agreements, etc.) zoned R-2 and R-3 to facilitate efficient development of smaller parcels.
- **Policy HE-1.29 Development of Underutilized Parcels**. The County shall encourage the development of underutilized parcels with an existing single-family house that are zoned R-2 and R-3.
- **Policy HE-1.30 Expanded Housing Opportunities for the Extremely Low Income.** Encourage the development of housing units for households earning 30 percent or less of the Median Family Income for Lake County. Specific emphasis shall be placed on the provision of family housing and non-traditional housing types such as single-room occupancy units and transitional housing.
- **Policy HE-1.31 Affordable Housing by Right.** The County shall add to all residential zones the following permitted use: "For properties that have been listed in the Housing Element for at least two (2) cycles as potential accommodation for affordable housing, housing projects that include 20% affordable for lower income households."

- **Policy HE-2.1 Preservation of Subsidized Housing.** The County shall use its best efforts to ensure the preservation of subsidized housing units at risk of converting to market rate housing.
- **Policy HE-4.1 Increased Housing Opportunities.** The County shall continue to promote increased housing opportunities for seniors, large, families, persons with disabilities, developmental disabilities, and farm workers.

3.14.2 Existing Conditions

COUNTYWIDE AREA

Population

There are two incorporated cities within Lake County: Lakeport and Clearlake. As shown in Table 3.14-1, *Total Population, 2010 to 2024,* the incorporated areas grew by 7 percent while the unincorporated areas grew by 2 percent, which is less than the overall population of the county, which grew by 5 percent between 2010 and 2024. However, as shown in Table 3.14-1, *Total Population, 2010 to 2024,* between 2020 and 2024, the population of Lake County has declined by about 2 percent in both incorporated and unincorporated areas.

Table 3.14-1 Total Population, 2010 to 2024

	2010	2015	2020	2024	Total Change Since 2010	Total Percentage Change Since 2010
Incorporated	20,000	19,910	21,840	21,400	1,400	7%
Unincorporated	44,660	45,050	46,330	45,600	940	2%
County Total	64,660	64,960	68,170	67,000	2,340	4%

Note: Numbers are rounded from original sources.
Sources: DOF 2021, 2023, 2025; ACS 2025.

Housing

Between 2010 and 2024, Lake County experienced minimal changes in total occupied housing units, with a slight decline between 2020 and 2024. As shown in Table 3.14-2, *Housing Units, 2010 to 2024*, the County's number of occupied housing units increased by approximately 1 percent from 2010 to 2024. The average household size in Lake County is 2.40 persons per household, which is an increase of approximately 1 percent since 2010. However, total housing units in Lake County decreased by approximately 3 percent. Between 2010 and 2024, housing stock has fluctuated in the County, at times decreasing.

Table 3.13-2 Housing Units, 2010 to 2024

	2010	2015	2020	2024	Total Change	Total Percentage Change
Total Occupied Housing Units	18,760	19,090	19,220	19,000	240	1%
Persons per Household	2.38	2.36	2.41	2.40	0.02	1%
Total Housing Units	25,060	25,220	24,190	24,290	-770	-3%

Note: Numbers are rounded from original sources.
Sources: DOF 2021, 2022, 2025; ACS 2023.

As noted in Section 3.14.1, *Regulatory Framework,* HCD has approved the Lake County RHNA Plan. Table 3.14-3, *2018-2027 Regional Housing Needs Allocation*, shows the RHNA for the unincorporated county for the 2018-2027 period. The RHNA determined that a total of 1,339 housing units will need to be accommodated within the EIR Study Area.

Table 3.14-3 2018-2027 Regional Housing Needs Allocation

Income Category	Area Median Income Percentage	2018-2027 RHNA
Very Low	<50%	332
Low	50-80%	224
Moderate	80-120%	207
Above Moderate	>120%	576
Total		**1,339**

Source: CDD 2020.

Employment

Table 3.14-4, *Industry by Occupation in the EIR Study Area (2024),* shows employment estimates in the EIR Study Area for 2024. The industry employing the most people in the county is private education and health services, followed by government, and then retail trade.

Table 3.14-4 Industry by Occupation in the EIR Study Area (2024)

Industry/Occupation	Estimated Employees 2024	Percentage of Total
Agriculture, forestry, fishing, and hunting	960	6%
Mining, logging, and construction	930	5%
Manufacturing	360	2%
Wholesale trade	80	0%

Table 3.14-4 Industry by Occupation in the EIR Study Area (2024)

Industry/Occupation	Estimated Employees 2024	Percentage of Total
Retail trade	2,260	13%
Transportation, warehousing, and utilities	600	3%
Information	70	0%
Financial activities	370	2%
Professional and business services	750	4%
Private education and health services	5,310	30%
Leisure and hospitality	1,210	7%
Government	4,020	23%
Other services	490	3%
Total	**17,410**	**100%**

Source: EDD 2024.

PLANNING AREAS

The following provides a description of the communities and population of the planning areas.

- **Cobb Mountain Planning Area** includes the following unincorporated communities: Cobb, Loch Lomond, Pine Grove, Seigler Springs, and Whispering Pines. The Planning Area has a population of approximately 2,900 people. The predominant uses generating population and jobs are from hotel and resort, residential, and recreational uses.
- **East Lake Communities Planning Area** includes the following unincorporated communities: Clearlake Oaks, Double Eagle Ranch, Glenhaven, Kono Tayee, Paradise Valley, and Spring Valley. The Planning Area has a population of approximately 4,490 people. The predominant uses generating population and jobs are from residential, hotel and resort, commercial, and recreational uses.
- **Kelseyville Planning Area** includes the following unincorporated communities: Finley and Kelseyville. The Planning Area has a population of approximately 6,780 people. The predominant uses generating population and jobs are from agriculture, recreational, transportation, and residential uses.
- **Lakeport Planning Area** includes one unincorporated community: North Lakeport. The Planning Area has a population of approximately 3,220 people. The predominant uses generating population and jobs are from residential, commercial, office, hotel and resort, and recreational uses.
- **Lower Lake Planning Area** includes one unincorporated community: Lower Lake. The Planning Area has a population of approximately 3,000 people. The predominant uses generating population and jobs are from recreational, hotel and resort, and residential uses.

- **Middletown Planning Area** includes the following unincorporated communities: Anderson Springs, Hidden Valley, Harbin Hot Springs, and Middletown. The Planning Area has a population of approximately 8,000 people. The predominant uses generating population and jobs are from hotel and resort, residential, agriculture, commercial, and recreational uses.
- **North Lake Communities Planning Area** includes the following unincorporated communities: Bachelor Valley, Blue Lakes, Lake Pillsbury Ranch, Lucerne, Nice, Saratoga Springs, Upper Lake, and Witter Springs. The Planning Area has a population of approximately 8,630 people. The predominant uses generating population and jobs are from hotel and resort, residential, recreational, and commercial uses.
- **Rivieras Planning Area** includes the following unincorporated communities: Buckingham, Kelseyville Riviera, Riviera Heights, Riviera West, and Soda Bay. The Planning Area has a population of approximately 7,450 people. The predominant uses generating population and jobs are from residential, commercial, and recreational uses.

3.14.3 Standards for Analysis

Appendix G, *Environmental Checklist Form*, of the California Environmental Quality Act (CEQA) Guidelines states that the proposed project would result in a significant impact related to population and housing if it would:

a) 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).

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

3.14.4 Project Impact Discussion

a) Would the project 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)?

The proposed General Plan 2050 is a high-level policy document that will replace the 2008 General Plan as the overarching policy document that defines a vision for future change and sets the land use and policy framework for growth in Lake County. The proposed project considers growth over an approximately 25-year horizon but does not include specific development proposals. The General Plan is the policy document to accommodate the amount of reasonably foreseeable growth given past growth trends and the ability of existing services

and infrastructure to support future growth. Therefore, the proposed project would not directly induce growth but rather is a response to growth that is likely to occur whether the proposed project is adopted or not.

Though there has been a decline in Lake County's population over the last few years, Table 3.14-5, *Proposed General Plan 2050 Growth Projections,* show the increase in population and housing units over the horizon of the proposed project. The proposed project estimates an overall increase of 3,83 occupied housing units and 9,170 residents in the EIR Study Area by 2050. As shown in Table 3.14-5, this equates to a 17 percent increase in both occupied housing units and population over the 25-year horizon of the proposed project.

Table 3.14-5 Proposed General Plan 2050 Growth Projections

	Existing Conditions 2024	Proposed General Plan 2050	Projected Growth	Total Percentage Change
Population	45,600	54,770	9,170	17%
Occupied Housing Units	19,000	22,830	3,830	17%

Note: Numbers are rounded from original sources.
Source: DOF 2021, 2023, 2025; Caltrans 2024

The population growth rate was derived using the latest (2018) RHNA numbers for Lake County. Through 2050, there will be approximately three RHNA cycles (each cycle constituting eight years). For the current RHNA cycle, the entire county was allocated a total of 1,905 units, including 1,375 units allocated to replace housing units lost in recent wildfires and 530 units to accommodate typical demand. Thus, for the first eight years of implementation of the proposed project, the RNHA is 1,905, while it would be typical demand of 530 units for future cycles.

The 2050 development projection also accounts for development that is anticipated in the pipeline, including development projects that are approved but not yet constructed and pending applications for new development. For the County, this includes the Guenoc Valley Mixed Use Planned Development Project in the Middletown Planning Area and the Valley Oaks Mixed Use Planned Development Project also in the Middletown Planning Area.

Although the RHNA allocation is not a requirement to build units, the State legislature has enacted increasingly stringent requirements on cities to ensure they are doing everything possible to remove common barriers to housing construction. Furthermore, pursuant to Senate Bill 166, Housing Elements are required to include a "buffer" of additional sites to ensure that if the sites listed in the housing opportunity sites inventory are developed without housing, or are developed with less than the full amount of housing claimed in the inventory, there is remaining capacity to ensure an ongoing supply of sites for the full RHNA during the eight years of the Housing Element cycle. The California Department of Housing and Community Development

recommends a buffer of least 15 to 30 percent, but many jurisdictions provide a buffer of up to 50 percent. The proposed land use map, as shown in Figure 2-5, *Proposed General Plan 2050 Land Use Map*, in Chapter 2, *Project Description,* of this Draft EIR, includes enough land designated for housing to fulfill the county's housing demand.

The Lake County 6th Cycle Housing Element was adopted in 2019 and includes goals, policies, and actions that address population and housing growth from 2019 to 2027. Furthermore, the proposed General Plan 2050 contains goals, policies, and actions that require local planning and development decisions to consider and mitigate impacts from potential future growth as shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation POP. In particular, the following key policies and action would serve to minimize unplanned population growth in the EIR Study Area:

- Policy CM-LU-4.2 requires coordination of growth and development with surrounding jurisdictions, the Local Agency Formation Commission (LAFCO), and other agencies, as appropriate, to maintain open space between communities and promote common goals.
- Policy CM-LU-4.5 states that the General Plan Update Environmental Impact Report (EIR) assumes the following maximum development projections in the unincorporated county for the year 2050:
  - 3,800 new dwelling units;
  - 986,700 square feet of new commercial and office space; and
  - 393,000 square feet of new industrial space.

  If new development approved within the unincorporated county reaches the maximum number of residential units and commercial/office and industrial square feet projected in the General Plan EIR, it requires that the environmental review that is conducted for any subsequent development project address growth impacts that would occur from development exceeding the General Plan EIR's projections.
- Action CM-LU-4.b requires tracking of growth to ensure it does not exceed the development projections analyzed in the General Plan EIR and described in Policy CM-LU-4.5 without subsequent environmental review.

Furthermore, the proposed project would accommodate future growth by providing for infrastructure and associated public services to accommodate the projected growth of the county (see also Section 3.15, *Public Services,* Section 3.16, *Recreation,* Section 3.17, *Transportation*, and Section 3.19, *Utilities and Service Systems*, of this Draft EIR). All potential future development would be required to comply with any required site-specific infrastructure improvements and to pay any project-specific impact fees.

As discussed, the proposed General Plan 2050 is the policy document that plans ahead to accommodate the amount of reasonably foreseeable growth given past growth trends and the ability of existing services and infrastructure to support future growth. Additionally, buildout of

the proposed project would be able to accommodate the next three RHNA cycles. Consequently, while buildout in accordance with the proposed project would serve to accommodate expected population, housing, and job growth in the county, this growth would not represent unplanned population growth for which inadequate planning has occurred, and the impact would be **less than significant**.

Significance without Mitigation: Less than significant.

b) Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

Buildout under the proposed project is expected to result in an increase of approximately 3,830 occupied housing units in the EIR Study Area over an approximately 25-year horizon. One of the purposes of the proposed project is to adequately plan and accommodate future growth through the distribution, location, balance, and extent of land uses. Implementation of proposed General Plan 2050 would accommodate population growth through land use designations, goals, policies, and actions that provide a vision and guide growth in the county. Land use changes under the proposed land use map would increase opportunities for housing throughout the County. The proposed land use map would provide land use designations for a variety of housing types and provide additional residential opportunities throughout Lake County.

Furthermore, the policies and actions provided in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation POP, would also serve to minimize potential adverse impacts related to population and housing displacement. In particular, the following key policies and actions would serve to minimize displacement of a substantial number of people:

- Policy AR-5.1 encourages the development of adequate and safe housing for farm labor.
- Policies CM-LU-5.1, EL-LU-5.1, K-LU-5.1, L-LU-5.1, LL-LU-5.1, M-LU-5.1, NL-LU-5.1, and R-LU-5.1 require planning for and encouragement of a variety of housing types with a full range of affordability.
- Policies CM-LU-5.3, EL-LU-5.3, K-LU-5.3, L-LU-5.3, LL-LU-5.3, M-LU-5.3, NL-LU-5.3, and R-LU-5.3 encourage development of 'workforce housing' that meets the needs of the local workforce and is affordable to individuals and families earning between 60 percent and 120 percent of the area median income.
- Policies CM-LU-5.6, EL-LU-5.7, K-LU-5.7, L-LU-5.7, LL-LU-5.8, M-LU-5.7, NL-LU-5.7, and R-LU-5.7 encourage the development of housing for seniors and other Equity Priority Populations.
- Policies CM-LU-5.9, EL-LU-5.10, K-LU-5.10, L-LU-5.10, LL-LU-5.11, M-LU-5.10, NL-LU-5.10, and R-LU-5.10 encourage innovative, non-traditional housing designs and layouts in response to evolving housing trends and needs.

- Actions CM-LU-5.e, EL-LU-5.f, K-LU-5.f, L-LU-5.f, LL-LU-5.f, M-LU-5.f, NL-LU-5.f, and R-LU-5.f continues to promote the development of affordable, senior, and energy-efficient housing by informing developers of the benefits of density bonuses in preapplication conferences.
- Actions CM-LU-5.f, EL-LU-5.g, K-LU-5.g, L-LU-5.g, LL-LU-5.g, M-LU-5.g, NL-LU-5.g, and R-LU-5.g develops objective design standards for residential and mixed-use development to provide a streamlined approval process; ensure compatibility with existing community character; and ensure appropriate open space, buffers, and pedestrian improvements are provided.
- Policies CM-EJ-2.2, EL-EJ-2.2, K-EJ-2.2, L-EJ-2.3, LL-EJ-2.2, M-EJ-2.2, NL-EJ-2.2, and R-EJ-2.2 require that future improvements in Equity Priority Areas will not result in a net loss of subsidized affordable housing or significant preventable displacement of residents.

Therefore, implementation of the proposed project would not displace existing people or housing or necessitate the construction of replacement housing elsewhere and the impact would be **less than significant.**

Significance without Mitigation: Less than significant.

3.14.5 Cumulative Impact Discussion

As discussed in Chapter 3, *Environmental Analysis,* of this Draft EIR, cumulative impacts to population and housing considers growth from potential future development under the proposed project within the county.

Would the project have a cumulative effect related to population and housing?

The context for the cumulative population and housing impacts would be potential future development under the proposed project combined with development on lands adjacent to the EIR Study Area. As described under impact discussions (a) and (b), implementation of the proposed project would not induce a substantial amount of unplanned population growth or growth for which inadequate planning has occurred, or displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere. The proposed General Plan 2050 policies and actions would provide adequate planning to accommodate the proposed new increase in growth in the EIR Study Area. Therefore, the proposed project would not result in a cumulatively considerable impact to population and housing, and cumulative impacts would be **less than significant.**

Significance without Mitigation: Less than significant.

3.14.6 References

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3.15 PUBLIC SERVICES

This section of the Draft EIR describes the potential impacts to public services, including fire protection, police protection, schools, parks, and libraries associated with the adoption and implementation of the proposed project. This section describes the regulatory framework and existing conditions, identifies criteria used to determine impact significance, and provides an analysis of the potential impacts to public services. The proposed General Plan 2050 policies and actions that would minimize any potentially significant impacts are shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, and denoted with the abbreviation PUB.

3.15.1 Regulatory Framework

STATE

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. The Office of the State Fire Marshal supports CAL FIRE's mission to protect life and property through fire prevention engineering programs, law and code enforcement, and education.

California Building Code

The State of California provides a minimum standard for building design through Title 24, Part 2 of the California Code of Regulations (CCR), commonly referred to as the California Building Code (CBC). The CBC is currently updated every three years. It is generally adopted on a jurisdiction-by-jurisdiction basis, subject to further modification based on local conditions. Developments are plan-checked by County building officials for compliance with the CBC. Sections 13000 et seq. of the California Health and Safety Code include fire regulations for building standards (also in the CBC), fire protection and notification systems, fire protection devices such as extinguishers and smoke alarms, high-rise building and childcare facility standards, and fire suppression training. The newest edition of the California Building Standards Code is the 2022 edition with an effective date of January 1, 2023.

California Fire Code

The California Fire Code (CFC) incorporates, by adoption, the International Fire Code of the International Code Council, with California amendments. The CFC is found in Title 24 of the CCR, Part 9, and, like the CBC, it is revised and published every three years by the California Building Standards Commission. The CFC is effective statewide, but a local jurisdiction may adopt more restrictive standards based on local conditions. The CFC is a model code that regulates minimum

fire safety regulations for new and existing buildings, facilities, storage, and 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.

Unified Hazardous Waste and Hazardous Materials Management Program

The routine management of hazardous materials in California is administered under the Unified Hazardous Waste and Hazardous Materials Management Program (Unified Program). Lake County's hazardous materials programs are administered and enforced under the Unified Program. The California Environmental Protection Agency has granted the County's responsibilities to the Lake County Division of Environmental Health, including implementation and enforcement of hazardous material regulations under the Unified Program as a Certified Unified Program Agency (CUPA).

Emergency Response/Evacuation Plans

Government Code Section 8607(a) directs the Governor's Office of Emergency Services (CalOES) 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. Lake County has adopted an Emergency Operations Plan that is consistent with the SEMS.

Senate Bill (SB) 50

Senate Bill (SB) 50, funded by Proposition 1A, approved in 1998, limits the power of cities and counties to require mitigation of school facilities impacts as a condition of approving new development and provides instead for a standardized developer fee. SB 50 also provides for three levels of statutory impact fees. In setting the fees, school districts must prepare nexus studies to demonstrate a reasonable connection between new development and the need for school improvements. The fees may only be used to finance the construction or modernization of school facilities. The fee application level depends on whether State funding is available, whether the school district is eligible for State funding and whether the school district meets certain additional criteria involving bonding capacity, year-round school, and the percentage of moveable classrooms in use.

California Government Code and Education Code

SB 50 amended California Government Code Section 65995 and is commonly referred to as this legislative bill number, contains limitations on Education Code Section 17620, the statute that authorizes school districts to assess development fees within school district boundaries. Government Code Section 65995(b)(3) requires the maximum square footage assessment for development to be increased every two years, according to inflation adjustments. The State Allocation Board (SAB) approves the allowable amount of statutory school facilities fees (Level I School Fees) for residential development and commercial/industrial development. According to California Government Code Section 65995(3)(h), the payment of statutory fees is "deemed to be full and complete mitigation of the impacts of any legislative or adjudicative act, or both, involving, but not limited to, the planning, use, or development of real property, or any change in governmental organization or reorganization on the provision of adequate school facilities." Each school district is responsible for implementing the specific methods for mitigating school impacts under the Government Code.

The Mello-Roos Communities Facilities Act of 1982

The Mello-Roos Community Facilities Act, Government Code Section 53311 *et seq.*, provides an alternative method of financing certain public capital facilities and services through special taxes. This law empowers local agencies to establish community facilities districts (CFDs) to levy special taxes for facilities such as public schools and libraries. A local property tax was approved by voters in 1974 to help fund the libraries throughout Lake County.

The Quimby Act

The 1975 Quimby Act (California Government Code Section 66477) authorizes cities and counties to adopt ordinances requiring developers to set aside land, donate conservation easements, or pay fees for park improvements. Revenues generated through the Quimby Act cannot be used for operation and maintenance of park facilities (Westrup 2002). A 1982 amendment (AB 1600) requires agencies to clearly show a reasonable relationship between the public need for the recreation facility or parkland and the type of development project upon which the fee is imposed. Jurisdictions with a high ratio of park space to inhabitants can set a standard of up to 5 acres per 1,000 persons for new development. Jurisdictions with a lower ratio can only require the provision of up to 3 acres of park space per 1,000 persons. The calculation of a jurisdiction's park space to population ratio is based on a comparison of the population count of the last federal census to the amount of county-owned parkland.

Mitigation Fee Act

The Mitigation Fee Act allows jurisdictions 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. In order 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 in order 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

Code of Ordinances

The Lake County Code of Ordinances (LCCO) includes various directives pertaining to public services. The LCCO is organized by chapter, article, and section.

The LCCO includes various directives pertaining to fire protection resources are included in Chapter 5, *Building Regulations;* Chapter 17, *Subdivision Regulation;* Chapter 22, *Burning Regulations;* and Chapter 27, *Mitigation Fees,* as follows:

- **Chapter 5, *Building Regulations*.** Section 5-4, *Adoption of Codes,* describes that the County adopts and enforces the California Building Code and the California Fire Code.
- **Chapter 17, *Subdivision Regulation.*** Article 6, *Fire Protection Standards,* set forth fire protection standards for any mobile home park, or for any other development of land where a subdivision map or parcel map is required. The standards outline that land must provide a minimum of two different ingress and egress routes to each homesite. The routes must be constructed in such a manner, and to sufficient standards, to provide year-round access for firefighting equipment and to meet the requirements of the Director of Public Works. It also describes the standards for fire hydrants and water distribution systems.
- **Chapter 22, *Burning Regulations.*** Article 2, *Regulations,* is intended to provide for coordination of the Air Quality Management District and Fire Protection Agencies for fire hazard protection projects. This chapter prohibits the burn materials between the first of May and the date that CAL FIRE declares that hazardous conditions for the year have ended. Additional regulations in this chapter include hours for burning control of fires, suspension of burning, and use of incinerators.
- **Chapter 27, *Mitigation Fees.*** Article 1, *Fire Mitigation Fees,* states that at the time of the issuance of building permits, fire mitigation fees will be collected to ensure the provision of the capital facilities necessary to maintain current levels of fire protection services necessitated by new development.

The LCCO includes various directives pertaining to police protection and emergency services. Most provisions related to emergency services are included in Chapter 6, *Civil Defense,* as follows:

- Article I, *Emergency Organization and Functions,* provides the preparation and plans for the protection of persons and property within Lake County in the event of an emergency. It establishes the Office of Emergency Services as part of the County's Sheriff's Department, and as responsible for administering the emergency program and plan for Lake County.

The LCCO includes various directives pertaining to schools. Most provisions related to schools are included in Chapter 5, *Building Regulations,* and Chapter 17, *Subdivision Regulation.*

- **Chapter 5, *Building Regulations.*** Article 1, Section 5-6, *Miscellaneous Restrictions*, requires the review and certifications of compliance with local school impact regulations prior to issuance of building permits.
- **Chapter 17, *Subdivision Regulation.*** Article 6, *General,* states the subdivisions may be required to set aside a parcel or parcels for acquisition as a school site or sites.

The LCCO includes various directives pertaining to parks and recreation. Most provisions related to parks and recreation are included in Chapter 15, *Recreation, and Chapter 17, Subdivision Regulation.*

- **Chapter 15, *Recreation.***
  - Article 1, *Boats and Boating,* outlines the general rules of operation and allowed areas for this type of recreation. It also provides swimming and diving areas and policies.
  - Article 2, *Camps and Camping,* outlines where camping is allowed within the county.
- Article 6, *General*, includes Section 17-27A, *Park and Recreation Facilities*, which enacts the provisions of the Quimby Act and comprises the County's Quimby Ordinance. This section sets forth the provisions for the implementation of the Quimby Ordinance in Lake County, which require that as a condition of approval of a tentative map, the subdivider shall dedicate land, pay a fee in lieu thereof, or both, at the option of the County, for park or recreational purposes at the time and according to the standards and formula contained in this section, unless each lot is 20 acres or more. This section further finds that each subdivider shall dedicate land or pay an in-lieu fee, or both, to provide 5 acres of park area per 1,000 persons residing in the proposed subdivision.

Emergency Operations Plan

Lake County Office of Emergency Services updated the Lake County Emergency Operations Plan (EOP) in July 2020, and more recently in May 2024. The EOP addresses the County's planned response to extraordinary emergency situations associated with natural disasters, technological incidents, and national security emergencies. The EOP establishes the emergency management organization necessary for response to any significant event affecting the Lake County Operational Area, establishes the operational concepts, procedures and responsibilities required to protect the health and safety of Lake County residents and tourists, public and private property, and the environment from the effects of significant hazardous events, and provides a flexible platform for planning and response to all hazards and emergencies that are

likely to occur in Lake County. The EOP is adaptable for disasters such as earthquakes, wildland/urban interface fires, floods, landslides, health emergencies, and other situations. The entire EOP is reviewed every two years. Changes occurring within the two-year cycle of review are acted upon independently and brought to the Board of Supervisors as necessary to maintain functionality and to meet state and federal requirements. The EOP may also be modified as a result of post-incident analyses and/or after-action reports. The Office of Emergency Services maintains the EOP and leads the implementation of many of the annexes during emergencies, such as mass fatalities, notifications, energy shortages, and mass care and shelter.

Parks, Recreation, and Trails Master Plan

The *Lake County Parks, Recreation, and Trails Master Plan* was adopted in 2024 with the goal of providing a roadmap for park, recreation, and trail improvements throughout the county by addressing maintenance and operations of the system and guiding ongoing improvements and decisions. The *Parks, Recreation, and Trails Master Plan* defines community needs, assesses the function and quality of the County's parks, recreation, and trails, and provides a clear set of recommendations for the County to meet community needs over the coming years. The recommendations are organized by local area, with each section providing recommendations for physical improvements to the County's existing parks and recreation facilities taking into consideration the vision and goals; the park or facility's function within the overall system; the park development guidelines contained in the *Parks, Recreation, and Trails Master Plan*; and needs and opportunities identified during the *Parks, Recreation, and Trails Master Plan* planning process.

3.15.2 Existing Conditions

FIRE PROTECTION

Countywide Area

There are six County fire districts and one CAL Fire unit in Lake County. United States Forest Service (USFS) also provides wildland fire protection on federal lands within Lake County. The districts are summarized below and the fire districts and their stations are shown on Figure 3.15-1, *Fire Protection Facilities*.

- **Kelseyville Fire Protection District** (KFPD) covers the unincorporated Kelseyville Planning Area. KFPD has a service area of 100 square miles and a mutual aid agreement with other Lake County fire districts. KFPD is a full-service fire district, providing emergency medical, fire suppression, rescue, fire prevention code enforcement, public education, and community services (Kelseyville FPD 2023).

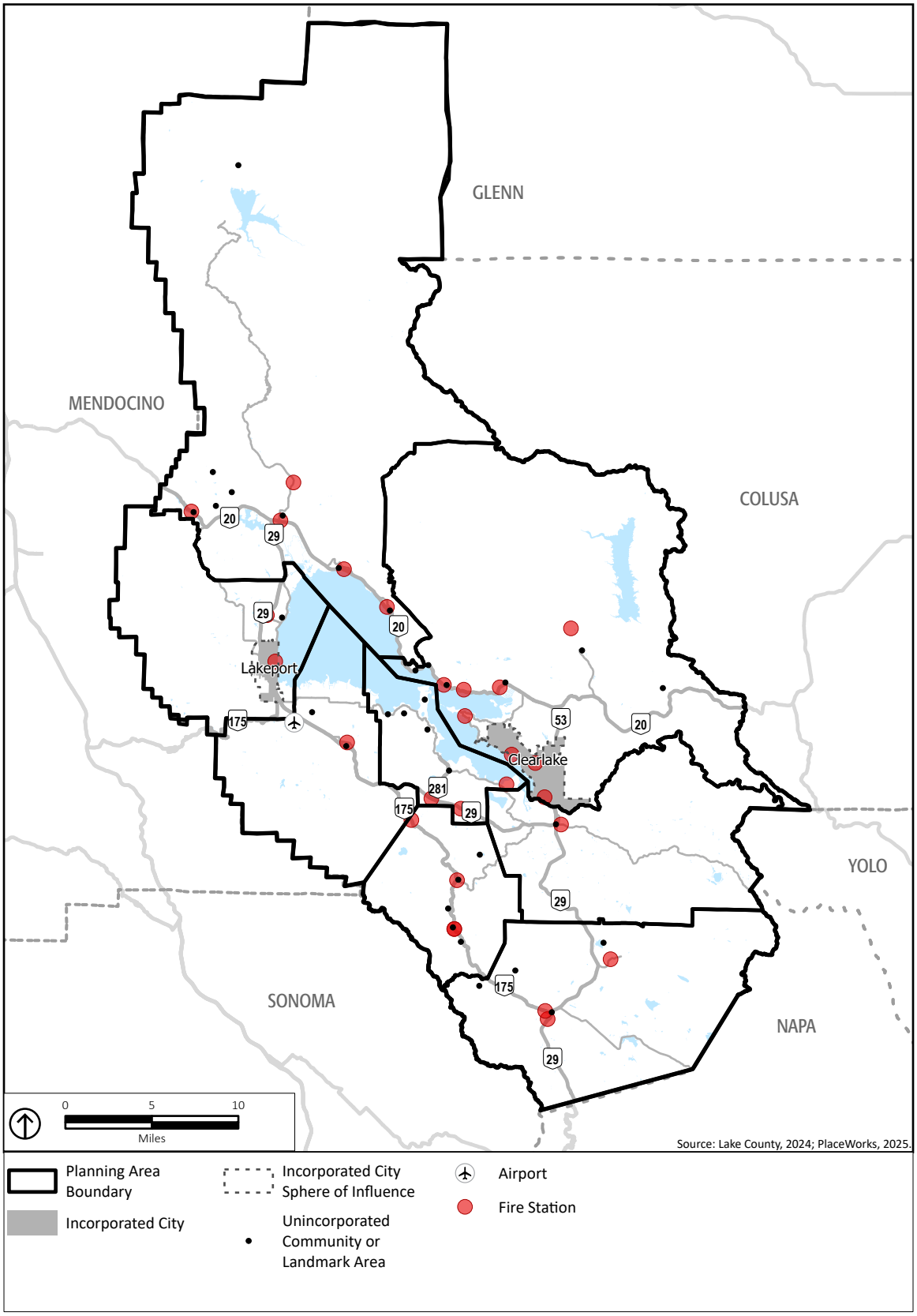

Figure 3.15-1
Fire Protection Facilities

- **Lake County Fire Protection District (LCFPD)** covers the city of Clearlake and the unincorporated area of Lower Lake. LCFPD includes a service area of 165 square miles and a mutual aid agreement with other Lake County fire districts. LCFPD responds to over 5,500 calls per year including structure and wildland fires, vehicle accidents, technical rescue, hazardous materials, and medical aid. There are 26 paid staff positions and 9 volunteers: including one Fire Chief, three Captains, three Fire Apparatus Engineers, nine Firefighter/Paramedics/EMT, one Emergency Medical Services Liaison, one Fire Marshal, three Paramedics, three EMTs, one Financial Analyst, one Finance Assistant, and nine volunteers: three Captains, one Fire Apparatus Engineer, and five Firefighters (Lake County FPD 2025).

  The population in this area ranges from 16,500 to over 50,000 during the summer tourism season. In 2024, LCFPD responded to 6,177 calls for service that included structure and wildland fires, vehicle accidents, technical rescue, hazardous materials, and medical aid (Lake County FPD 2025).
- **Lakeport Fire District** (LFD) covers the city of Lakeport and surrounding unincorporated areas. LFD responds to over 2,600 calls per year including structure and wildland Fires, vehicle accidents, technical rescue, hazardous materials, and medical aid (Lakeport FPD 2025). The majority of LFPD's call are for emergency medical services (Reitz 2025). LFD's entire staff includes one Chief, three Captains, nine Firefighters, one Administrative Assistant, one Office Assistant, and 19 volunteer firefighters (Lakeport FPD About Us).
- **Lake Pillsbury Fire Protection District** (LPFPD) is a volunteer fire district serving the communities around Lake Pillsbury, Hull Mountain, Sandhedrin Mountain, and the County Road to the Mendocino County line, and Elk Mountain Road up to Penny Pines area (Lake Pillsbury FPD 2025). LPFPD consists of 13 volunteer firefighters and has two engines, two rescue vehicles, two fire attack vehicles, an officer truck, fire boat, and quick attack vehicle and has a preferred response time of 1 to 10 minutes (Thompson 2025).
- **Northshore Fire Protection District** (NFPD) provides services to approximately 13,000 residents and 350 square miles of Lake County, including the unincorporated communities of Blue Lakes, Upper Lake, Nice, Lucerne, Paradise Valley, Kono Tayee, Glenhaven, Clearlake Oaks, Spring Valley, and Double Eagle. Northshore Fire Department staffs 19 permanent full-time fire and emergency medical service personnel and three full-time administrative employees and responds to approximately 3,500 service calls per year. NFPD has four stations: Station 75 in Clearlake Oaks, Station 80 in Lucerne, Station 85 in Nice, and Station 90 in Upper Lake (Northshore FPD 2025).
- **South Lake County Fire Protection District** (SLCFPD) serves an area of over 290 square miles in the southern portion of Lake County, including the communities of Middletown, Anderson Springs, Cobb, Loch Lomond, and Hidden Valley. A portion of the geothermal geysers industry facilities are on the western boundary of the SLCFPD. The district has four active stations, consisting of Main Station 60 in Middletown, Station 63 in Hidden Valley, Station 62 in Cobb, and Station 64 in Loch Lomond. SLCFPD has a contract with CAL FIRE to provide

additional personnel and management services. Equipment in this district includes seven fire engines, two water tenders, a rescue vehicle, four ambulances, five utility vehicles, and a mass casualty incident trailer. SLCFPD has an associated Volunteer Firefighters Association which includes 35 volunteers. SLCFPD also partners with Fire Sirens, an auxiliary organization that supports programs for SLCFPD's operations (South Lake County FPD 2023).

- **CAL FIRE Sonoma-Lake-Napa Unit** (SLN Unit) serves the Counties of Sonoma, Lake, Napa, Colusa, Yolo, and Solano. The SLN Unit is responsible for 2.1 million acres of State Responsibility Area (SRA) and 2.3 million acres of Direct Protection Area (DPA). The SLN Unit employs 375 permanent and seasonal employees and is the backup Emergency Command Center for the Governor's Office of Emergency Services, Region II, handling over 10,000 emergency calls annually (State of California 2024).

Planning Areas

The fire protection services by Planning Area are described as follows:

- **Cobb Mountain Planning Area** is covered by SLCFPD which maintains four fire stations, two of which are in the Cobb Mountain Planning Area: Cobb Station 62 at 16547 State Route (SR) 175, Cobb, California 95426, and Loch Lomond Station 64 at 10331 Loch Lomond Road, Loch Lomond, California 95461. Currently, CAL FIRE provides personnel and management services to staff Station 62 with two paid response personnel (South Lake County FPD 2023).
- **East Lake Communities Planning Area** is covered by the NFPD which maintains six stations. There are two stations in this Planning Area: Station 75 at 12655 East Highway 20, Clearlake Oaks, California 95423, and Station 80 at 6257 7th Avenue Lucerne, California 95458, with headquarters located adjacent to Station 80. Station 75 is staffed all day with a Firefighter/ Emergency Medical Technicians (EMT) and a Firefighter/Paramedic. Station 80 is staffed all day by two Firefighter/EMTs or one Firefighter/EMT and one Firefighter/Paramedic and houses the NFPD's administrative staff (Northshore FPD 2025.).
- **Kelseyville Planning Area** is covered by the KFPD, which maintains two fire stations: Station 55, the headquarters station, at 4020 Main Street, Kelseyville, California 95451, and Station 56 at 9757 Soda Bay Road, Kelseyville, California 95451 (Kelseyville FPD 2023).
- **Lakeport Planning Area** is covered by the LFPD, which maintains two fire stations. Station 50 is the main station at 445 Main Street, Lakeport, California 95453 which LFPD is attempting to rebuild or relocate in order to expand the station. LFPD owns property on Larrecou Lane in Lakeport that was acquired for a possible replacement fire station for Station 50 (Reitz 2025). Station 50 is always staffed with four personnel on duty. Station 52 at 3600 Hill Road East, Lakeport, California 95453, is the north Lakeport station location and is not currently staffed (Lakeport FPD History). The LFPD has been serving the City of Lakeport since 1894 and the unincorporated areas since 1956 (Lakeport FPD About Us).
- **Lower Lake Planning Area** is covered by the LCFPD which covers 165 square miles along the eastern shores of Clear Lake including the City of Clearlake and the unincorporated area of

Lower Lake. LCFPD has a total of five fire stations, with full-time staffing at Station 70 at 14815 Olympic Drive, Clearlake, California 95422; and Station 65 at 16354 Main Street, Lower Lake, California 95422.

- **Middletown Planning Area** is covered by SLCFPD which serves an area of over 268 square miles in the southern portion of Lake County, including areas of Middletown Planning Area, and maintains four fire stations. Their headquarters are in Middletown at 21095 SR-175. This station is staffed with two personnel provided by CAL FIRE. Additionally, there is a volunteer firefighter association with 35 volunteers (South Lake County FPD 2023).
- **North Lake Communities Planning Area** is covered by the NFPD, which maintains six stations. There are three stations in this Planning Area: Station 85 at 3708 Manzanita Drive, Nice, California 95464; Station 90 at 9420 Main Street, Upper Lake, California, 95486; and Station 91 at 5200 West SR-20, Upper Lake, California 95485. Station 85 is staffed all day by one Firefighter/EMT and one Firefighter/Paramedic, while Station 90 is staffed daily from 8:00 a.m. to 5:00 p.m. with one Firefighter/EMT (Northshore FPD 2025). Station 90 is staffed daily by one fire and other volunteer staff and Station 91 is staffed fully by volunteer firefighters (Lake County 2023).

  LPFPD also serves the area around Lake Pillsbury within the Mendocino National Forest, a rural area with no cellular service. This part of the North Lake Communities Planning Area is served by two fire stations: Station 95, Lake Pillsbury Ranch at 29501 Fuller Drive, Potter Valley, California, 95469 and Station 96, Rice Fork at 2260 Rice Fork Road, Potter Valley, California, 95469. LPFPD typically has three to five firefighters on medical-aid incidents and five to eight Firefighters on most fire or rescue incidents. There are currently four full-time resident Firefighters, year-round and other volunteers depending on the season and day of week (Thompson 2025).
- **Rivieras Planning Area** is covered by the KFPD through Station 56 at 757 SR-281, Kelseyville, California 95451. The service area includes the communities of Soda Bay, Buckingham Park, Kelseyville, Riviera West, Riviera Estates, and Clearlake Riviera (Kelseyville FPD 2023).

POLICE PROTECTION

Countywide Area

Sheriff's Office

The Lake County Sheriff's Office (Sheriff's Office) oversees all of unincorporated Lake County, encompassing 1,256 square miles and 49,000 residents. In 2024, there were 91 sworn personnel, 39 civilian personnel, and two K9 officers in the department, leading to 1 deputy patrol for every 2,450 residents. The Sheriff's Office's goal would be 1 deputy to every 1,000 residents. There are also 17 volunteers that dedicated 2,200 hours to the department in 2024. In 2024, 142,774 calls were received, with 108,503 (76 percent) to dispatch and 34,271 (24 percent) to 9-1-1. In 2024, there was an overall budget of almost $43 million, with

approximately $15 million going to the sheriff and coroner programs, $10.6 million for the correctional facility, $1.7 million to communications, including dispatch, $700,00 for marine patrol, and $150,000 for search and rescue (Lake County Sheriff's Office 2022; Bingham 2025).

Figure 3.15-2, *Sheriff Facilities*, shows the location of sheriff stations throughout the county. There are four stations in the county, including the following:

- Lakeport, 1220 Martin Street (Headquarters)
- Lower Lake, 7000 South Center Drive (Substation)
- Lucerne, 6222 East SR-20 (Substation)
- Middletown, 20962 Big Canyon Road (Substation)

The Sheriff's Office is in the process of remodeling and expanding the National Guard Armory at 1431 Hoyt Avenue in Lakeport to become the new Department Administration Facility and headquarters (Bingham 2025).

Office of Emergency Services

The Sheriff's Office also includes the Office of Emergency Services (OES), the Operational Area Coordinator for the entire County and the lead for local emergency management. The mission of OES is to enhance the resilience of Lake County in the face of disaster. It is responsible for all of Lake County, incorporated and unincorporated areas (Lake County Sheriff's Office 2025). OES maintains several systems to alert residents about emergencies and provide critical information. The primary system is LakeCoAlerts, which allows residents and businesses to receive alerts quickly through multiple communication methods about critical information for various situations, including evacuation orders and advisories, shelter in place orders, and urgent incident information. OES has two full-time positions, and one is currently vacant (Sautelet 2025).

Under the direction of OES, the Lake County Department of Social Services (DSS) is responsible for care and shelter functions in Lake County. DSS works with the American Red Cross to maintain a list of available shelters (Lake County Sheriff's Office 2023).

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 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.

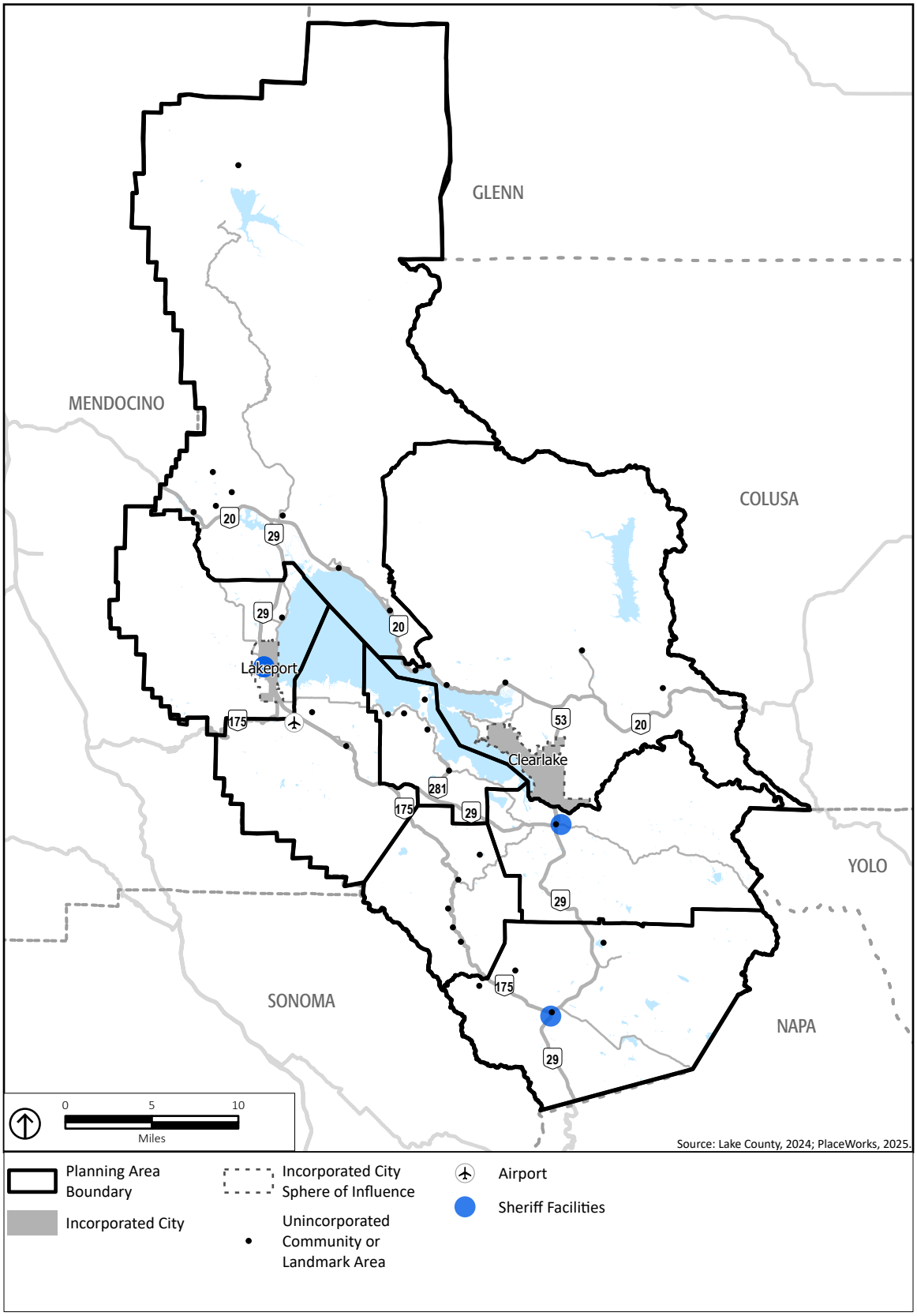

Figure 3.15-2
Sheriff Facilities

Planning Areas

- **Cobb Mountain Planning Area** is served by the Sheriff's substation in Middletown and beats 5 and 7 of the Sheriff's Office.
- **East Lake Communities Planning Area** is served by the Sheriff's substation in Lucerne and beats 2, 3, and 4 of the Sheriff's Office.
- **Kelseyville Planning Area** is served by the Sheriff's headquarters in Lakeport and beat 5 of the Sheriff's Office.
- **Lakeport Planning Area** is served by the Sheriff's headquarters in Lakeport and beat 3 of the Sheriff's Office.
- **Lower Lake Planning Area** is serviced by the Sheriff's substation in Lower Lake and beat 6 of the Sheriff's Office.
- **Middletown Planning Area** is served by the Sheriff's substation in Middletown and beat 7 of the Sheriff's Office.
- **North Lake Communities Planning Area** is served by the Sheriff's Headquarters in Lakeport, the substation in Lucerne, and beats 1 and 3 of the Sheriff's Office.
- **Rivieras Planning Area** is served by the Sheriff's headquarters in Lakeport and beats 5 and 6 of the Sheriff's Office

SCHOOLS

Countywide Area

There are six school districts within Lake County that support approximately 10,000 students enrolled in the County's public school system (Ed Data 2025). Funding is generated from developer fees and bonds. The public-school districts are shown on Figure 3.15-3, *Campus Locations,* and summarized below:

- **Kelseyville Unified School District** (Kelseyville USD) serves the town of Kelseyville and includes the Big Valley area, Soda Bay, the Buckingham peninsula, the Riviera and up to the crest of Cobb Mountain (Kelseyville USD 2025). Enrollment in Kelseyville USD is expected to be around 1,900 students for the 2025 to 2026 school year, which is close to capacity but not yet exceeding it. Kelseyville USD expects to exceed capacity of the district within five years (Thomas 2025). There are seven school sites, including three alternative education campuses:
  - Kelseyville Elementary School serves grades TK through 5 and has 543 students.
  - Riviera Elementary School serves grades TK through 5 and has 287 students.
  - Mountain Vista Middle School serves grades 6 through 8 and has 405 students.
  - Kelseyville High School serves grades 9 through 12 and has 515 students.
  - Ed Donaldson Education Center serves grades 9 and 12 and has 26 students.

  - Kelseyville Learning Academy serves grades kindergarten through 12 and has 36 students.
  - Kelseyville Community Day School serves grades 7 through 12 and has 6 students. There is also a historical site affectionately referred to as Hells Bend at this campus that is leased to a non-profit organization and not used by Kelseyville USD (Data Quest 2024a; Thomas 2025).
- **Konocti Unified School District** (Konocti USD) serves the City of Clearlake, Clearlake Oaks, Lower Lake, Clearlake, Spring Valley, and a portion of Cobb Mountain. Konocti USD has 10 school sites, including 4 alternative education campuses:
  - Burns Valley Elementary School serves grades TK through 6 and has 568 students.
  - East Lake Elementary School serves grades TK through 6 with 195 students.
  - Lower Lake Elementary School serves grades TK through 6 with 743 students.
  - Pomo Elementary School serves grades TK through 6 with 702 students.
  - Obsidian Middle School serves grades 7 through 8 and has 590 students.
  - Lower Lake High School serves grades 9 through 12 with 966 students.
  - Blue Heron Opportunity High School serves grades 9 through 12 with 3 students.
  - Highlands Academy serves grades 3 through 8 with 15 students.
  - Lewis Alternative School serves grades kindergarten through 12 with 118 students.
  - W.C. Carle Continuation High School serves grades 9 through 12 with 85 students (Data Quest 2025b).
- **Lakeport Unified School District** (Lakeport USD) has five school sites, including two alternative education campuses:
  - Lakeport Elementary School serves grades TK through 4 and has 530 students.
  - Terrace Middle School serves grades 5 through 8 and has 370 students.
  - Clear Lake High School serves grades 9 through 12 and has 335 students.
  - Lakeport Alternative School serves grades TK through 12 with 101 students.
  - Natural Continuation High School serves grades 11 and 12 and has 25 students (Data Quest 2025c).
- **Lucerne Elementary Unified School District** (Lucerne Elementary USD) has one campus that serves grades TK through 8 and has 282 students (Data Quest 2025d). The district has plans to construct a new building on campus that would provide two additional classrooms (Grant 2025).
- **Middletown Unified School District** (Middletown USD) has six school sites, including one alternative education campus:
  - Cobb Mountain Elementary School serves grades TK through 5 and has 110 students.
  - Coyote Valley Elementary School serves grades TK through 5 and has 427 students.
  - Minnie Cannon Elementary School serves grades TK through5 and has 164 students.

  - Middletown Middle School serves grades 6 through 8 and has 320 students.
  - Middletown High School serves grades 9 through 12 and has 421 students.
  - Loconoma Valley High School serves grades 9 through 12 and has 10 students (Data Quest 2025e).
- **Upper Lake Unified School District** (Upper Lake USD) has four school sites, including one alternative education campus, with a total district capacity of 935 students (Upper Lake USD 2024):
  - Upper Lake Elementary School serves grades TK through 5 and has 448 students.
  - Upper Lake Middle School serves grades 6 through 8 and has 190 students.
  - Upper Lake High School serves grades 9 through 12 and has 269 students.
  - Clover Valley Continuation High School serves grades 11 and 12 and has 15 students (Data Quest 2025f; Valadez 2025).
  - Upper Lake USD has plans to expand facilities at all sites over the next 5 to 10 years to include new classrooms, athletic fields, and grounds improvements (Valdez 2025).

Planning Areas

The school districts and schools in each Planning Areas are as follows:

- **Cobb Mountain Planning Area** falls within two school districts. The northern part of the Planning Area is in Kelseyville USD and the southern portion is in Middletown USD.
- **East Lake Communities Planning Area** is within two school districts. Most of the Planning Area is in Konocti USD and the northern part of the Planning Area is within Upper Lake USD.
- **Kelseyville Planning Area** falls within two school districts. The northern part of the Planning Area is within Lakeport USD and the southern part is within Kelseyville USD.
- **Lakeport Planning Area** is entirely within Lakeport USD.
- **Lower Lake Planning Area** is entirely within Konocti USD.
- **Middletown Planning Area** is within two school districts. Most of the Planning Area is within Middletown USD and the eastern part of the Planning Area is within Konocti USD.
- **North Lake Planning Area** is within three school districts. Most of the Planning Area is in the Upper Lake USD; the southeastern part of the Planning Area is in Lucerne Elementary USD, and the southwestern part of the Planning Area is in Lakeport USD.
- **Rivieras Planning Area** is within two school districts. The northern part of the Planning Area is in Kelseyville USD and the southern part of the Planning Area is in Konocti USD.

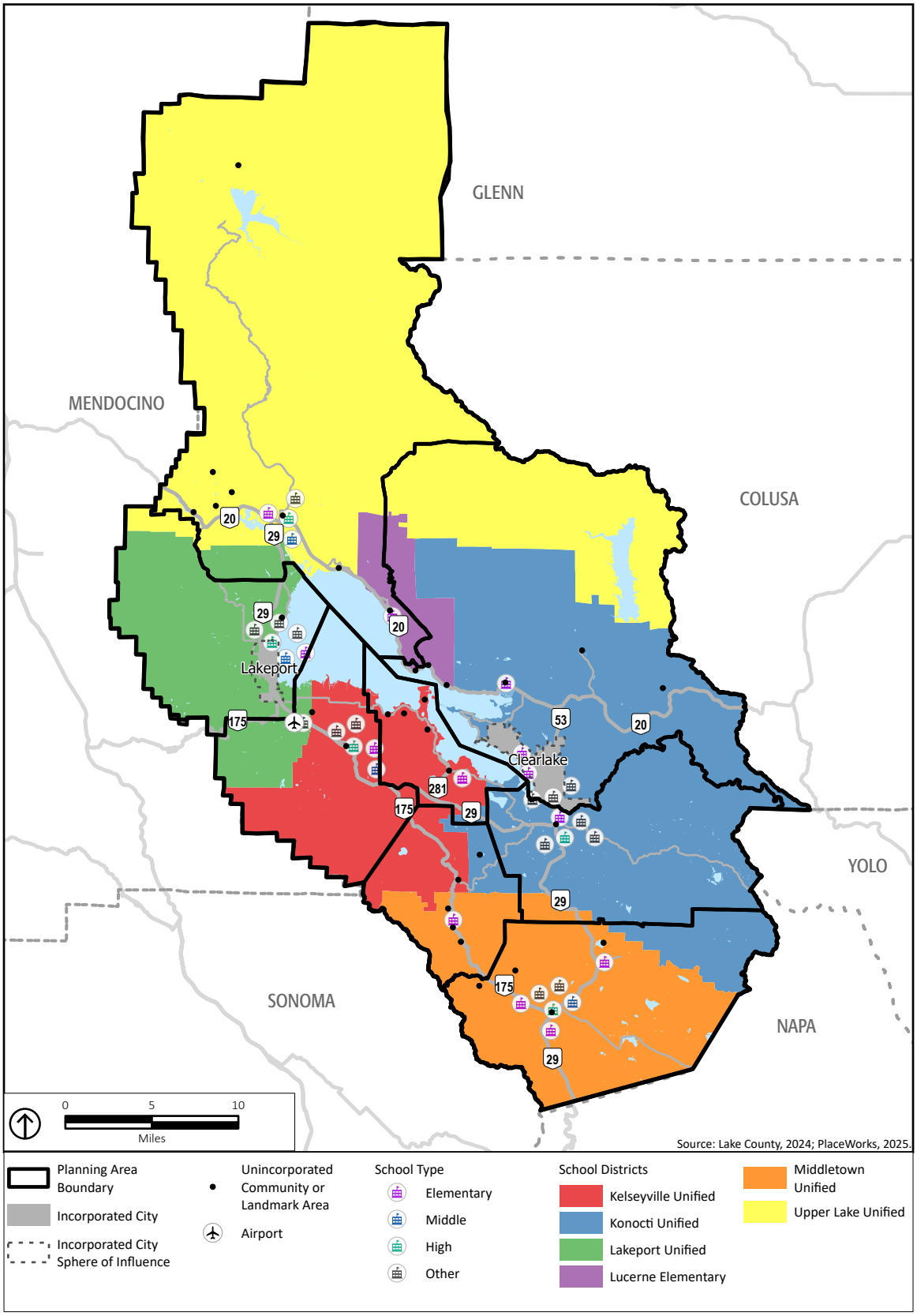

Figure 3.15-3
Campus Locations

PARKS

Countywide Area

Lake County manages more than 4,600 acres of parks and public recreation facilities, overseen by several departments with a goal of providing 5 acres of community parks per 1,000 residents. As of 2024, the County provides approximately 100 acres of parkland per 1,000 residents.[1] Table 3.15-1, *County Park and Recreation Facilities,* shows the parks managed and maintained by the Lake County Public Services Department and summarizes the uses at each park. Parks managed by other agencies are noted in the table (Lake County 2024; Ewing 2025). The parks are shown on Figure 3.15-4, *County Park and Recreation Facilities*.

Table 3.15-1 County Park and Recreation Facilities

Name	Planning Area	Acres	Summary of Uses
Alpine Park	North Lake Communities	2.5	Lawn, beach, and two piers for water access, playground, picnic area, benches
Black Oak Park	North Lake Communities	2.0	Natural area
Clark's Island	East Lake Communities	1.5	Picnic area with lake access
Clearlake Oaks Beach	East Lake Communities	1.1	Lake access, boat launch, picnic areas
Clearlake Oaks Plaza	East Lake Communities	1.0	Large gazebo, benches, picnic areas
Cobb Park*	Cobb Mountain	13	picnic area, playground, trails, dog park
Davis Beach	North Lake Communities	0.5	Lake access
Hamilton Boat Launch	Lakeport	0.2	Lake access, boat ramp
Hammond Ave. Park	North Lake Communities	12.5	Softball field, dog park, trails, playground
Helen Mitcham Park [a]	East Lake Communities	117.0	Campground
Highland Springs Recreation Area [b]	Kelseyville	2,500	Lake access, horseshoe puts, multi-use turf, disc golf
Hinman Park	North Lake Communities	1.0	Gazebo, picnic areas with BBQs
John T. Klaus Park*	East Lake Communities	584.0	Walnut groves, rolling hills

[1] 4,600 acres of parkland divided by (45,600 residents/1,000) results in 100.87 acres per 1,000 residents.

Table 3.15-1 County Park and Recreation Facilities

Name	Planning Area	Acres	Summary of Uses
Keeling Park	North Lake Communities	1.5	Boat ramp, water access, playground
Kelseyville Community Park	Kelseyville	3.0	Skate park, playground, covered picnic area, basketball court
Lakeside Park	Kelseyville	50.0	Boat launch, softball fields, playgrounds, dog park, cornhole boards, swimming access
Lower Lake Park	Lower Lake	0.75	Covered picnic area, BBQ pit, playground, gazebo
Lucerne Creek Park	North Lake Communities	2.0	Natural open space with gravel trail and creek channel, picnic areas, exercise circuit
Lucerne Harbor Park and Artist Village	North Lake Communities	4.5	Boat launch, pier, picnic areas, swimming area, playground
Middletown Park*	Middletown	0.5	Picnic, playground
Middletown Pool & Park	Middletown	1.0	25-yard pool, kiddie pool, shade structure, locker rooms, bathrooms, showers, lawn and picnic area
Middletown Square Park	Middletown	1.0	Shaded lawn, gazebo, benches, picnic areas
Middletown Trailside Park	Middletown	107.0	Hiking trails
Mount Konocti Park	Kelseyville	1,152.0	Hiking trails, historic cabin, remains of a plane crash, native plants, wildlife
Museum Square	Lakeport	1.0	Historic buildings, memorials, benches, walkways
Nice Community Beach	North Lake Communities	0.2	Water access
Nylander Park	East Lake Communities	1.0	Open lawn, playground, gazebo
Pioneer Park	Kelseyville	0.5	Shaded picnic tables, restrooms
Rodman Slough Park	Lakeport	38.0	Lake access, trails, picnic areas
Upper Lake Park	North Lake Communities	8.5	Playground, tennis court, softball field
Vista Point	Lakeport	3.0	Views, picnic tables with BBQs

Notes: *Currently in planning and design

a. Managed by Lake County Special Districts

b. Managed by Lake County Water Resources Department

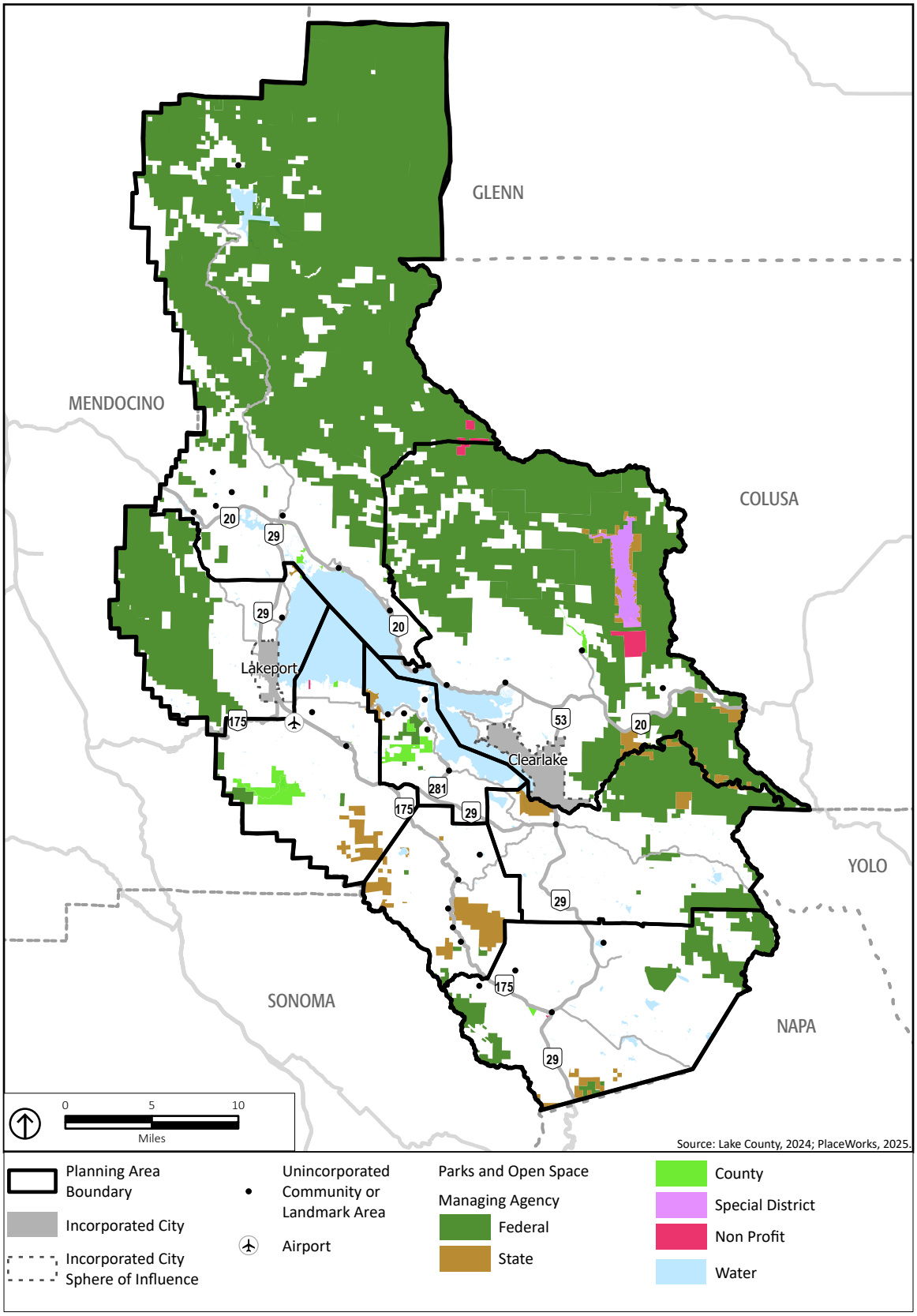

Figure 3.15-4
County Park and Recreation Facilities

In addition to the County managed parks, the EIR Study Area includes the following State and Federal recreation facilities:

- **Clear Lake State Park**, managed by the Northern Buttes District of the California Department of Parks and Recreation, offers approximately 590-acre parkland. (DPR 2023)
- **Mendocino National Forest**, managed by USFS, offers more than 135 miles of trails and roads for hiking, biking, and off-roading, as well as camping areas, boating opportunities, and interpretive sites. (USFS 2025)
- **South Cow Mountain Off-Highway Vehicle (OHV) Recreation Area**, managed by the Bureau of Land Management (BLM), offers approximately 23,000 acres of public land with opportunities for camping, hunting and shooting, and designated roads and trails for motorcycles, OHVs, and 4-wheel drive vehicles. (BLM 2024)

Planning Areas

The recreation areas by planning area are as follows:

- **Cobb Mountain Planning Area** currently has no park or recreation facilities within the Cobb Mountain Planning Area; however, Cobb Park, a 13-acre park with picnic areas, playgrounds, trails, and a dog park, is currently planned for the Planning Area (Ewing 2025).
- **East Lake Communities Planning Area** contains 6 parks totaling over 700 acres. These parks include Clark's Island, Clearlake Oaks Beach, Clearlake Oaks Plaza, Helen Mitchum Park, John T. Klaus Park, and Nylander Park (Lake County 2024).
- **Kelseyville Planning Area** has over 50 percent of the County's park acreage. These parks include Highland Springs Recreation Area, Kelseyville Community Park, Lakeside Park, Mount Konocti Park, and Pioneer Park, totaling over 3,700 acres (Lake County 2024).
- **Lakeport Planning Area** has 42 acres of County parkland in the Lakeport Planning Area. These parks include Hamilton Boat Launch, Museum Square, Rodman Slough Park, and Vista Point (Lake County 2024).
- **Lower Lake Planning Area** includes the Lower Lake Park, approximately 1 acre in size, the only County park in the Lower Lake Planning Area (Lake County 2024).
- **Middletown Planning Area** contains approximately 110 acres of park facilities. These include Middletown Park, Middletown Pool and Park, Middletown Square Park, and Middletown Trailside Park (Lake County 2024).
- **North Lake Communities Planning Area** has 10 parks with over 35 acres of parkland and facilities. These parks include Alpine Park, Black Oak Park, Hammond Avenue Park, Hinman Park, Keeling Park, Lucerne Creek Park, Lucerne Harbor Park and Artist Village, Nice Community Beach, and Upper Lake Park (Lake County 2024).
- **Rivieras Planning Area** does not currently contain any County parkland (Lake County 2024).

LIBRARIES

Countywide Area

There are four public library branches available in Lake County and currently 28,984 cardholders (Veach 2025). The main branch is the Lakeport Library at 1425 North High Street, Lakeport, California 95453. It is a 10,318 square-foot library with around 60,000 books, DVDs, and audiobooks; 10 computers; a printer; and a copy machine. The library is open from 10am to 5pm on Tuesday, 10am to 7pm on Wednesday, and 10am to 5pm on Thursday through Saturday (Lake County 2025a). The Redbud Library at 14785 Burns Valley Road, Clearlake, California 95422 is 13, 203 square feet and houses 50,000 books, DVDs, and audiobooks; 11 computers; a printer; and a copy machine. The library is open from 10am to 5pm on Tuesday, 10am to 7pm on Wednesday, and 10am to 5pm on Thursday through Saturday (Lake County 2025b). The Middletown Library at 21256 Washington Street, Middletown, California 95461 is 5,500 square feet and houses 20,000 books, DVDs, and audiobooks; 8 computers; a printer; and a copy machine. It also hosts the Middletown Seed Lending Library, which collects and lends seeds to gardeners. The library is open 10am to 5pm on Tuesday through Saturday (Lake County 2025c). The Upper Lake Library at 310 Second Street, Upper Lake, California 95485 is 800 square feet and houses 10,000 books, DVDs, audiobooks; 2 computers; a printer; and a copy machine. The library is open from 12pm to 5pm on Tuesday through Friday and 10am to 3pm on Saturday (Lake County 2025d). There is also a 24-foot mobile library outreach vehicle, the Bookmobile van. It was created in 2023 and currently serves the communities of Cobb, Clearlake Riviera, Kelseyville, Clearlake Oaks, Lucerne, Nice, Hidden Valley Lake, and Lower Lake once a week. It contains 1,000 books, DVDs, and other materials. All library branches are currently at collection capacity (Veach 2025).

None of the buildings have been remodeled since their original construction (Upper Lake in 1916, Lakeport in 1986, Redbud in 1995, and Middletown in 2013). The Lakeport Library lacks any dedicated meeting room, and all branches lack private space for small groups, virtual meetings, virtual classes, or telehealth. The Upper Lake Library is not ADA accessible (Veach 2025).

There are currently 18 staff members over all library branches; 12 are permanent positions with the library director being the only professional position. There is one professional librarian and no children's librarian for the County (Veach 2025).

Planning Areas

The libraries in the Planning Areas are as follows:

- **Cobb Mountain Planning Area** does not have a library. However, it is served by the Middletown Library in the Middletown Planning Area and the Bookmobile.

- **East Lake Communities Planning Area** is served by the Redbud Library at 14785 Burns Valley Road, Clearlake, California 95422 and the Bookmobile.
- **Kelseyville Planning Area** does not have a library. However, it is served by the Lakeport Library in the Lakeport Planning Area and the Bookmobile.
- **Lakeport Planning Area** is served by the Lakeport Library at 1425 North High Street, Lakeport, California 95453.
- **Lower Lake Planning Area** does not have a library. However, it is served by the Redbud Library in the City of Clearlake and the Middletown Library and the Bookmobile.
- **Middletown Planning Area** is served by the Middletown Library at 21256 Washington Street, Middletown, California 95461.
- **North Lake Communities Planning Area** is served by the Upper Lake Library at 310 Second Street, Upper Lake, California 95485 and the Bookmobile.
- **Rivieras Planning Area** does not have a library. However, it is served by the Lakeport Library at 1425 North High Street, Lakeport, California 95453 and the Bookmobile.

3.15.3 Standards for Analysis

Appendix G, *Environmental Checklist Form*, of the California Environmental Quality Act (CEQA) Guidelines states that the proposed project would result in a significant impact related to public services if it would:

a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services including fire protection, police protection, public schools, parks, and other public facilities, which for this Draft EIR includes library services.

Methodology

Potential future development over the General Plan 2050 buildout horizon would include new housing and nonresidential development, with associated increases to resident and employee population. Table 2-3, *Proposed 2050 Buildout Projections in the EIR Study Area,* in Chapter 2, *Project Description,* of this Draft EIR, shows the residential and commercial buildout anticipated for each planning area. A population increase of 9,170 people throughout the EIR Study Area is projected and is in line with incremental population growth, which would occur with or without adoption of the proposed project. It is anticipated that this growth would most likely occur incrementally over the lifetime of the project. Therefore, while the following impact discussion assumes the projected growth will place demands on the existing public service providers and their facilities, it is unlikely that the magnitude of increased demands as a result of the full

buildout potential of the proposed General Plan 2050 would be placed on facilities within the immediate timeframe or all at once.

3.15.4 Project Impact Discussion

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, to maintain acceptable service ratios, response times, or other performance objectives?

Fire Protection

New residents associated with the proposed project are expected to generate the typical range of service calls, including fire, emergency medical service, and other incidents, which could impact fire protection services in the EIR Study Area. As described in Section 3.15.2, *Existing Conditions,* under Fire Protection, the EIR Study Area is served by the KFPD, LCFPD, LFD, LPFPD, NFPD, SLCFPD, and the SNL Unit.

Potential future development would be required to comply with Title 24 of the CCR as adopted in LCCO Chapter 5, Section 5-4, as summarized in Section 3.15.1, *Regulatory Framework.* Compliance with the State's Title 24 would ensure any new development proposed in the EIR Study Area meets the most current building and fire codes, thereby increasing safety of the buildings, and reducing the likelihood of a fire emergency, subsequently reducing demand on the County's fire districts. Also, Chapter 27, Article I, *Fire Mitigation Fees*, of the LCCO states that at the time of the issuance of building permits, fire mitigation fees will be collected to ensure the provision of the capital facilities necessary to maintain current levels of fire protection services necessitated by new development. Thus, future development under the proposed project would also be required to pay these fees to support the expansion of future fire protection facilities in the EIR Study Area.

The proposed General Plan 2050 contains policies and actions that require local planning and development decisions to consider and mitigate impacts that potential future development could have on fire protection services. These are shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation PUB. In particular, the following key policies would serve to ensure there are adequate fire protection facilities in the EIR Study Area:

- Policy HS-1.2 requires the County to maintain current and effective mutual aid and Joint Power Agreements (JPA) for fire, police, medical response, hazardous materials, mass care, heavy rescue, or other functions as appropriate.

- Policies CM-PF-3.1, EL-PF-3.1, K-PF-3.1, L-PF-3.1, LL-PF-3.1, M-PF-3.1, NL-PF-3.1, and R-PF-3.1 require the County to with the fire districts and CAL FIRE to support each agency's ability to maintain adequate staffing and incident response times in accordance with State and Federal guidelines.
- Policies CM-PF-3.2, EL-PF-3.2, K-PF-3.2, L-PF-3.2, LL-PF-3.2, M-PF-3.2, NL-PF-3.2, and R-PF-3.2 require the County to locate new fire and police stations to minimize response times to the Planning Areas, while prioritizing effective use of existing facilities.
- Policies CM-PF-3.3, EL-PF-3.3, K-PF-3.3, L-PF-3.3, LL-PF-3.3, M-PF-3.4, NL-PF-3.3, and R-PF-3.3 require the County to support efforts to expand fire protection service to continue to meet the needs of the Planning Areas.
- Policies CM-PF-3.4, EL-PF-3.4, K-PF-3.4, L-PF-3.4, LL-PF-3.4, M-PF-3.5, NL-PF-3.4, and R-PF-3.4 require the County to continue to promote cooperative fire protection agreements with CAL FIRE to provide adequate fire protection throughout the Planning Areas.
- Policies CM-PF-3.5, EL-PF-3.5, K-PF-3.5, L-PF-3.5, LL-PF-3.5, M-PF-3.6, NL-PF-3.5, and R-PF-3.5 require the County to consult with the fire districts that serve the Planning Area when reviewing new development proposals to identify any facility, infrastructure, or equipment upgrades needed to support the development and ensure the development pays for any identified upgrades.
- Policies CM-PF-3.7, EL-PF-3.7, K-PF-3.7, L-PF-3.7, LL-PF-3.7, M-PF-3.8, NL-PF-3.7, and R-PF-3.7 require new development to demonstrate adequate water supply and service for effective fire protection and that all infrastructure meets the fire protection standards of Lake County or the responsible agency.

Based on the increased projected buildout and population growth by 2050, the fire protection services within the EIR Study Area would likely need to expand to accommodate potential new users. The potential need for future fire protection facility expansions would be assessed as development occurs. Future construction of new fire protection facilities would be subject to the mitigation measures contained throughout this EIR to reduce potential environmental impacts and could also be subject to separate project-level environmental review pursuant to CEQA, as required, to identify potential environmental impacts and mitigation measures as needed.

Accordingly, adherence to the proposed General Plan 2050 policies and actions presented in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation PUB, as well as applicable mitigating policies for potential future development under the proposed project included throughout this EIR, would ensure that there is a **less-than-significant impact** relating to the provision of new or physically altered fire protection facilities.

Significance without Mitigation: Less than significant.

Police Protection

New residents as a result of the proposed project would be serviced by the Sheriff's Office, which as described in Section 3.15.2, *Existing Conditions,* under Police, the Sheriff's Office currently provides 1 deputy for every 2,450 residents with a goal of 1 deputy for every 1,000 residents. Therefore, the Sheriff's Office is already understaffed, and at full buildout, the Sheriff's Office would need to hire 9 additional deputies to meet their goal. Physical expansion of Sheriff's Office facilities may be needed to accommodate increases in staffing.

The proposed General Plan 2050 contains policies and actions that require local planning and development decisions to consider and mitigate impacts that potential future development could have on police services. These are shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation PUB. In addition to the policies listed under the "Fire Protection" discussion, the following key policy would serve to ensure there are adequate police facilities in the EIR Study Area:

- Policy HS-9.9 requires the County to ensure projects proposed within potential dam inundation zones are reviewed by the Lake County Sheriff's Office of Emergency Services and checked against evacuation plans on file for the area. If a project presents a direct threat to human life, appropriate hazard mitigation actions should be taken, including restriction of development in the subject area.

Based on the increased projected buildout and population growth by 2050, the police services within the EIR Study Area would likely need to expand to accommodate potential new users. The potential need for future police facility expansions would be assessed as development occurs. Future construction of new police facilities would be subject to the mitigation measures contained throughout this EIR to reduce potential environmental impacts and could also be subject to separate project-level environmental review pursuant to CEQA, as required, to identify potential environmental impacts and mitigation measures as needed.

Accordingly, adherence to the proposed General Plan 2050 policies and actions presented in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation PUB, as well as applicable mitigating policies for potential future development under the proposed project included throughout this EIR, would ensure that there is a **less-than-significant impact** relating to the provision of new or physically altered police facilities.

Significance without Mitigation: Less than significant.

Schools

New residents associated with the proposed project are expected to generate school-aged children, which could attend schools across Lake County. As described in Section 3.15.2, *Existing Conditions,* under Schools, most schools are near or already exceeding capacity.

The school districts that serve the EIR Study Area would continue to collect the development impact fees which each school district has adopted, throughout implementation of the proposed project. Therefore, potential future development would incrementally pay for any needed facility upgrades and expansions, which, pursuant to SB 50, has been deemed sufficient to provide full and complete school facilities mitigation for the impacts from the proposed project, regardless of whether the fees are adequate to fully fund the expansion or construction of needed facilities, described further in Section 3.15.1, *Regulatory Framework*.

The proposed General Plan 2050 contains policies and actions that require local planning and development decisions to consider and mitigate impacts that potential future development could have on public school services. These are shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation PUB. In particular, the following key policies and action would serve to ensure there are adequate schools in the EIR Study Area:

- Policies CM-PF-8.1, EL-PF-8.1, K-PF-8.1, L-PF-8.1, LL-PF-8.1, M-PF-8.1, NL-PF-8.1, and R-PF-8.1, require the County to collaborate with the school districts in the Planning Area to plan for future growth.
- Policies CM-PF-8.4, EL-PF-8.1, K-PF-8.1, L-PF-8.1, LL-PF-8.1, M-PF-8.1, NL-PF-8.1, and R-PF-8.1, require the County to support efforts to retrofit and/or upgrade existing educational facilities to ensure safety and comfort of students and educators, including through expedited permitting reviews and fee waivers, where feasible.
- Action CM-PF-8.a, EL-PF-8.a, K-PF-8.a, L-PF-8.a, LL-PF-8.a, M-PF-8.a, NL-PF-8.a, and R-PF-8.a, require the County to coordinate residential development proposal reviews with school districts that serve the Planning Area to inform future enrollment estimates and ensure adequate capacity for the development project.

Based on the increased projected buildout and population growth by 2050, the public-school services within the EIR Study Area would likely need to expand to accommodate potential new users. The potential need for future school facility expansions would be assessed as development occurs. Future construction of new school facilities would be subject to the mitigation measures contained throughout this EIR to reduce potential environmental impacts and could also be subject to separate project-level environmental review pursuant to CEQA, as required, to identify potential environmental impacts and mitigation measures as needed.

Accordingly, the mandatory payment of developer impact fees for the construction of new schools pursuant to SB 50, adherence to the proposed General Plan 2050 policies and actions presented in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation PUB, as well as applicable mitigating policies for potential future development under the proposed project included throughout this EIR, would ensure that there is a **less-than-significant impact** relating to the provision of new or physically altered school facilities.

Significance without Mitigation: Less than significant.

Parks

The proposed General Plan has established a "parkland to population" ratio of 5 acres of community parks per 1,000 persons. For purposes of this analysis, increased use of existing parks is determined based on the ability for the proposed project to provide parkland at a ratio of 5 acres of parkland per 1,000 new residents. As described in Section 3.15.2, *Existing Conditions,* under Parks, Lake County currently provides over 4,600 acres of parkland for County residents, or approximately 100 acres of parkland per 1,000 residents.[2] Implementation of the proposed project could introduce up to 9,170 new residents to the County at buildout (2050), which would increase the demand for parks and recreational facilities. However, with an estimated buildout population of 54,770 residents, implementation of the proposed project would result in 84 acres of parkland per 1,000 residents, which is well within the County's desired ratio of providing 5 acres of parkland per 1,000 residents. Thus, implementation of the proposed project would result in an excess of parkland and would require the construction of new parks to meet the County's performance standard. Accordingly, impacts would be **less than significant.** Please see Section 3.16, *Recreation*, of this Draft EIR, for further discussion on impacts related to parks and recreation in the EIR Study Area.

Significance without Mitigation: Less than significant.

Library Services

New residents associated with the proposed project are expected to use the library services, which could impact library facilities in the EIR Study Area. As described in Section 3.15.2, *Existing Conditions,* under Libraries, all branches in the Lake County library system need improvements.

The proposed General Plan 2050 contains policies and actions that require local planning and development decisions to consider and mitigate impacts that potential future development could have on library services. These are shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation PUB. In particular, Policies CM-PF-1.3, EL-PF-1.4, K-PF-1.4, L-PF-1.4, LL-PF-1.4, M-PF-1.4, NL-PF-1.4, and R-PF-1.4, require the County to continue to assess existing and future needs for public facilities and services, such as internet access, meeting rooms, and libraries, and work to develop, retrofit, or expand facilities and services, as necessary, to meet those needs, prioritizing the needs of Equity Priority Populations.

[2] 4,600 acres of parkland divided by (45,600 residents/1,000) results in 100.87 acres per 1,000 residents.

Based on the increased projected buildout and population growth by 2050, the libraries within the EIR Study Area would likely need to expand to accommodate potential new users. The potential need for future library facility expansions would be assessed as development occurs, especially as online services become more used. Future construction of new libraries would be subject to the mitigation measures contained throughout this EIR to reduce potential environmental impacts and could also be subject to separate project-level environmental review pursuant to CEQA, as required, to identify potential environmental impacts and mitigation measures as needed.

Accordingly, adherence to the proposed General Plan 2050 policies and actions presented in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation PUB, as well as applicable mitigating policies for potential future development under the proposed project included throughout this EIR, would ensure that there is a **less-than-significant impact** relating to the provision of new or physically altered library facilities.

Significance without Mitigation: Less than significant.

3.15.5 Cumulative Impact Discussion

As discussed in Chapter 3, *Environmental Analysis*, of this Draft EIR, cumulative impacts to public services considers growth from potential future development under the proposed project within the county combined with the estimated growth in the service areas of each service provider.

Would the project have a cumulative effect related to public services?

Compliance with State and local regulations described under Section 3.15.1, *Regulatory Framework*, and the proposed General Plan 2050 policies and actions identified under impact discussion (a), would ensure that public services continue to adequately serve the EIR Study Area. Potential future development that may occur within and adjacent to the EIR Study Area would occur incrementally over the proposed General Plan 2050's approximately 25-year buildout horizon and therefore is not anticipated to substantially increase the population, thereby avoiding reduction of the service providers ability to adequately serve residents. Further, because the proposed project is program level, and because potential future development would be required to undergo project review at the time of project application, each potential future development would be assessed for impacts to fire protection services. With adequate planning in place in both the EIR Study Area and each service provider area, the proposed project would not result in a cumulatively considerable impact on public services and cumulative impacts would be **less than significant.**

Significance without Mitigation: Less than significant.

3.15.6 References

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3.16 RECREATION

This section of the Draft EIR describes the potential impacts to recreation associated with the adoption and implementation of the proposed project. This section describes the regulatory framework and existing conditions, identifies criteria used to determine impact significance, and provides an analysis of the potential impacts to recreation. The proposed General Plan 2050 policies and actions that would minimize any potentially significant impacts are shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, and denoted with the abbreviation REC.

3.16.1 Regulatory Framework

STATE

The Quimby Act

The 1975 Quimby Act (California Government Code Section 66477) authorizes cities and counties to adopt ordinances requiring developers to set aside land, donate conservation easements, or pay fees for park improvements. Revenues generated through the Quimby Act cannot be used for operation and maintenance of park facilities (Westrup 2002). A 1982 amendment (Assembly Bill [AB] 1600) requires agencies to clearly show a reasonable relationship between the public need for the recreation facility or parkland and the type of development project upon which the fee is imposed. Jurisdictions with a high ratio of park space to inhabitants can set a standard of up to 5 acres per 1,000 people for new development. Jurisdictions with a lower ratio can only require the provision of up to 3 acres of park space per 1,000 persons. The calculation of a jurisdiction's park space to population ratio is based on a comparison of the population count of the last federal census to the amount of County-owned parkland.

LOCAL

Code of Ordinances

The Lake County Code of Ordinances (LCCO) includes various directives pertaining to parks and recreation. The LCCO is organized by chapter, article, and section. Most provisions related to parks and recreation are included in Chapter 15, *Recreation,* and *Chapter 17, Subdivision Regulation.*

- **Chapter 15, *Recreation.***
  - Article 1, *Boats and Boating,* outlines the general rules of operation and allowed areas for this type of recreation. It also provides swimming and diving areas and policies.
  - Article 2, *Camps and Camping,* outlines where camping is allowed within the county.

- **Chapter 17, *Subdivision Regulation.*** Article 6, *General*, includes Section 17-27A, *Park and Recreation Facilities*, which enacts the provisions of the Quimby Act and comprises the County's Quimby Ordinance. This section sets forth the provisions for the implementation of the Quimby Ordinance in Lake County, which require that as a condition of approval of a tentative map, the subdivider shall dedicate land, pay a fee in lieu thereof, or both, at the option of the County, for park or recreational purposes at the time and according to the standards and formula contained in this section, unless each lot is 20 acres or more. This section further finds that each subdivider shall dedicate land or pay an in-lieu fee, or both, to provide 5 acres of park area per 1,000 people residing in the proposed subdivision.

Parks, Recreation, and Trails Master Plan

The *Lake County Parks, Recreation, and Trails Master Plan* was adopted in 2024 with the goal of providing a roadmap for park, recreation, and trail improvements throughout the county by addressing maintenance and operations of the system and guiding ongoing improvements and decisions. The *Parks, Recreation, and Trails Master Plan* defines community needs, assesses the function and quality of the County's parks, recreation, and trails, and provides a clear set of recommendations for the County to meet community needs over the coming years. The recommendations are organized by local area, with each section providing recommendations for physical improvements to the County's existing parks and recreation facilities taking into consideration the vision and goals; the park or facility's function within the overall system; the park development guidelines contained in the *Parks, Recreation, and Trails Master Plan*; and needs and opportunities identified during the *Parks, Recreation, and Trails Master Plan* planning process.

3.16.2 Existing Conditions

Please see existing conditions for parks in Section 3.15, *Public Services.* As described in Section 3.15, Lake County has more than 4,600 acres of parks and public recreation facilities throughout the Planning Areas that are managed by several departments with a goal of providing 5 acres of community parks per 1,000 residents. As of 2024, the County provides approximately 100 acres of parkland per 1,000 residents.[1]

Recreational opportunities within the EIR Study Area consist of access to the lake, fishing, exercise, picnic areas, playgrounds, dog parks, sports facilities, bird watching, and hiking. In addition to the County-managed parks, the EIR Study Area includes the following State and federal recreation facilities:

- **Clear Lake State Park**, managed by the Northern Buttes District of the California Department of Parks and Recreation, offers approximately 590 acres parkland (DPR 2023).

[1] 4,600 acres of parkland divided by (45,600 residents/1,000) = 100.87 acres per 1,000 residents.

- **Mendocino National Forest**, managed by the United States Forest Service (USFS), offers more than 135 miles of trails and roads for hiking, biking, and off-roading, as well as camping areas, boating opportunities, and interpretive sites (USFS 2025).
- **South Cow Mountain Off-Highway Vehicle (OHV) Recreation Area**, managed by the Bureau of Land Management (BLM), offers approximately 23,000 acres of public land with opportunities for camping, hunting and shooting, and designated roads and trails for motorcycles, OHVs, and 4-wheel drive vehicles (BLM 2024).

3.16.3 Standards for Analysis

Appendix G, *Environmental Checklist Form*, of the California Environmental Quality Act (CEQA) Guidelines states that the proposed project would result in a significant impact related to recreation if it would:

a) 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.

b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.

3.16.4 Project Impact Analysis

a) Would the project 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?

Implementation of the proposed project could introduce up to 9,170 new residents to the county, which would increase the demand on existing parks and recreational facilities. New residents from potential future development in the EIR Study Area would increase the demand on park and recreational facilities that may lead to physical deterioration.

As described under *Parks* in impact discussion (a) of Section 3.15, *Public Services,* the proposed General Plan 2050 has established a “parkland to population” ratio of 5 acres per 1,000 people. With an estimated buildout population of 54,770 residents, implementation of the proposed project would result in 84 acres of parkland per 1,000 residents.

As described in Section 3.16.1, *Regulatory Framework*, the County’s recently adopted *Lake County Parks, Recreation, and Trails Master Plan* provides a roadmap for park, recreation, and trail improvements throughout the county by addressing maintenance and operation of the system and guiding ongoing improvements and decisions and provides a clear set of

recommendations, organized by Planning Area, for the County to meet community needs over the coming years. Additionally, LCCO Section 17-27A would continue to require residential subdivisions to either provide parkland or pay in-lieu fees for the County to dedicate parkland elsewhere. This would result in the incremental addition of parkland if a residential subdivision is proposed in the county.

Furthermore, the proposed General Plan 2050 contains policies and actions that require local planning and development decisions to consider impacts to recreational resources. These are shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation REC. In particular, the following key policies would ensure there are adequate recreational facilities minimize impacts on parks and recreational facilities in the EIR Study Area:

- Policies CM-OS-6.2, EL-OS-6.2, K-OS-6.2, L-OS-6.2, LL-OS-6.2, M-OS-6.2, NL-OS-6.2, and R-OS-6.3 require coordination of the development of parks and recreation facilities with the rate of growth in the Planning Area to ensure parks and recreation facilities are adequate to serve the local population.
- Policies CM-OS-6.3, EL-OS-6.3, K-OS-6.3, L-OS-6.3, LL-OS-6.3, M-OS-6.3, NL-OS-6.3, and R-OS-6.4 require the County to maintain a level of service standard of 5 acres per 1,000 residents for parks.

With adequate existing parkland for the projected growth under the proposed project, implementation of the *Lake County Parks, Recreation, and Trails Master Plan* and the Quimby Ordinance in LCCO Section 17-27A, combined with the proposed General Plan policies and actions, individual park and recreation facilities would not be overburdened as a result of the proposed project leading to the deterioration of existing facilities. Therefore, impacts would be **less than significant.**

Significance without Mitigation: Less than significant.

b) Would the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

As described in impact discussion (a), the implementation of the proposed project supports the development of new park and recreational facilities, as well as the ongoing maintenance and improvements of existing parks may be required. The estimated timing or location of such facilities or the exact nature of these facilities are not known, so project-specific environmental impacts that would occur from their construction and operation cannot be determined at this time. However, depending on the type, size, and location of new parks, the construction of new parks would be subject to environmental review and the mitigating policies and actions described in this EIR to ensure impacts from construction would be less than significant.

Furthermore, the proposed General Plan 2050 contains policies and actions that require local planning and development decisions to consider impacts to recreational resources. These are shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation REC. In particular, the following key policy would serve to minimize impacts due to construction of recreational facilities in the EIR Study Area:

- Policies CM-OS-6.6, EL-OS-6.5, K-OS-6.5, L-OS-6.6, LL-OS-6.6, M-OS-6.5, NL-OS-6.5, and R-OS-6.6 require that when constructing new County parks, the following guidelines are used:
  - Locate the park to promote an equitable distribution of facilities in the Planning Area and across the county.
  - Locate the park centrally to serve as much of the population base as possible.
  - Locate the park at the intersection of major and/or minor collectors to facilitate access.
  - Locate the park along designated bicycle routes to facilitate access by bicyclists.
  - Locate the park near shopping areas, cultural facilities, such as libraries or museums, schools, and employment centers.
  - Develop community parks to be appropriately sized.
  - Provide night lighting when feasible to reduce vandalism and extend the use of the facility.
  - Locate the park on sites that do not contain Naturally Occurring Asbestos, unless adequate clean cover material and other effective controls, as determined by the Lake County Air Quality Management District, are incorporated to minimize public exposure to asbestos dust.

Additionally, the construction of project-specific parks would require permitting and review in accordance with applicable County standards, which would ensure that any environmental impacts are disclosed and mitigated to the extent possible. Therefore, the impact is considered **less than significant.**

Significance without Mitigation: Less than significant.

3.16.5 Cumulative Impact Analysis

As discussed in Chapter 3, *Environmental Analysis,* of this Draft EIR, cumulative impacts to recreation considers growth from potential future development under the proposed project within the county combined with surrounding communities.

Would the project have a cumulative effect related to recreation?

As described in Section 3.16.2, *Existing Conditions*, parks and recreation services in the EIR Study Area are provided by the County, California Department of Parks and Recreation, and

USFS. Future growth in the EIR Study Area would result in increased demand for park and recreational facilities throughout the county and region.

Future development in Lake County would result in increased population, which would increase demands for parks and recreational facilities in the EIR Study Area and regional parks in the larger region, and could cause physical deterioration of park facilities. The proposed General Plan 2050 policies and actions identified under impact discussions (a) and (b), and in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation REC, would support parkland goals, and LCCO Section 17-27A would continue to require residential subdivisions to either provide parkland or pay in-lieu fees for the County to dedicate parkland elsewhere, helping to ensure that individual park and recreation facilities are not overburdened by use. While potential future development under implementation of the proposed project would result in an increased population, the County provides ample parkland under proposed project conditions with 84 acres of parkland per 1,000 residents. Furthermore, buildout would occur incrementally throughout the next approximately 25 years, and future development would be subject to the proposed General Plan 2050 policies and actions listed under impact discussions (a) and (b), as well as LCCO Section 17-27A; therefore, impacts would be **less than significant.**

Significance without Mitigation: Less than significant.

3.16.6 References

BLM (Bureau of Land Management). 2024. "South Cow Mountain OHV Management Area." Accessed June 24, 2024. https://www.blm.gov/visit/south-cow-mountain-ohv-management-area.

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3.17 TRANSPORTATION

This section of the Draft EIR describes the potential impacts to transportation associated with the adoption and implementation of the proposed project. This section describes the regulatory framework and existing conditions, identifies criteria used to determine impact significance, and provides an analysis of the potential impacts to transportation. The proposed General Plan 2050 policies and actions that would minimize any potentially significant impacts are shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, and denoted with the abbreviation TRA. Where policies and actions are required for mitigation, those policies and actions are described in this section and denoted with an asterisk (*).

The following are definitions for terms used throughout this section:

- **Vehicle-miles traveled (VMT).** A measure of network use or efficiency that accounts for the number of daily vehicle trips generated, times the length or distance of those trips. VMT is generally expressed as VMT per capita for a typical weekday.
- **Greenhouse gases (GHG).** Gases in the atmosphere that absorb infrared light, thereby retaining heat in the atmosphere and contributing to a greenhouse effect.

3.17.1 Regulatory Framework

FEDERAL

Applicable federal regulations pertaining to transportation are addressed in other sections of this Draft EIR, including Section 3.3, *Air Quality*; Section 3.8, *Greenhouse Gas Emissions*; and Section 3.9, *Hazards and Hazardous Materials*. The federal Clean Air Act, the Fixing America's Surface Transportation Act, and the Americans with Disabilities Act may have some relevance or influence for individual projects or actions as part of potential future projects in the EIR Study Area. Additionally, the Federal Highway Administration is the agency of the United States Department of Transportation responsible for the federally funded roadway system, including the interstate highway network and portions of the primary state highway network.

STATE

Senate Bill 743

Senate Bill (SB) 743, enacted in 2013, required California Environmental Quality Act (CEQA) lead agencies to shift away from using level of service (LOS) and automobile delay to determine significant traffic impacts. In response, the State Office of Land Use and Climate Innovation (LCI) updated CEQA guidelines and criteria to use VMT as the metric for evaluating the significance of traffic impacts. Pursuant to Public Resources Code Section 21099(b)(2), "automobile delay, as described solely by level of service or similar measures of vehicular capacity or traffic

congestion, shall not be considered a significant impact on the environment." LCI's Technical Advisory on Evaluating Transportation Impacts in CEQA (Technical Advisory), published in December 2018, provides guidance on VMT assessment, methodologies, and suggested metrics (LCI 2018). A key environmental aspect of VMT is its relationship to GHG emissions, and the recommended VMT significance thresholds included in the Technical Advisory are based on mandated GHG emissions reduction targets established by the State.

California Complete Streets Act of 2008

The Complete Streets Act (Assembly Bill [AB] 1358) requires city and county general plans to include policies that support the development of facilities for a multimodal transportation network. Complete Streets principles should be incorporated into street design to meet the needs of all users—drivers, bicyclists, pedestrians, and transit riders—regardless of age or physical ability. Jurisdictions that undertake updates of their general plan must plan for a balanced multimodal transportation network that meets the needs of all users, incorporating appropriate goals, policies, and actions into the mandatory circulation element.[1]

California Department of Transportation (Caltrans)

The California Department of Transportation (Caltrans), as a responsible agency under CEQA, reviews topics in environmental documents pertaining to State highway facilities in Lake County, including State Route (SR) 20, SR 29, SR 53, and SR 175, and the associated interchanges for these facilities in the EIR Study Area. The following Caltrans procedures and directives are relevant to the proposed General Plan 2050, particularly to state roadway facilities:

- **Vehicle Miles Traveled–Focused Transportation Impact Study Guide.** The Caltrans *Vehicle Miles Traveled–Focused Transportation Impact Study Guide* (TISG), dated May 20, 2020, addresses Caltrans's review of VMT impact analysis for land use projects and land use plans. Caltrans seeks to reduce single-occupancy vehicle trips, provide a safe transportation system, reduce per capita VMT, increase accessibility to destinations via cycling, walking, carpooling, and transit, and reduce GHG emissions. The TISG reiterates that automobile delay is no longer considered a significant impact on the environment within CEQA transportation analysis and that Caltrans has shifted focus from level of service to VMT. With respect to VMT significance thresholds, Caltrans refers to guidance provided in the LCI Technical Advisory.
- **Local Development Review (LDR) Safety Review Practitioner's Guidance**. The Caltrans *LDR Safety Review Practitioner's Guidance*, dated February 2024, provides updated guidance to Caltrans Districts, lead agencies, developers, and consultants conducting safety review for proposed land use projects and plans that would affect the State Highway System. The guidance recommends that safety analyses include a review of three primary elements related to transportation safety—design standard compliance, collision history, and collision

[1] California Government Code Section 65302(b)(2).

risk (consistent with the Federal Highway Administration's Systemic Approach to Safety). The guidance does not establish specific analysis methods or significance thresholds for determining safety impacts under CEQA. The document states that "significance of impacts should be determined with careful judgment on the part of a public agency and based, to the greatest extent possible, on scientific and factual data consistent with Caltrans' CEQA guidance contained in Caltrans' Standard Environmental Reference (SER), Chapter 36, "Environmental Impact Report," the CEQA guidelines found in the California Code of Regulations, Title 14, Division 6, Chapter 3, Article 5, Section 15064(f), "Determining the Significance of the Environmental Effects Caused by a Project.", the California Association of Environmental Professionals CEQA Statue & Guidelines document, and the Highway Design Manual" (page 8). Finally, the guidance states that Caltrans District traffic safety staff will use available data to determine if the proposed project may influence or contribute to significant impacts to the State Highway System.

LOCAL

Code of Ordinance

The Lake County Code of Ordinances (LCCO) establishes a framework of laws and regulations governing transportation infrastructure and operations within the county. These ordinances are designed to promote public safety, preserve roadway integrity, and ensure orderly movement of vehicles and pedestrians. The LCCO is organized by chapter, article, and section. Most provisions related to transportation are included in LCCO Chapter 18, *Transportation,* which includes ordinances to protect county highways and roads, to regulate speed and weight on county highways and roads, and to establish rules for pedestrian crosswalks.

Regional Transportation Plan/Active Transportation Plan

The Lake Area Planning Council (Lake APC) is the regional transportation planning agency (RTPA) responsible for planning in Lake County. The RTP consists of a 20-year strategy aimed at ensuring the safe, efficient management and development of a multi-model transportation system, which is thoughtfully integrated with the land use planning for the County. The RTP has been combined with the Active Transportation Plan (ATP), joining vehicle, transit, walking, and biking service and facility recommendations. The most recent approved 2022 RTP contains financially constrained and unconstrained infrastructure and program project lists. Lake APC is currently updating the RTP/ATP for Lake County, with a new RTP/ATP set to be completed in 2026.

Wildfire Evacuation and Preparedness Plan

The *Lake County Wildfire Evacuation and Preparedness Plan,* developed by the Lake Area Planning Council and adopted in 2025, is designed to enhance public safety through coordinated and efficient evacuation strategies. The plan supports proactive emergency

planning, promotes equitable access to resources, and aims to minimize adverse impacts on surrounding jurisdictions and critical infrastructure during large-scale emergencies by defining evacuation strategies, identifying agency roles and responsibilities, and key considerations for mobilizing residents from high-risk areas to designated evacuation zones. Evacuation strategies rely heavily upon modifications to typical transportation network functioning, including:

- Adjusting traffic signal timing to prioritize movement away from the affected area.
- Considering locations of congestion points when determining evacuation orders, timing, and deployment of resources, including Soda Bay Road, Point Lakeview Road, Clearlake Avenues, and 176 locations with one-way in/one-way out.
- Phased Evacuation: evacuating areas in defined stages or sections, allowing emergency officials to prioritize communities closest to the immediate threat while minimizing traffic buildup on designated evacuation routes.
- Using road barriers serve to clearly delineate open and closed routes, and designated markings to guise evacuees along evacuation routes and helping them make informed decisions under stressful conditions.

Transit Development Plan

The Lake County Transit Development Plan (TDP), adopted in 2023, is a 10-year document that guides the development and expansion of Lake County's transit programs and services, which is provided by the Lake Transit Authority (LTA). The LTA aims to make public transit efficient, effective, and easy to use. Its goals focus on using available funding wisely, increasing ridership, providing reliable service, and planning transit in ways that support community needs and long-term development. As such, LTA identified potential service alternatives to the LTA's fixed routes to better serve the community. These recommendations include:

- Increasing the frequency of Route 1
- Operating Route 2 three days per week or eliminating Route 2
- Improve connections between Route 3 and regional transit services
- Expand Route 4 service to include Konocti Vista Casino and Riviera Shopping Center
- Operate Route 4a three days per week, eliminate the first roundtrip of the day, or eliminate Route 4a
- Improve connections between Route 7 and regional transit services, and add an earlier trip to Ukiah
- Replace Route 8 with Microtransit
- Replace Routes 2 and/or 4a with Microtransit

3.17.2 Existing Conditions

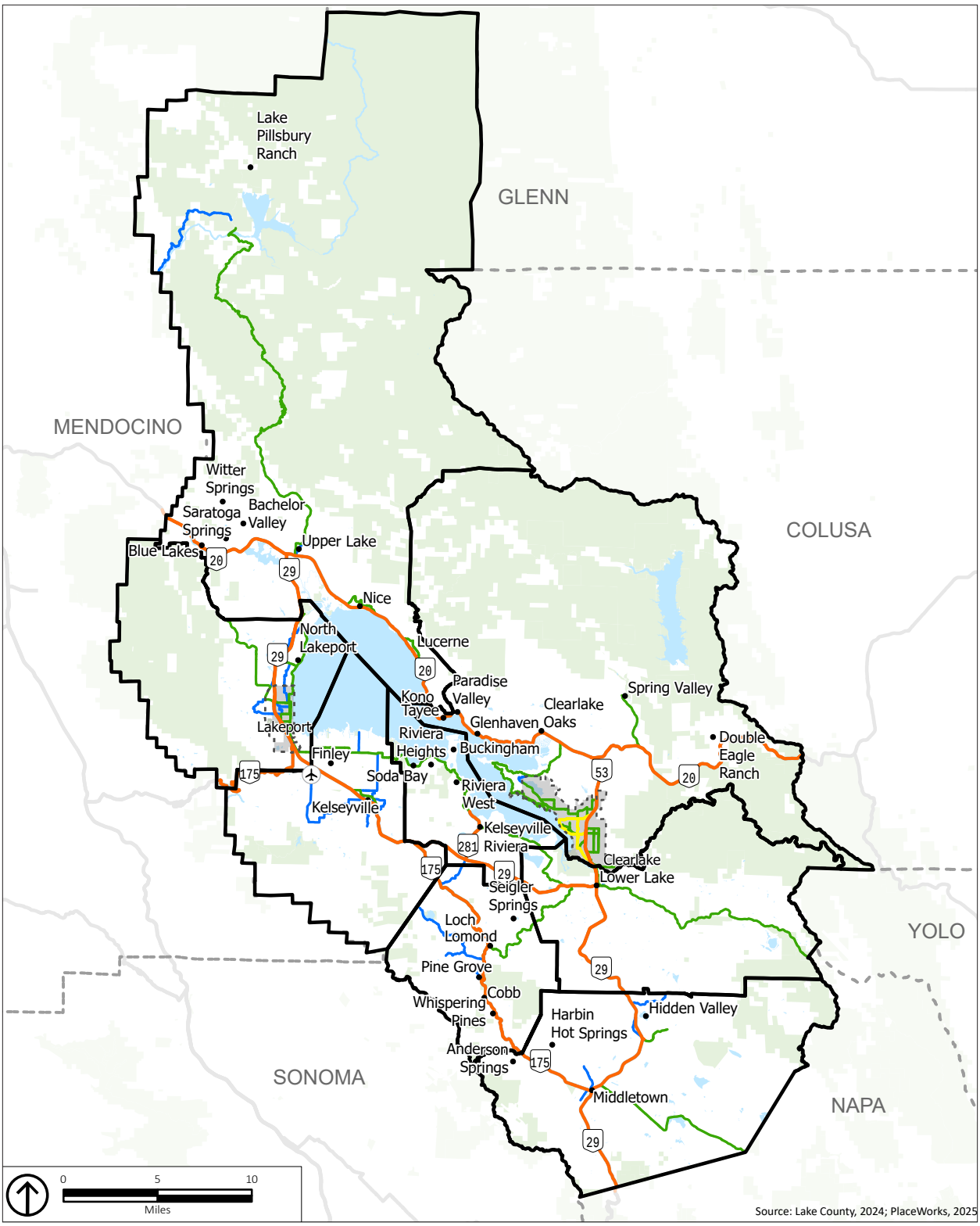
COUNTYWIDE AREA ROADWAY NETWORK

The county's roadway network serves as the backbone for all modes of travel. Roadways are organized using a hierarchical system, whereby individual roadways are classified by their intended function within the overall roadway network. These classifications—highways, arterials, collectors, and local streets—define the desired functional and operational characteristics of a roadway, such as traffic volume capacity and level of service. Figure 3.17-1, *Lake County Roadway Network*, depicts the roadway network in Lake County.

State Highways

Highways supplement the local roadway system by carrying long-distance traffic to and through Lake County. Communities and towns in Lake County are connected by state highways that run north-south and east-west throughout the county. These state highways also serve as the main evacuation routes in the county.

- **State Route (SR-) 20.** SR-20 is an east-west state route that begins on the coast of Mendocino County and passes through Lake County starting east of U.S. Highway 101. SR-20 runs along the north shore of Clear Lake and connects communities to Interstate (I-) 5 to the west and continues west through the Central Valley and then to the Sierra Nevada Mountain range. SR-20 traverses as a "Main Street" through the communities of Nice, Lucerne, Glenhaven and Clearlake Oaks. Through these communities the route is classified as a principal arterial and is widely used by pedestrians, cyclists, and transit services. The posted speed limit is 35 miles per hour (mph) on these Main Street segments. SR-20 which connects to SR-29 and SR-53, is not only important to local Lake County traffic, but to regional traffic traveling to and from the county, as well as interregional traffic traveling between U.S. Highway 101 and I-5. Much of SR-20 is a two-lane facility except for the segment west of Lower Lake between Siegler Canyon Road and just west of Diener Drive, where there are two westbound lanes. The posted speed limit is 45 mph in most segments.
- **SR-29.** SR-29 is a north-south state route that begins south at the Napa/Lake County line, and continues north through the communities of Middletown, Lower Lake, then traverses north-west through Kelseyville and the City of Lakeport, terminating at the junction of SR-20 in the community of Upper Lake. SR-29 could also serve as a bypass of SR-20 for regional and interregional travel within the county. SR-29 from Upper Lake to Lower Lake is classified as a principal arterial with one lane traveling in each direction. The posted speed limit is 55 mph at most segments except when approaching the Main Street intersection in Lower Lake, the posted speed is 45 mph.



Planning Area Boundary
Incorporated City
Incorporated City Sphere of Influence
Other County
Unincorporated Community or Landmark Area
Airport

Roadway Classification
Principal Arterial
Minor Arterial
Major Collector
Minor Collector

Figure 3.17-1
Lake County Roadway Network

- **SR-175.** SR-175 is a two-lane rural minor arterial that connects U.S. Highway 101 to SR-29 near Lakeport. From Lakeport to south of Kelseyville there is a break in SR-75, but south of Kelseyville the route continues southeast to Middletown. Within Middletown, SR-175 serves as a main street facility with a posted speed limit of 35 mph. SR-175 becomes a rural two-lane major collector facility from Cobb until its junction with SR-29.
- **SR-53.** SR-53 is a north-south state route that begins at the junction of SR-29 in Lower Lake and traverses north into the City of Clearlake, and eventually terminates at the junction of SR-20, east of the community of Clearlake Oaks. SR-53 is classified as a 4-lane principal arterial into the City of Clearlake until the 40th Avenue intersection with a posted speed limit of 45 mph. From 40th Avenue, SR-53 continues north as a 2-lane principal arterial through the City of Clearlake until the junction of SR-20 and SR-53 with a posted speed limit of 55 mph. Along with SR-29, SR-53 serves as a bypass to SR-20 connecting the south-eastern portion to the north-western portion of the county.

Arterial

Arterials are major thoroughfares that serve as primary routes for traffic movement between areas of a city or region. They typically connect highways and collector streets, facilitating travel across neighborhoods, commercial zones, and city centers. Typically, arterials carry a significant volume of traffic, have fewer driveways and intersections compared to local streets and operate at a higher speed. Arterials are split into Principal and Minor classifications. Notable arterials in Lake County are discussed under “Planning Area Roadway Networks” of this section.

Collectors

Collector streets connect residential neighborhoods to commercial centers and service commercial districts. With moderate traffic volumes, collectors also host deliveries and facilitate efficient emergency responses. Collector streets must operate at moderate speeds since many people live, work, shop, and play within these street environments. Collectors are split into Major and Minor classifications. Notable collectors in Lake County are discussed under “Planning Area Roadway Networks” of this section.

Local Streets

Local streets function primarily to provide access to neighborhood destinations and make connections within neighborhoods. All local streets provide vehicles, pedestrians, and utility access. Low volume and speeds of traffic are appropriate for such streets. Notable local streets in Lake County are discussed under “Planning Area Roadway Networks” of this section.

COUNTYWIDE DESIGNATED TRUCK ROUTES

Truck route classifications are based on the allowable size and design specifications of truck tractors or semitrailers. The following are the different truck routes based on allowable size and design specifications:

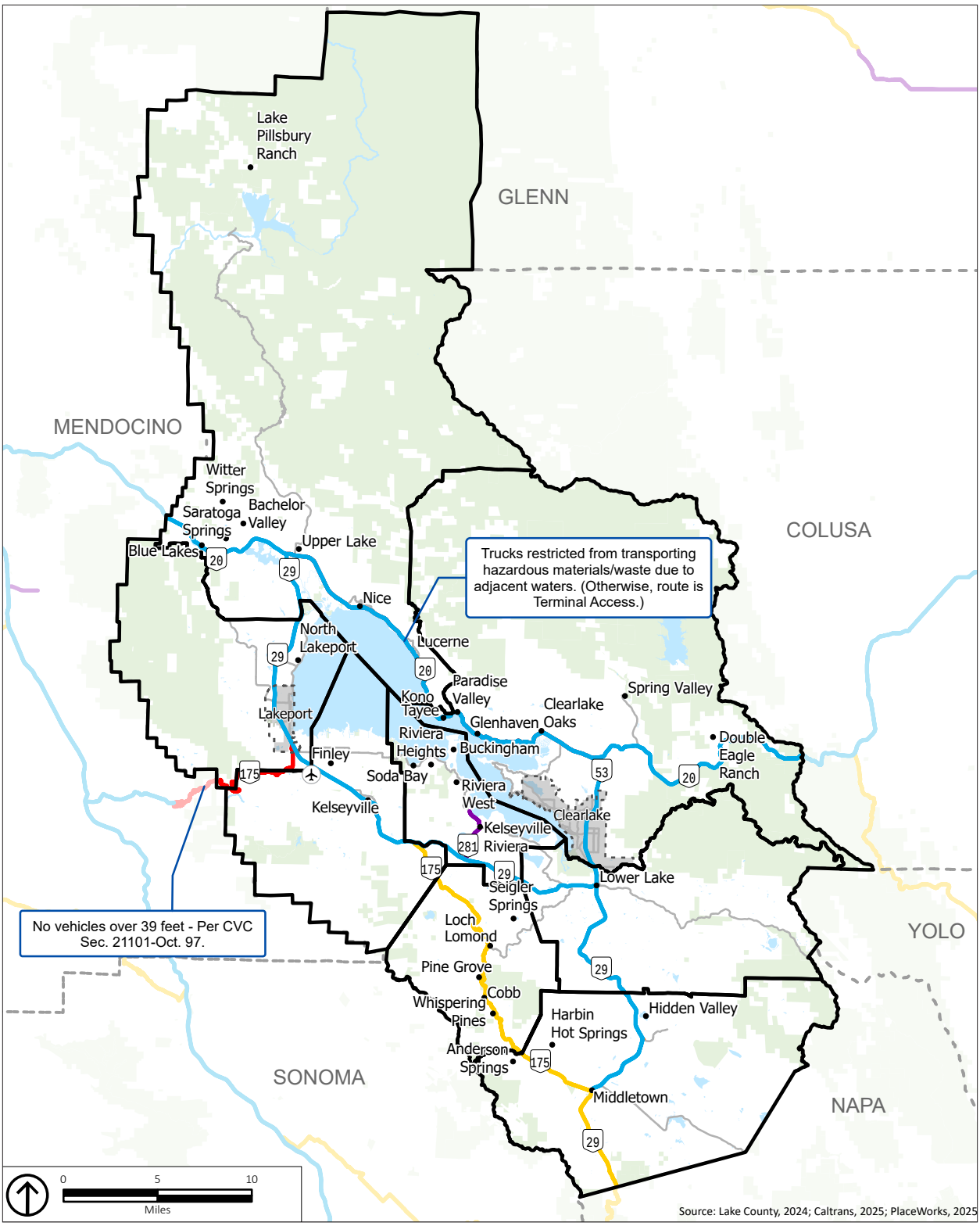
- Terminal Access Routes allow STAA* trucks, which include semitrailers up to 53 feet long that meet several other conditions regarding distance between axles.
- California Legal Routes allow California Legal trucks, which include truck tractors with total lengths of up to 65 feet (truck and semitrailer combined) or double trailers of up to 75 feet.
- California Legal Advisory Routes also allow California Legal trucks but provide additional travel advisories for trucks that exceed posted kingpin-to-rear-axle lengths due to roadway turning radii.
- Special Restriction Routes restrict certain trucks based on vehicle length or weight, cargo type, or number of axles.

An STAA truck is one allowed to operate on the national network of highways due to the Surface Transportation Assistance Act (STAA) of 1982, which permits larger and heavier trucks to use certain federally aided highways, including the Interstate system and specific primary routes.

Many businesses and residents in Lake County depend on goods movement for the delivery, import, and export of products. Goods are primarily transported along the designated truck routes shown in Figure 3.17-2, *Designated Truck Routes*. Consequently, the major highway corridors that connect Lake County to regional and interregional destinations are also designated to accommodate the movement of large and heavy vehicles, which are diverted away from residential neighborhoods and noise-sensitive land uses per Lake County General Plan's policy.

VEHICLE MILES TRAVELED

To evaluate potential general plan impacts on vehicle miles traveled (VMT), the VMT metrics described in Table 3.17-1, *Vehicle Miles Traveled Metric Definition and Visualization*, are evaluated and compared against baseline conditions (2019). These metrics generally involve the tracing or accounting of vehicle trips and their length within a specific study boundary or from a specific trip generation source such as a community, city, or project development site. All metrics are estimated or forecasted using the Lake Mendocino Travel Demand Model (LMTDM). Fehr & Peers reviewed the model for reasonableness prior to applying it for the proposed General Plan 2050.



Planning Area Boundary
Incorporated City
Incorporated City Sphere of Influence
Other County
Unincorporated Community or Landmark Area
Airport
Terminal Access Route (STAA)
California Legal Route
California Legal Advisory Route
Special Restriction

Figure 3.17-2
Designated Truck Routes

For the Lake County General Plan update transportation analysis, the following three VMT metrics were assessed:

- **Total VMT:** This metric measures Total VMT generated by all uses (including uses other than residential and employment such as retail, hospitality, and recreation). This metric is sometimes used in land use plan assessments since it broadly captures the total VMT effects created by all land uses and their interactions.
- **Home-based VMT per resident:** This metric is analyzed for residential uses and measures all home-based VMT generated by residents, including travel between home to work, school, or shopping, divided by the number of residents.
- **Home-based work VMT per employee:** VMT per employee is analyzed for employment-based uses such as offices and includes all home-based work VMT generated by employees between homes and workplaces, divided by the number of employees.

The Lake-Mendocino County travel demand model (LMTDM) is a trip-based model that simulates weekday travel conditions, accounting for land use, transportation, and demographic factors that influence travel behavior. The 2019 base year represents conditions that most closely match 2024 baseline conditions and therefore is utilized in this analysis for purposes of establishing baseline conditions. Prior to applying the model for this study, validation testing of the model was made to test the model's level of detail, sensitivity, and reasonableness.

Table 3.17-1 Vehicle Miles Traveled Metric Definition and Visualization

Metric	Definition	Visualization
Total Network VMT	All vehicle-trips (i.e., passenger and commercial vehicles) assigned on the network within a specific geographic boundary (i.e., model-wide, region-wide, city-wide). Vehicle volume on each link is multiplied by link distance.	
Home-based VMT per resident	All home-based automobile vehicle trips are traced back to the residence of the trip-maker; non-home-based trips are excluded.	

Table 3.17-1 Vehicle Miles Traveled Metric Definition and Visualization

Metric	Definition	Visualization
Home-based work VMT per employee	All automobile trips between home and work are counted.	

The LMTDM was used to forecast the VMT associated with the proposed project. Custom runs of the model were used to produce project-specific VMT data. The model forecasts trips traveling between traffic analysis zones (TAZ) and gateways. TAZs are geographic polygons like Census block groups. The land uses within the TAZs determines the number of trips generated and what type of trips are produced or attracted by the TAZ. Trips are assigned to the transportation network largely based on the shortest travel time paths between TAZs. The gateways are the entry and exit points to the county. Some trips start or end outside the county and these include trips that travel through the county without making stops.

The unincorporated county area analyzed in general plan scenarios corresponds to the EIR Study Area and is encompassed by 389 TAZs in Lake County (310 TAZs in unincorporated Lake County and 79 in the Cities of Clearlake and Lakeport). Table 3.17-2, *Baseline (2019) VMT Summary*, presents a summary of the baseline (2019) VMT estimates for the VMT metrics described.

Table 3.17-2 Baseline (2019) VMT Summary

VMT Metric	Unincorporated Lake County	Lake County (unincorporated and Cities of Clearlake and Lakeport)
Total Network VMT	1,056,114	1,234,169
Home-based VMT per resident	20.1	16.3
Home-based work VMT per employee	16.3	15.1

Source: Lake-Mendocino County Travel Demand Model, 2024.

Many factors affect VMT, including the distribution of home, work, school, and shopping locations as well as the network that connects these trip origins and destinations. Areas that have a diverse land use mix in close proximity and sufficient facilities and services for walking, bicycling, and transit, tend to generate lower VMT than auto-oriented suburban or rural areas.

COUNTYWIDE TRANSIT NETWORK

The LTA provides public transit services throughout Lake County and operates connecting routes to intercity and regional bus services in adjacent Napa and Mendocino counties.

In addition to nine fixed bus routes, LTA offers two paratransit services, Dial-a-Ride and Medi-Link, though these are currently only available in Lower Lake and Lakeport Planning Areas. Dial-a-Ride is a curb-to-curb service operating in Clearlake, Lower Lake, and Lakeport during the same days and hours as the local bus routes. Medi-Links provides nonemergency medical transportation throughout Lake County as well as out-of-county destinations such as Deer Park/St. Helena, Napa, Santa Rosa, Ukiah, Willits, and the Sacramento and San Francisco Bay areas. Medi-Links is a shared ride service and must be arranged at least seven days prior to a medical appointment.

LTA also offers Flex Stop service in areas not served by Dial-a-Ride where the bus will travel up to one mile beyond its regular route to pick customers up at the curb. Figure 3.17-3, *Transit Routes,* depicts the Transit Routes in Lake County. Details on each of these routes are provided below.

- Route 1 connects communities along SR 20, including Clearlake, Clearlake Oaks, Glenhaven, Lucerne, Nice, Upper Lake, and Lakeport. On weekdays, service runs hourly or bihourly from 6 AM to 7 PM. The schedule is reduced to 9 AM to 5 PM on weekends.
- Route 2 runs along SR 175, from the Middletown Twin Pine Casino and continuing north through Cobb to eventually stop at Kit's Corner at the intersection of SR 175 and SR 29, where commuters can transfer to Route 4 which will serve Lakeport and Clearlake. Route 2 operates weekdays only, with two trips in each direction.
- Route 3 starts at the Walmart shopping center in Clearlake and runs south along SR 29, circling around the downtown area, and continues south to Napa County, where it ends at Adventist Health St. Helena Hospital in Deer Park. Route 3 runs four daily roundtrips Monday through Friday, with limited trips on the weekends.
- Route 4 is an interregional route that connects communities of Clearlake, Lower Lake, Kelseyville, and Lakeport. Route 4 operates Monday through Friday from 6:00 AM to 6:45 PM.
- Route 4A serves the communities of Soda Bay, Kelseyville, Finley and Lakeport with a transfer point to Route 2 at Kit's Corner on SR 29 and transfer to Route 3, 4, and 7 on Third and Main Street in Lakeport. Route 4a operates Monday through Friday with only two round trips daily.
- Route 7 connects Lakeport to northern communities, including Mendocino College and Ukiah and operates express schedules with limited stops Monday through Saturday. There are 3 daily roundtrips.

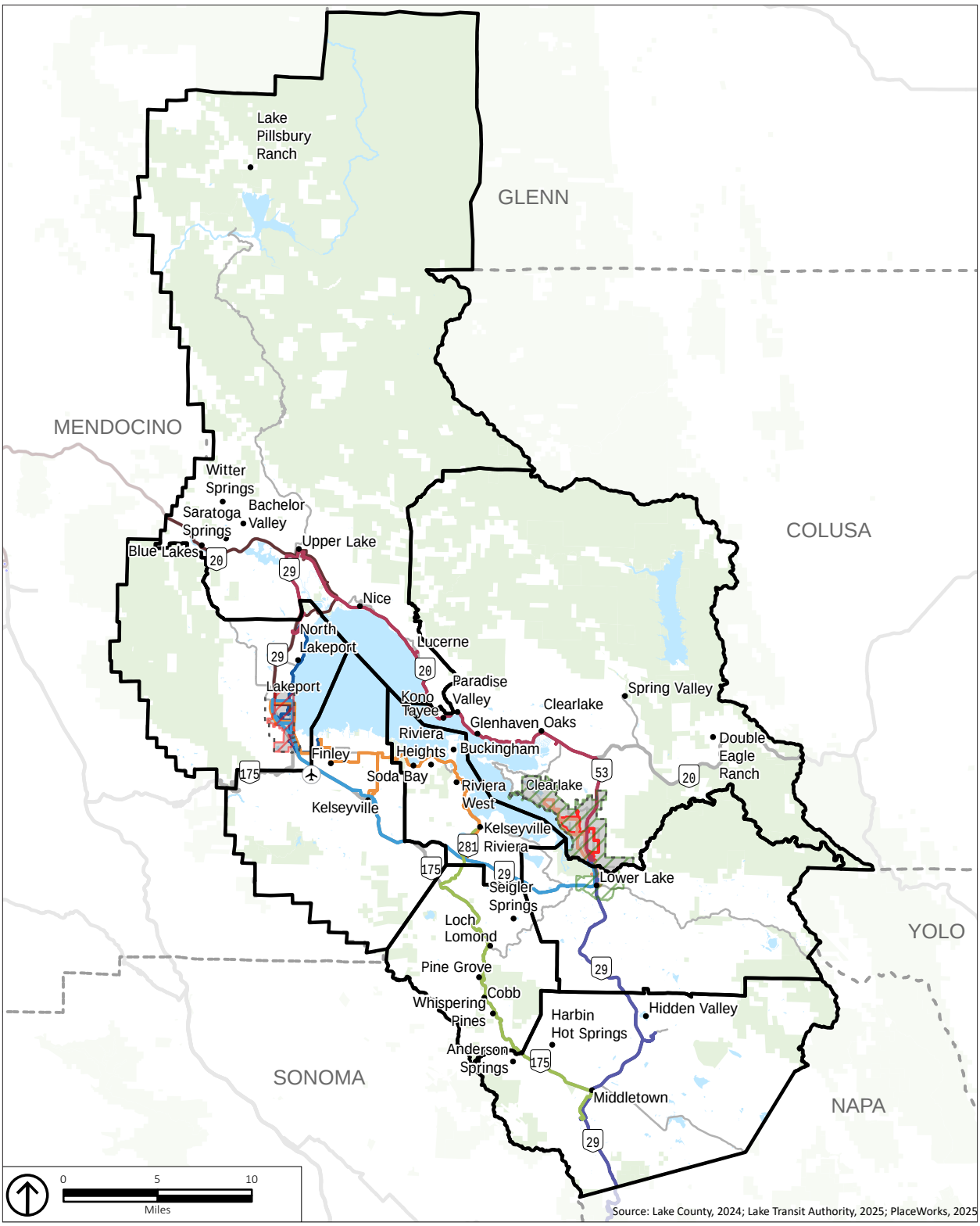


Figure 3.17-3
Transit Routes

- Route 8 serves Lakeport from Sutter Lakeside Hospital for Konocti Vista Casino from Monday through Saturday with a reduced schedule on Saturdays.
- Route 10 operates in the City of Clearlake from Monday through Friday. Route 10 is aloop route that starts at Walmart at 6:00AM with the last run scheduled at 7PM.
- Route 11 serves the City of Clearlake as The Avenues Loop that runs from Monday through Friday from 6:00AM to the last run scheduled at 7:00PM.

PLANNING AREAS ROADWAY NETWORKS

This section describes the existing roadway network, bicycle facilities, and pedestrian facilities in each Planning Area.

Cobb Mountain Planning Area

- **Roadway Network.** The Cobb Mountain Planning Area's roadway system consists of SR-175, a two-lane principal arterial providing north to south access to the Loch Lomond, Pine Grove, Cobb, and Whispering Pines communities in the Planning Area, as well as regional travel within the county. SR-175 starts at SR-29 south of Kelseyville and reaches its terminus also at SR-29 in Middletown. The Planning Area has one road designated as a major collector, Loch Lomond Road, which starts at SR-179 and stretches east. Other roadways in the Planning Area are minor collectors, including Emerford Road, Sulphur Creek Road, Hoberg Drive, Harrington Flat Road, and Red Hills Road, and local County-maintained roads (also called County roads or CRs).
- **Pedestrian Facilities.** The Cobb Mountain Planning Area is very rural, with no sidewalks and only a few marked crosswalks.
- **Bicycle Facilities.** While there are currently no bicycle facilities in the Planning Area, there are some planned facilities.

East Lake Communities Planning Area

- **Roadway Network.** The main roads in the East Lake Communities Planning Area are SR-20, running east-west along Clear Lake and connecting several local communities, and SR-53, which runs north-south, linking SR-20 to Clearlake and areas further south. In Clearlake, minor arterials include Lakeshore Drive and Olympic Drive. Major collector roads in the area are New Long Valley Road, North Drive, Lakeshore Drive, and Sulphur Bank Drive, with additional routes classified as minor collectors or local County roads.
- **Pedestrian Facilities.** Much of the East Lake Communities Planning Area are made up of small residential sections that lack sidewalks and designated crosswalks, such as the Kono Tayee, Glenhaven, Spring Valley, and Double Eagle Ranch neighborhoods. In Clearlake Oaks, there are some sidewalk stretches along SR-20, the community's main thoroughfare, but residential zones also do not have sidewalks. By contrast, the City of Clearlake features a more extensive pedestrian network within its main commercial districts.

- **Bicycle Facilities.** Class II bike lanes in the City of Clearlake are present along Old Highway 53, Dam Road, Lakeshore Drive, and Olympic Drive. The only bike facility in the unincorporated area is a short segment of Class II bike lanes on SR-20 in the Clearlake Oaks community.

Kelseyville Planning Area

- **Roadway Network.** The Kelseyville Planning Area roadway system consists of highways, arterials, collectors and local roads. The primary highway underpins Kelseyville Planning Area's roadway system is SR-175 and SR-29. SR-175 is a two-lane principal arterial providing north/south access to the communities in the planning area and it is crucial to interregional travel within the county. SR-175 starts in Middletown to the south and traverses north to intersect with SR-29 in the planning area. From the intersection SR-175 becomes SR-29, which provides access to Main Street in Kelseyville. Main Street and Soda Bay Road are the major collector roads followed by Merrit Road, Gaddy Lane, and Konocti Road as minor collectors.
- **Pedestrian Facilities.** Sidewalks and crosswalks exist in Kelseyville on Main Street starting just south of Konocti Road. However, there is only sidewalk on one side with several sidewalk gaps in between. Sidewalks on both sides of the road exist between Fourth Street and Gunn Street. Only a short segment of State Street and Konocti Road have sidewalks and crosswalks present. Most side streets leading up to Main Street do not have sidewalks, and sidewalk gaps are common.
- **Bicycle Facilities.** Due to the rural character of the Kelseyville Planning Area, bicycle facilities are almost non-existent. Only a small segment of Konocti Road has a class II bike lane.

Lakeport Planning Area

- **Roadway Network.** The Lakeport Planning Area roadway network consists of highways, arterials, collectors and local streets. The primary highways that underpin Lakeport Planning Area's roadway system are a small section of SR-175 and SR-29. SR-29 runs north-south through the planning area and provides not only local but regional travel throughout the county. Other roadways in the planning area are collectors and local county-maintained roads, also called county roads or "CR". Major collector roads in the planning area consist of Scotts Valley Road, Main Street, Forbes Street, Lakeshore Boulevard, a segment of Martin Street, Bevins Street, Lakeport Boulevard, Soda Bay Road, Park Way, and Eleventh Street. Minor collectors consist of Keeling Avenue, Hartley Road, Hill Road, Martin Street, Riggs Road, Russell Street, Compton Street, 6th Street, and Central Park Avenue.
- **Pedestrian Facilities.** The Lakeport Planning Area is mostly rural except for communities along the lake. In the community of Lakeport, pedestrian facilities such as crosswalks and sidewalks are present along Main Street starting just south of Peckham Court all the way north to the end of the street, where the sidewalk is only present on one side of the street. Other locations with pedestrian facilities are along Lakeport Boulevard, a small section of K

Street and Esplanade Street (with sidewalk gaps), Martin Street, Armstrong Street, a small section of Forbes Street (with sidewalk gaps), 6th Street, Eleventh Street, Lange Street, Lakeshore Boulevard, Giselman Street, Forest Drive, Hartley Street, Hillcrest Drive, and 20th Avenue.

- **Bicycle Facilities.** In the Lakeport Planning Area there are existing class II and III bicycle facilities along Lakeshore Boulevard.

Lower Lake Planning Area

- **Roadway Network.** The Lower Lake Planning Area roadway network consists of highways, arterials, collectors and local streets. Two primary highways underpin Lower Lake 's roadway system, SR-29 and SR-53. SR-29 is a two-lane principal arterial providing south/west access to the Lower Lake Planning Area from Middletown to the south and continues to Kelseyville to the west. SR-53 is a four-lane principal arterial that starts north of Main Street and continues north to intersect with SR-20. Major collectors in the planning area include Main Street, Seigler Canyon Road, and Point Lakeview Road. Main Street intersects SR-29 and SR-53 and runs east west where it turns into Morgan Valley Road to the west. Seigler Canyon Road starts at SR-29 and runs south towards Seigler Springs and Bonanza Springs. Point Lakeview Road starts at SR-29 and runs north towards Clearlake Riviera community.
- **Pedestrian Facilities.** The downtown commercial center of the community of Lower Lake has sidewalks and/or marked crosswalks along Main Street. However, sidewalks and crosswalks do not exist along the neighborhoods connecting to the downtown Lower Lake community commercial area. Only a very short segment on SR 53 directly north of Main Street has sidewalks. Furthermore, there are no sidewalks along Lake Street and Winchester Street where Lower Lake High School and W.C. Carle High School are located.
- **Bicycle Facilities.** The Lower Lake Planning Area has no existing bicycle facilities.

Middletown Planning Area

- **Roadway Network.** The Middletown Planning Area roadway network consists of highways, arterials, collectors and local streets. Two primary arterials underpin the Middletown Planning Area's roadway system, S- 29 and SR-175. SR-29 is a two-lane principal arterial providing north-south access to the Middletown Planning Area from Calistoga to the south and Lower Lake to the north. SR-175 is a two-lane minor arterial that connects Middletown and Anderson Springs to the Cobb Mountain and Kelseyville Planning Areas to the northwest. Within the community of Middletown, the local names of SR-29 and SR-175 are Calistoga Road and Main Street, respectively. Major collectors in the Planning Area include Butts Canyon Road, which runs east-west and joins SR-29 north of the Middletown community, and Hartmann Road, which runs east-west and connects the Hidden Valley Lake subdivision to SR-29.

- **Pedestrian Facilities.** The downtown commercial center of the Middletown community has sidewalks and marked crosswalks along SR-29, Wardlaw Street, and Barnes Street, among others. However, sidewalks and crosswalks do not exist along the neighborhoods connecting to the downtown Middletown area. Similarly, the Hidden Valley Lake community does not have sidewalks.
- **Bicycle Facilities.** The Middletown Planning Area has few existing bike facilities. They include Class II bike lanes on Hartmann Road from SR-29 to Hidden Valley Road and Calistoga Road from Young Street to Hill Avenue in downtown Middletown.

North Lake Communities Planning Area

- **Roadway Network.** The primary highways that serve North Lake Planning Area are SR-20 and SR-29. SR-20 connects communities along the northern and eastern shores of Clear Lake, such as Saratoga Springs, Upper Lake, Nice, and Lucerne, and plays a vital role in facilitating interstate travel to coastal areas in Mendocino County. SR-29 branches off from SR-20 in the southern-central part of the Planning Area and supports regional travel throughout Lake County, including access to Lakeport and communities on the western side of the lake. Major collector roads in the area include Elk Mountain Road, Lakeview Drive in Nice, and Country Club Drive in Lucerne. Other roadways are minor collectors and local County-maintained roads.
- **Pedestrian Facilities.** Much of the North Lake Planning Area lacks sidewalks and marked crosswalks. However, there are some in several of its central business districts, such as sidewalks on segments of Main Street in Upper Lake, several high-visibility crosswalks along SR-20 in Nice, and several sidewalk segments and high-visibility marked crosswalks in Lucerne.
- **Bicycle Facilities.** Bicycle facilities are non-existent in the North Lake Communities Planning Area.

Rivieras Planning Area

- **Roadway Network.** The Rivieras Planning Area's roadway system consists of Soda Bay Road which is CR-281 to the north of SR-29 and becomes CR-502 to the north of Konocti Bay Road. Soda Bay Road is a north south principal arterial, which eventually becomes a major collector that connects the communities of the planning area. Another major collector is Point Lakeview Road.
- **Pedestrian Facilities.** The Rivieras Planning Area is mostly rural with communities along the lake. Pedestrian facilities are non-existent in the Planning Area.
- **Bicycle Facilities.** The Rivieras Planning Area is mostly rural with communities along the lake. Bicycle facilities are non-existent in the Planning Area.

3.17.3 Standards for Analysis

THRESHOLD GUIDANCE

Appendix G, Environmental Checklist Form, of the CEQA Guidelines states that the proposed project would result in a significant impact related to transportation if it would:

a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

b) Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

d) Result in inadequate emergency access.

This threshold guidance is used to formulate the significance criteria below.

SIGNIFICANCE CRITERIA

The County does not have adopted thresholds for VMT impacts. Lake County, in its discretion, has determined to utilize the following thresholds consistent with Appendix G of the CEQA Guidelines in this analysis to evaluate the proposed project's potential transportation-related impacts. For the purposes of this EIR, the proposed project would result in significant impacts under CEQA, if any of the following would occur:

- **Vehicle Miles Traveled:**
  - A significant impact would occur if the plan generates home-based VMT per resident or home-based work VMT per employee at rates higher than the baseline unincorporated county averages.
  - A significant impact would occur if the plan adversely affects the state's ability to achieve its desired VMT and GHG reduction goals.
- **Transit Service**: A significant impact would occur if the plan causes a disruption to existing transit service or interferes with future transit service or planned service expansion. Disruption includes causing delays or interruptions to service.
- **Bicycle and Pedestrian Facilities**: A significant impact would occur if the plan disrupts existing bicycle and pedestrian facilities or interferes with planned expansions of the bicycle and pedestrian networks.
- **Hazards (safety)**: A significant impact would occur if the plan causes an inconsistency with applicable design standards governing roadway geometrics (e.g., number and width of travel lanes), traffic controls, volume of traffic, mix of traffic, or speed of traffic.

- **Emergency Access**: A significant impact would occur if the plan modifies the existing transportation network in a manner inconsistent with County emergency response plans.

METHODOLOGY

The transportation impact analysis assesses how implementation of the proposed project would change the baseline conditions for the transportation system and whether those changes would constitute a significant impact under CEQA. The transportation impact analysis methodology includes evaluations of the roadway, bicycle, pedestrian, and transit components of the transportation system on the basis of plan consistency and safety, as defined below. All analysis presumes that future background travel options and behaviors remain similar to current conditions and do not explicitly account for potential changes associated with disruptive trends, emerging technologies, and changes in travel choices.

Vehicle Miles Traveled

Planned land use patterns and the planned transportation network were analyzed to determine how the proposed project would change demand for vehicle travel on the roadway network. Potential VMT impacts are evaluated using quantitative forecasts derived from the modified LMTDM. This information is intended to help determine whether the proposed project would generate VMT at rates that exceed baseline levels. The threshold sets forth the expectation that future residential and work-related land uses to perform at or better than baseline conditions for similar land uses.

The VMT impact analysis also considers if the proposed project would adversely affect the state's ability to achieve its desired VMT and GHG reduction goals.

Transit Service

The proposed project was evaluated to determine how it would affect existing and planned transit service within Lake County. In the County, existing transit service is provided by LTA. The *Lake County Transit Development Plan* (2023) and *Lake County Regional Transportation Plan/Active Transportation Plan* (2022) were evaluated as part of this analysis. Per the *Technical Advisory on Evaluation Transportation Impacts in CEQA* (December 2018) prepared by the Governor's Office of Land Use and Climate Innovation, creating new demand for transit is not considered an impact.

Bicycle and Pedestrian Facilities

Like transit impacts, the proposed project was analyzed to determine how it would affect existing and planned bicycle and pedestrian facilities and networks, including if would conflict with any relevant program, plan, ordinance or policy addressing bicycle and pedestrian facilities. The *Lake County Regional Transportation Plan/Active Transportation Plan* (2022) includes numerous planned bicycle and pedestrian facilities in unincorporated areas in the County.

Tables and figures in the circulation section of each Planning Area Element of General Plan 2050 identify the planned location and type of facility along roadways in the unincorporated County.

Hazards (Safety)

The proposed project was evaluated to determine if travel demand changes or proposed modifications to the transportation network would be inconsistent with applicable design standards such that they could result in harm to travelers. Travel demand changes could involve the volume, mix, or speed of traffic on the network attributable to the proposed general plan.

Emergency Access

The proposed project was evaluated to assess how it would influence emergency access within, to and from the regional network. Emergency access was primarily evaluated based on inconsistencies with Lake County emergency response plans, including:

- Lake County Wildfire Evacuation and Preparedness Plan (2025)
- Evacuation Plan: Soda Bay Corridor and Surrounding Communities (2024)

The proposed land use map was also compared to the state Fire Hazard Severity Zones (FHSZ) areas, defined by the Office of the State Fire Marshal, to determine potential roadway impacts during mass evacuations. See Section 3.20, *Wildfire,* of this Draft EIR for a discussion of wildfire evacuation.

3.17.4 Project Impact Discussion

a) Would the project generate home-based VMT per resident or home-based work VMT per employee at rates higher than the baseline unincorporated county averages, or adversely affects the state's ability to achieve its desired VMT and GHG reduction goals?

The proposed project is projected to add approximately 9,170 new residents and 3,190 jobs to the EIR Study Area, with demand for approximately 3,830 new housing units and 1.38 million square feet of new commercial, office space, and industrial space additional square feet of job-generating development over the next 25 years, as described in Chapter 2, *Project Description.* Planned growth in the County is mostly in communities along State highways near Clear Lake.

The proposed general plan land use map (Figure 2-5, *Proposed General Plan 2050 Land Use Map*) shows development concentrated in and around existing communities. Additionally, community growth boundaries (CGB) may encourage denser development which can minimize future VMT growth. These two factors suggest that the proposed project should produce similar VMT generation rates to the existing EIR Study Area average. However, the proposed General

Plan 2050 land use designations for new job centers, such as service commercial and industrial facilities, are shown being built on the periphery of communities. If employment growth occurs on the periphery of the communities and separated from housing, total VMT could increase due to longer vehicle trip lengths causing higher VMT per-capita levels than that of existing development.

As shown in Table 3.17-3, *VMT Impact Evaluation,* the LMTDM forecasts that the proposed project would produce VMT generation rates above the baseline threshold for residential and work-related land uses.

Table 3.17-3 VMT Impact Evaluation

VMT Metric	Unincorporated Lake County (2019 baseline threshold)	Proposed General Plan 2050
Home-based VMT per resident	20.1	20.8
Home-based work VMT per employee	16.3	17.7

Source: Lake-Mendocino County Travel Demand Model, 2024.

The higher VMT generation rates demonstrate that this impact is significant for residential and work-related land uses.

Residents of Lake County in the future will generally have similar travel patterns to existing residents based on planned land uses, roadways, and the viability of walking, bicycling, and transit. The expansion of existing communities will generally contribute to longer trip lengths especially with employment growth concentrated on the edges of some communities. This produces higher VMT generation rates for residents and employees compared to baseline conditions.

While the proposed General Plan 2050 land use pattern and supporting transportation network is likely to produce slightly higher VMT per capita levels compared to baseline conditions, the proposed General Plan 2050 contains policies and actions designed to reduce vehicle travel regularity and distance as well as those promoting alternative transit and thus reducing VMT, as shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation TRA. In particular, the following key policies and actions would serve to reduce or mitigate for VMT the EIR Study Area:

- Action HS-5.c encourages large development projects (hospitals, schools, high-occupancy public facilities, and industrial/commercial facilities over 20,000 square feet) to mitigate air quality impacts from increased traffic. Mitigation may include, but is not limited to:
    - Providing bicycle access and parking facilities,
    - Providing preferential parking for high-occupancy vehicles and carpools, and
    - Establishing telecommuting programs or satellite work centers.

  - Adding additional public transportation stops along existing bus routes.
  - Installing electric vehicle charging infrastructure.
- Policy HS-7.1 requires coordination with Lake Transit Authority and other transit providers to increase shading and use of heat-mitigating materials on pedestrian walkways and at transit stops.
- Policies CM-LU-2.1, EL-LU-2.1, K-LU-2.1, L-LU-2.1, LL-LU-2.1, M-LU-2.1, NL-LU-2.1, and R-LU-2.1 promote and practice the principles of smart growth.
- Policies CM-LU-2.2, EL-LU-2.2, K-LU-2.2, L-LU-2.2, LL-LU-2.2, M-LU-2.2, NL-LU-2.2, and R-LU-2.2 encourage infill development.
- Policy CM-LU-2.3 prioritizes infill of existing subdivisions for new residential development. It encourages any new residential subdivisions to be located contiguous to existing development to minimize impacts.
- Policies EL-LU-2.3, K-LU-2.3, L-LU-2.3, LL-LU-2.3, M-LU-2.3, NL-LU-2.3, and R-LU-2.3 encourage urban development that locates origins and destinations in close proximity to reduce vehicle trips and enhance visual and pedestrian access.
- Policies CM-LU-2.4, EL-LU-2.3, K-LU-2.3, L-LU-2.3, LL-LU-2.3, M-LU-2.3, NL-LU-2.3, and R-LU-2.3 encourage urban development that locates origins and destinations in close proximity to reduce vehicle trips and enhance visual and pedestrian access.
- Policies CM-LU-2.5, EL-LU-2.4, K-LU-2.4, L-LU-2.4, LL-LU-2.4, M-LU-2.4, NL-LU-2.4, and R-LU-2.4 encourage potential transit destinations, including employment centers, schools, personal services, administrative and professional offices, and social/recreational centers, to be clustered within a convenient walking distance of one another and to a transit stop.
- Policies CM-LU-2.6, EL-LU-2.5, K-LU-2.5, L-LU-2.5, LL-LU-2.5, M-LU-2.5, NL-LU-2.5, and R-LU-2.5 support the development of land uses with increased densities and mixed uses to reduce vehicle miles traveled and promote walking, biking, and transit use.
- Actions CM-LU-2.a, EL-LU-2.a, K-LU-2.a, L-LU-2.a, LL-LU-2.a, M-LU-2.a, NL-LU-2.a, and R-LU-2.a develop incentives to promote infill development.
- Actions CM-LU-2.b, EL-LU-2.b, K-LU-2.b, L-LU-2.b, LL-LU-2.b, M-LU-2.b, NL-LU-2.b, and R-LU-2.b amends the Zoning Ordinance to establish a smart growth overlay zone that encourages higher-density housing, transit-oriented development, and mixed-use development and provides smart growth guidelines for development and redevelopment in these zones.
- Policies CM-LU-5.4, EL-LU-5.4, K-LU-5.4, L-LU-5.4, LL-LU-5.4, M-LU-5.4, NL-LU-5.4, and R-LU-5.4 encourage medium-density residential development that is compatible with the neighborhood character, is close to services, and where adequate infrastructure is available or can be made available.
- Policies CM-LU-5.5, EL-LU-5.6, K-LU-5.6, L-LU-5.6, LL-LU-5.7, M-LU-5.6, NL-LU-5.6, and R-LU-5.6 promote the development of affordable housing near public transit and essential services whenever possible.

- Policies EL-LU-5.5, K-LU-5.5, L-LU-5.5, LL-LU-5.5, M-LU-5.5, NL-LU-5.5, and R-LU-5.5encourage high-density residential development (e.g., apartments and townhouses) within Community Growth Boundaries along collector roadways and transit routes and within walking distance of schools, libraries, parks, shopping, and entertainment areas.
- Policies CM-LU-6.1, EL-LU-6.1, K-LU-6.1, L-LU-6.1, LL-LU-6.1, M-LU-6.1, NL-LU-6.1, and R-LU-6.1 encourage centrally located businesses and services in places that conveniently serve residential areas and/or support revitalization or creation of town centers.
- Policies CM-LU-6.3, EL-LU-6.3, K-LU-6.3, L-LU-6.3, LL-LU-6.3, M-LU-6.3, NL-LU-6.3, and R-LU-6.3 encourage conversion of existing commercial areas to a mix of uses to reduce travel distances and create neighborhoods that offer a variety of housing options.
- Policies CM-C-3.1, EL-C-3.1, K-C-3.1, L-C-3.1, LL-C-3.1, M-C-3.1, NL-C-3.1, and R-C-3.1 require the County to incorporate complete streets principles and practices into the planning, design, and construction of circulation network improvements to accommodate all network users, including people walking, biking, and riding transit.
- Policies CM-C-3.2, EL-C-3.2, K-C-3.2, L-C-3.2, LL-C-3.2, M-C-3.2, NL-C-3.2, and R-C-3.2 lead and encourage activities to design and construct streets to support connectivity and promote pedestrian comfort and safety by including appropriate amenities, such as sidewalks on both sides of the street, shade trees, public benches, and pedestrian-scale lighting.
- Policies CM-C-3.3, EL-C-3.3, K-C-3.3, L-C-3.3, LL-C-3.3, M-C-3.3, NL-C-3.3, and R-C-3.3 encourage vehicle trip reduction through home occupations and telecommuting.
- Policies CM-C-3.4, EL-C-3.4, K-C-3.4, L-C-3.4, LL-C-3.4, M-C-3.4, NL-C-3.4, and R-C-3.4 encourage regional employers to provide employees with options and incentives to use non-personal vehicle modes of transportation to work or to otherwise reduce VMT (e.g., transit subsidies, bicycle facilities, ridesharing, alternative work schedules, telecommuting, and preferential parking for carpools).
- Policies CM-C-3.5, EL-C-3.5, K-C-3.5, L-C-3.5, LL-C-3.5, M-C-3.5, NL-C-3.5, and R-C-3.5 require new land use development projects to reduce VMT through feasible California Air Pollution Control Officers Association (CAPCOA) on-site VMT reduction strategies.
- Policies CM-C-3.6, EL-C-3.6, K-C-3.6, L-C-3.6, LL-C-3.6, M-C-3.6, NL-C-3.6, and R-C-3.6 support transitioning on-road vehicles, including personal, business, government, and public transit fleets, to electric power from renewable sources or other zero-emission fuels.
- Actions CM-C-3.a*, EL-C-3.a*, K-C-3.a*, L-C-3.a*, LL-C-3.a*, M-C-3.a*, NL-C-3.a*, and R-C-3.a* adopt and maintain a VMT environmental threshold and development project screening process based on the Lake Area Planning Council Senate Bill 743 Vehicle Miles Traveled Regional Baseline Study.
- Actions CM-C-3.b*, EL-C-3.b*, K-C-3.b*, L-C-3.b*, LL-C-3.b*, M-C-3.b*, NL-C-3.b*, and R-C-3.b* require new development with the potential to increase VMT, to prepare a VMT analysis and to reduce VMT through feasible California Air Pollution Control Officers

Association (CAPCOA) on-site VMT reduction strategies, as needed to be consistent with the County's adopted VMT threshold.

- Actions CM-C-3.c, EL-C-3.c, K-C-3.c, L-C-3.c, LL-C-3.c, M-C-3.c, NL-C-3.c, and R-C-3.c develop a program to encourage trip-reduction measures among County employees using various strategies, such as transit and/or carpool/vanpool subsidies, bicycle facilities, alternative work schedules, ridesharing programs, telecommuting options, employee education, and preferential parking for carpools/vanpools.
- Actions CM-C-3.d, EL-C-3.d, K-C-3.d, L-C-3.d, LL-C-3.d, M-C-3.d, NL-C-3.d, and R-C-3.d encourage carpooling by providing information to community members about park-and-ride locations and available programs.

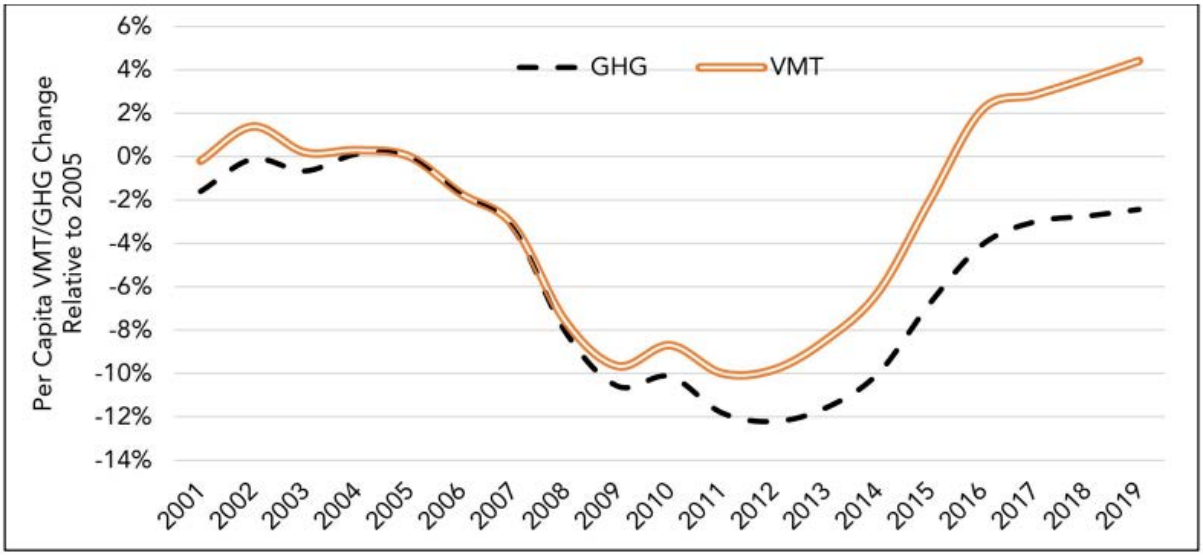
The proposed goals, policies, and actions are supportive of actions that could dampen VMT growth, they do not contain sufficient changes to the built environment, the cost of using vehicles, or the convenience of using vehicles such that VMT per capita rates would be reduced to baseline levels.

When making a final VMT impact determination, other available evidence related to VMT trends in California should also be considered. This impact analysis identified the following relevant studies.

- California Air Resources Board: Improved Program Measurement Would Help California Work More Strategically to Meet Its Climate Change Goals (Auditor of the State of California, February 2021).
- 2022 Scoping Plan for Achieving Carbon Neutrality (California Air Resources Board, December 2022).

The Scoping Plan reveals that VMT and GHG per capita increased in California between 2010 and 2019 and are trending upward (see Figure 3.17-4, *VMT and GHG per Capita Trends*).

Figure 3.17-4 VMT and GHG per Capita Trends



2019 data indicate that nearly all regions were far from achieving 2020 targets set by CARB.

Source: California Air Resources Board, 2022.

The Audit Report also found that VMT and its associated GHG emissions were trending upward through 2018. Per the audit, the state is not on track to achieve 2030 GHG reduction goals, and emissions from transportation have not been declining. The *2020 Mobile Source Strategy* (CARB 2021) also acknowledges the challenge of VMT reduction and states, "Without additional policy intervention, VMT may continue to rise."

The Scoping Plan reviews California's progress for meeting GHG reduction goals and sets forth strategies to achieve those goals based on past performance. The plan acknowledges that the state is not meeting its VMT reduction objectives and that VMT growth is returning after COVID-19 pandemic effects diminish.

> *Driving alone with no passengers remains the primary mode of travel in California, amounting to 75 percent of the mode share for daily commute trips. Conversely, the transit industry… has struggled to recover; ridership only averages two-thirds of pre-pandemic levels, and service levels also lag behind.* (Page 192-193).

This evidence demonstrates the challenge of reducing VMT when background macro-level conditions are contributing to higher VMT generation rates.

These reports suggest greater action on the part of the State may be needed to achieve the State's GHG (and VMT) reduction goals. Without further action by the State to discourage vehicle travel (i.e., increasing the cost of driving) while reducing the barriers or constraints that prevent more efficient use of vehicles and greater use of transit, walking, and cycling, VMT trends are unlikely to reverse. Therefore, this impact would be **potentially significant**.

Impact TRA-1: Growth associated with the proposed project would cause home-based VMT per resident and home-based work VMT per employee to be higher than the baseline average.

Significance with Mitigation: Implementation of the proposed General Plan 2050 policies and actions would reduce VMT impacts. Specifically, proposed Actions CM-C-3a*, EL- C-3a*, K-C-3a*, L-C-3a*, LL-C-3a*, M-C-3a*, NL-C-3a*, and R-C-3a* adopt and maintain a VMT threshold and screening process and requires new development with the potential to increase VMT, to prepare VMT analysis with mitigation, as needed. Additionally, proposed General Plan Actions CM-C-3b*, EL- C-3b*, K-C-3b*, L-C-3b*, LL-C-3b*, M-C-3b*, NL-C-3b*, and R-C-3b* require new development with the potential to increase VMT, to prepare VMT analysis and to reduce VMT through feasible California Air Pollution Control Officers Association (CAPCOA) on-site VMT reduction strategies, as needed. While the proposed actions could help lessen VMT growth on a project level, they would not reduce VMT to a level sufficient to reduce this impact to less than significant at a program level. Thus, this impact remains **significant and unavoidable.**

This impact finding will generally govern future development projects consistent with the proposed General Plan 2050. As such, the County plans to rely on CEQA Guidelines Section 15183 to relieve subsequent land use projects of having to perform new VMT analysis. Instead, the County will require project developers to identify feasible CAPCOA on-site VMT reduction strategies to incorporate into the project design to lessen VMT growth.

b) Would the project cause a disruption to existing transit service or interfere with future transit service or planned service expansion?

Implementation of the proposed project would not result in modifications to the transit network that would disrupt existing or planned services contained in adopted programs, plans, policies, or ordinances. Likewise, implementation of the proposed project would enable the County to improve transit programs and infrastructure consistent with the Lake County 2022 RTP/ATP. The proposed project contains policies and actions that support accessibility and the provision of transit services and amenities as shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation TRA. In particular, the following key policies and actions would serve to minimize disruption with existing or planned transit service in the EIR Study Area:

- Policies CM-LU-2.5, EL-LU-2.4, K-LU-2.4, L-LU-2.4, LL-LU-2.4, M-LU-2.4, NL-LU-2.4, and R-LU-2.4 encourage potential transit destinations, including employment centers, schools, personal services, administrative and professional offices, and social/recreational centers, to be clustered within a convenient walking distance of one another and to a transit stop.
- Policies CM-LU-2.6, EL-LU-2.5, K-LU-2.5, L-LU-2.5, LL-LU-2.5, M-LU-2.5, NL-LU-2.5, and R-LU-2.5 support the development of land uses with increased densities and mixed uses to reduce vehicle miles traveled and promote walking, biking, and transit use.
- Actions CM-LU-2.b, EL-LU-2.b, K-LU-2.b, L-LU-2.b, LL-LU-2.b, M-LU-2.b, NL-LU-2.b, and R-LU-2.b amends the Zoning Ordinance to establish a smart growth overlay zone that encourages higher-density housing, transit-oriented development, and mixed-use development and provides smart growth guidelines for development and redevelopment in these zones.
- Policies CM-LU-5.5, EL-LU-5.6, K-LU-5.6, L-LU-5.6, LL-LU-5.7, M-LU-5.6, NL-LU-5.6, and R-LU-5.6 promote the development of affordable housing near public transit and essential services whenever possible.
- Policies EL-LU-5.5, K-LU-5.5, L-LU-5.5, LL-LU-5.5, M-LU-5.5, NL-LU-5.5, and R-LU-5.5 encourage high-density residential development (e.g., apartments and townhouses) within Community Growth Boundaries along collector roadways and transit routes and within walking distance of schools, libraries, parks, shopping, and entertainment areas.
- Actions CM-C-1.a, EL-C-1.a, K-C-1.a, L-C-1.a, LL-C-1.a, M-C-1.a, NL-C-1.a, and R-C-1.a require the County to work with Caltrans and other transportation agencies to maintain the Regional Transportation Plan, identify funding priorities, and develop an expenditure plan for available transportation funds in accordance with federal, State, and regional transportation planning and programming procedures.
- Actions CM-C-1.d, EL-C-1.d, K-C-1.d, L-C-1.d, LL-C-1.d, M-C-1.d, NL-C-1.d, and R-C-1.d require the County to work with Lake County Transit to expand Dial-a-Ride services, particularly for Equity Priority Populations.
- Policies CM-C-3.1, EL-C-3.1, K-C-3.1, L-C-3.1, LL-C-3.1, M-C-3.1, NL-C-3.1, and R-C-3.1 require the County to incorporate complete streets principles and practices into the planning, design, and construction of circulation network improvements to accommodate all network users, including people walking, biking, and riding transit.
- Policies CM-C-3.4, EL-C-3.4, K-C-3.4, L-C-3.4, LL-C-3.4, M-C-3.4, NL-C-3.4, and R-C-3.4 encourage regional employers to provide employees with options and incentives to use non-personal vehicle modes of transportation to work or to otherwise reduce VMT (e.g., transit subsidies, bicycle facilities, ridesharing, alternative work schedules, telecommuting, and preferential parking for carpools).
- Policies CM-C-5.1, EL-C-5.1, K-C-5.1, L-C-5.1, LL-C-5.1, M-C-5.1, NL-C-5.1, and R-C-5.1 support public transportation programs that promote access to shopping, employment, education, health care, and recreation.

- Policies CM-C-5.3, EL-C-5.3, K-C-5.3, L-C-5.3, LL-C-5.3, M-C-5.3, NL-C-5.3, and R-C-5.3 support Lake Transit Authority on improvements to fixed-route bus and dial-a-ride services, including expanding the service area, providing more frequent buses at key times of the day, and improving transit amenities, such as bus shelters, benches, and wayfinding signage at bus stops.
- Policies CM-C-5.4, EL-C-5.4, K-C-5.4, L-C-5.4, LL-C-5.4, M-C-5.4, NL-C-5.4, and R-C-5.4, prioritize support for the following transit service efforts outlined in the Regional Transportation Plan and Lake County Transit Development Plan:
    - Provide new and improve existing transportation services for older adults, individuals with access and functional needs, low-income individuals and/or other vulnerable populations;
    - Provide intercommunity services between communities in the Planning Area and throughout the county; and
    - Expand intercity transit carriers, particularly to Ukiah and the Bay Area.
- Policies CM-C-5.5, EL-C-5.5, K-C-5.5, L-C-5.5, LL-C-5.5, M-C-5.5, NL-C-5.5, and R-C-5.5 encourage transit access and compatibility during the review and approval process for industrial, commercial, and residential development.
- Policies CM-C-5.6, EL-C-5.6, K-C-5.6, L-C-5.6, LL-C-5.6, M-C-5.6, NL-C-5.6, and R-C-5.6 encourage bus stops at key destinations, population centers, and/or along arterials and collectors to facilitate public transit use.
- Actions CM-C-5.a, EL-C-5.a, K-C-5.a, L-C-5.a, LL-C-5.a, M-C-5.a, NL-C-5.a, and R-C-5.a require the County to cooperate with the Lake Area Planning Council, Lake Transit Authority, and other related agencies in studying transit needs and developing an implementation program for public transportation services in the county.
- Actions CM-C-5.b, EL-C-5.b, K-C-5.b, L-C-5.b, LL-C-5.b, M-C-5.c, NL-C-5.b, and R-C-5.b require the County to explore opportunities to improve Lake Transit Authority services to Planning Area residents during updates to the Lake County Transit Development Plan, including regional connections to major destinations like the Sacramento International Airport.
- Action M-C-5.b requires the County to actively pursue the conversion and improvement of the Caltrans park-and-ride facility on SR 175 to a public parking lot by means of acquisition, joint-use agreements, or other methods available.

With implementation of the proposed policies and actions and continued consistency with the Lake County 2022 RTP/ATP, this impact would be **less than significant**.

Significance without Mitigation: Less than significant.

c) Would the project disrupt existing bicycle and pedestrian facilities or interfere with planned expansions of the bicycle and pedestrian networks?

Implementation of the proposed project would not result in modifications to the bicycle and pedestrian network that would disrupt existing facilities or interfere with the implementation of planned facilities contained in adopted programs, plans, policies, or ordinances. Likewise, implementation of the proposed project would enable the County to improve bicycle and pedestrian programs and infrastructure consistent with the *Lake County Regional Transportation Plan/Active Transportation Plan*. The proposed General Plan 2050 contains policies and actions that support accessibility and the provision of amenities to bicyclists and pedestrians and help to facilitate the development of improved facilities for walking and bicycling as shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation TRA. In particular, the following key policies and actions would serve to minimize disruption to existing or planned bicycle and pedestrian facilities in the EIR Study Area:

- Policies CM-LU-2.4, EL-LU-2.3, K-LU-2.3, L-LU-2.3, LL-LU-2.3, M-LU-2.3, NL-LU-2.3, and R-LU-2.3 encourage urban development that locates origins and destinations in close proximity to reduce vehicle trips and enhance visual and pedestrian access.
- Policies CM-LU-2.6, EL-LU-2.5, K-LU-2.5, L-LU-2.5, LL-LU-2.5, M-LU-2.5, NL-LU-2.5, and R-LU-2.5 support the development of land uses with increased densities and mixed uses to reduce vehicle miles traveled and promote walking, biking, and transit use.
- Policies CM-LU-3.3, EL-LU-3.3, K-LU-3.3, L-LU-3.3, LL-LU-3.3, M-LU-3.3, NL-LU-3.3, and R-LU-3.3 require the County to ensure future urban development is planned at a walkable, neighborhood scale with a range of uses in close proximity and a safe pedestrian environment.
- Policies EL-LU-5.5, K-LU-5.5, L-LU-5.5, LL-LU-5.5, M-LU-5.5, NL-LU-5.5, and R-LU-5.5 encourage high-density residential development (e.g., apartments and townhouses) within Community Growth Boundaries along collector roadways and transit routes and within walking distance of schools, libraries, parks, shopping, and entertainment areas.
- Policies CM-C-3.1, EL-C-3.1, K-C-3.1, L-C-3.1, LL-C-3.1, M-C-3.1, NL-C-3.1, and R-C-3.1require the County to incorporate complete streets principles and practices into the planning, design, and construction of circulation network improvements to accommodate all network users, including people walking, biking, and riding transit.
- Policies CM-C-3.2, EL-C-3.2, K-C-3.2, L-C-3.2, LL-C-3.2, M-C-3.2, NL-C-3.2, and R-C-3.2 lead and encourage activities to design and construct streets to support connectivity and promote pedestrian comfort and safety by including appropriate amenities, such as sidewalks on both sides of the street, shade trees, public benches, and pedestrian-scale lighting.

- Policies CM-C-3.4, EL-C-3.4, K-C-3.4, L-C-3.4, LL-C-3.4, M-C-3.4, NL-C-3.4, and R-C-3.4 encourage regional employers to provide employees with options and incentives to use non-personal vehicle modes of transportation to work or to otherwise reduce VMT (e.g., transit subsidies, bicycle facilities, ridesharing, alternative work schedules, telecommuting, and preferential parking for carpools).
- Policies CM-C-4.2, EL-C-4.2, K-C-4.2, L-C-4.2, LL-C-4.2, M-C-4.2, NL-C-4.2, and R-C-4.2 require the County to strive to eliminate fatal and serious injuries for all road users by 2050 through a holistic view of the roadway system that includes provisions that account for human error, recognize vulnerable road users, such as pedestrians and bicyclists, and promote redundant and proactive safety measures.
- Policies CM-C-4.6, EL-C-4.5, K-C-4.5, L-C-4.5, LL-C-4.6, M-C-4.6, NL-C-4.6, and R-C-4.6 require the County to promote slow travel in neighborhoods through installation of infrastructure associated with reduction in crash risk, such as marked crosswalks, new lighting, and improved intersection controls.
- Actions CM-C-4.a, EL-C-4.a, K-C-4.a, L-C-4.a, LL-C-4.a, M-C-4.a, NL-C-4.a, and R-C-4.a require the County to identify safety corridors and areas that generate high concentrations of bicyclists and/or pedestrians and, in these areas, use evidence-based strategies to develop safety measures intended to eliminate traffic fatalities, with an emphasis on preventing fatalities of bicyclists, pedestrians, and users of other micromobility devices.
- Policies CM-C-6.1, EL-C-6.1, K-C-6.1, L-C-6.1, LL-C-6.1, M-C-6.1, NL-C-6.1, and R-C-6.1 require the County to construct new and maintain and improve existing pedestrian and bicycle facilities, consistent with the countywide Active Transportation Plan, as funding is available.
- Policies CM-C-6.2, EL-C-6.2, K-C-6.2, L-C-6.2, LL-C-6.2, M-C-6.2, NL-C-6.3, and R-C-6.2 require the County to incorporate facilities for non-motorized users, such as sidewalks and bike routes, when constructing or improving roadway facilities and when reviewing new development proposals.
- Policies CM-C-6.3, EL-C-6.3, K-C-6.3, L-C-6.3, LL-C-6.3, M-C-6.3, NL-C-6.4, and R-C-6.3 require the County to require bicycle lanes, multiuse paths, and sidewalks in conjunction with road improvement projects, as feasible, and to develop, as funds become available, Class II bicycle lanes and multiuse paths on new collector and arterial streets.
- Policies CM-C-6.4, EL-C-6.4, K-C-6.4, L-C-6.4, LL-C-6.4, M-C-6.4, NL-C-6.5, and R-C-6.4 require the County to require facilities for nonmotorized users, such as sidewalks and bike routes, for subdivisions with a density of one or more dwelling units per acre, with facilities that are commensurate with the project's impacts, consistent with local and regional plans, and integrate circulation and recreational use.
- Policies CM-C-6.8, EL-C-6.8, K-C-6.8, L-C-6.8, LL-C-6.8, M-C-6.8, NL-C-6.9, and R-C-6.8 require the County to construct and maintain bicycle routes and multiuse trails in a manner that minimizes conflicts between bicyclists, pedestrians, and equestrian users with automobiles and private property rights.

- Actions CM-C-6.a, EL-C-6.a, K-C-6.a, L-C-6.a, LL-C-6.a, M-C-6.a, NL-C-6.a, and R-C-6.a require the County to engage in each update to the countywide Active Transportation Plan to ensure the active transportation needs of the Planning Area are met.
- Actions CM-C-6.b, EL-C-6.b, K-C-6.b, L-C-6.b, LL-C-6.b, M-C-6.b, NL-C-6.b, and R-C-6.b, require the County to pursue funding to improve and maintain the existing bicycle system and to plan and construct new bicycle facilities that encourage commuting and recreation.
- Action CM-C-6.c requires the County to pursue funding to upgrade pedestrian facilities, with priority given to facilities near schools, connections between residential areas, and commercial centers.
- Actions EL-C-6.c, K-C-6.c, L-C-6.c, LL-C-6.c, M-C-6.c, NL-C-6.c, and R-C-6.c require the County to pursue funding to eliminate gaps in the existing sidewalk network and/or upgrade pedestrian facilities, with priority given to facilities near schools, connections between residential areas and commercial centers, and facilities in Equity Priority Areas.

With implementation of those proposed policies and actions this impact would be **less than significant**.

Significance without Mitigation: Less than significant.

d) Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).?

Any modifications of the Lake County roadway system to accommodate new planned growth due to implementation of the proposed project would be done in compliance with applicable County design standards. Since the planned growth will include uses similar to those that exist today and in similar patterns, the proposed project would not change the volume, mix, or speed of multi-modal travel on Lake County roadways in a manner inconsistent with applicable design standards. The proposed land use map and General Plan 2050 policies and actions emphasize land use compatibility, buffer areas between incompatible uses, and the prioritization of road safety, which would serve to reduce potential conflicts between users of the transportation system (e.g., semi-trucks, farm equipment, and passenger vehicles) as shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation TRA. In particular, the following key policies and actions would serve to minimize transportation related hazards in the EIR Study Area:

- Policy M-LU-1.5 requires all new residential and commercial development have at least two (or multiple) access routes to an existing publicly maintained road or a new road meeting current County standards.
- Actions CM-C-1.a, EL-C-1.a, K-C-1.a, L-C-1.a, LL-C-1.a, M-C-1.a, NL-C-1.a, and R-C-1.a require the County to work with Caltrans and other transportation agencies to maintain the Regional Transportation Plan, identify funding priorities, and develop an expenditure plan

for available transportation funds in accordance with federal, State, and regional transportation planning and programming procedures.

- Policies CM-C-2.2, EL-C-2.2, K-C-2.2, L-C-2.2, LL-C-2.2, M-C-2.2, NL-C-2.2, and R-C-2.2 require the County to maintain, and improve where feasible, the road system to reduce traffic collisions and maintain or improve its physical condition, in conformance with the priorities and recommendations established in the Regional Transportation Plan.
- Policies CM-C-2.3, EL-C-2.3, K-C-2.3, L-C-2.3, LL-C-2.3, M-C-2.3, NL-C-2.3, and R-C-2.3 require the County to, when undertaking roadway improvements, prioritize maintenance and safety, considering both public reports and internal expertise and data.
- Policies CM-C-2.4, EL-C-2.4, K-C-2.4, L-C-2.4, LL-C-2.4, M-C-2.4, NL-C-2.4, and R-C-2.4 require the County to prioritize roadway improvement or maintenance projects in the following order:
    - 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 roadbed failure.
    - Priority Two: Safety Projects. Projects that are intended to reduce the number and severity of collisions in a particular location.
    - Priority Three: Reconstruction/Maintenance Projects. Projects that involve ongoing maintenance, rehabilitation, and reconstruction requirements to preserve the existing bridge and road network.
    - Priority Four: Capacity Improvements. Projects that involve operational improvements to the existing road network that increase service efficiency and capacity.
    - Priority Five: New Construction Projects. Projects that involve construction of a new bridge or road. New County construction projects will receive higher priority when they accommodate development in locations within reasonable proximity to employment and shopping centers and encourage energy conservation in the transportation sector.
- Policies CM-C-2.7, EL-C-2.7, K-C-2.7, L-C-2.7, LL-C-2.7, M-C-2.7, NL-C-2.7, and R-C-2.7 require roadway facilities constructed or used by new development to comply with the Lake County Road Standards as specified in their respective planning area tables (Tables CM-3, EL-3, K-3, L-3, LL-3, M-3, NL-3, and R-3).
- Policies CM-C-2.8, EL-C-2.8, K-C-2.8, L-C-2.8, LL-C-2.8, M-C-2.8, NL-C-2.8, and R-C-2.8 require the County to require new roads in residential areas to:
    - Be designed to avoid cut-through traffic through the residential area.
    - Be paved when serving more than four lots.

  - Be improved with processed gravel at a minimum when serving four or fewer lots at densities less than one dwelling unit per five acres.
  - Offer adequate right-of-way to contain road improvements for dedication.
- Policies CM-C-4.1, EL-C-4.1, K-C-4.1, L-C-4.1, LL-C-4.1, M-C-4.1, NL-C-4.1, and R-C-4.1 require the County to implement a safe systems approach to designing the transportation network for all users; this approach acknowledges that people make mistakes and focuses on roadway design and operational changes to create safe streets.
- Policies CM-C-4.2, EL-C-4.2, K-C-4.2, L-C-4.2, LL-C-4.2, M-C-4.2, NL-C-4.2, and R-C-4.2 require the County to strive to eliminate fatal and serious injuries for all road users by 2050 through a holistic view of the roadway system that includes provisions that account for human error, recognize vulnerable road users, such as pedestrians and bicyclists, and promote redundant and proactive safety measures.
- Policies CM-C-4.6, EL-C-4.5, K-C-4.5, L-C-4.5, LL-C-4.6, M-C-4.6, NL-C-4.6, and R-C-4.6 require the County to promote slow travel in neighborhoods through installation of infrastructure associated with reduction in crash risk, such as marked crosswalks, new lighting, and improved intersection controls.
- Policies CM-C-4.7, EL-C-4.6, K-C-4.6, L-C-4.6, LL-C-4.7, M-C-4.7, NL-C-4.7, and R-C-4.7 require the County to pursue funding for a Safe Routes to School program and implement improvements, such as traffic-calming measures and high-visibility sidewalks and crosswalks.
- Actions CM-C-4.a, EL-C-4.a, K-C-4.a, L-C-4.a, LL-C-4.a, M-C-4.a, NL-C-4.a, and R-C-4.a require the County to identify safety corridors and areas that generate high concentrations of bicyclists and/or pedestrians and, in these areas, use evidence-based strategies to develop safety measures intended to eliminate traffic fatalities, with an emphasis on preventing fatalities of bicyclists, pedestrians, and users of other micromobility devices.

The proposed land use map, policies, and actions would emphasize land use compatibility, buffer areas between incompatible uses, and the prioritization of road safety, which would serve to reduce potential conflicts between users of the transportation system. Therefore, the proposed project would not substantially increase hazards due to inconsistencies with applicable design standards and this impact would be **less than significant.**

Significance without Mitigation: Less than significant.

e) Would the project result in inadequate emergency access?

The buildout under the proposed project would not result in substantial changes to the circulation patterns or emergency access routes in the county. Emergency access to individual land use parcels is typically assessed at the project level and 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.

Furthermore, proposed General Plan 2050 contains policies and actions to address the needs of emergency responders and require consultation with the fire and sheriff departments during development review as shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation TRA. In particular, the following key policies and actions would serve to support emergency access in the EIR Study Area:

- Policy HS-1.6 requires incorporating the Lake County Multi-Jurisdictional Hazard Mitigation Plan, as approved by the Federal Emergency Management Agency, into the Health and Safety Element by reference, as permitted by California Government Code Section 65302.6.
- Policy HS-1.7 maintains and regularly updates the Emergency Operations Plan to meet current federal and state emergency requirements, conform with the California Standardized Emergency Management System (SEMS), and address current and anticipated community needs in the event of a major disaster or hazardous event.
- Policy HS-1.8 maintains, updates, and practices interim disaster plans assuming that many bridges and highway overpasses will not be functional following a major earthquake due to collapse and that roads and highways in hillside areas will be blocked.
- Policy HS-1.9 ensures community education and outreach programs focus on all-hazards preparedness, promoting awareness of natural hazards, such as soil conditions, earthquakes, flooding, naturally occurring asbestos, fire hazards, and emergency procedures.
- Policy HS-2.1 implements and maintains public education efforts to promote awareness of evacuation zones, alerts, and evacuation procedures, including designated evacuation routes and plans, using multiple formats and languages to the greatest extent practicable.
- Policy HS-2.2 requires new residential development of 10 units or more in High and Very High Fire Hazard Severity Zones identified on Figure HS-3 or in flood-prone areas identified on Figure HS-6 to have access to at least two points of ingress and egress.
- Policy HS-2.3 requires coordination with Caltrans, emergency responders, and surrounding jurisdictions to ensure roads serving as potential evacuation routes are properly designed, maintained, and remain accessible and safe during emergency evacuations.
- Policy HS-2.5 requires identifying opportunities to improve evacuation in mapped hazard-prone areas where development is served by roads that do not meet minimum road standards for emergency equipment, or where it does not have at least two ingress/egress routes (refer to Figure HS-2), such as:
    - Additional vehicle pullouts at key hillside locations.
    - Limiting or restricting on-street parking at key locations.
    - Leveraging existing alternative or secondary routes, including fire roads, trails, and easements.

- Policy HS-2.6 when evaluating proposals for new subdivisions, ensures that road patterns both facilitate access for fire protection vehicles and establish secondary access routes for emergency evacuation.
- Action HS-2.a* regularly reviews and updates emergency evacuation plans for all identified hazards, at least every five years, and following any major emergency event, to ensure alignment with current best management practices and evolving hazard conditions.
- Action HS-2.e develops public-private partnerships with local businesses and organizations to support evacuation operations, including fuel availability during emergencies.
- Action HS-2.f supports regional coordination to develop traffic control strategies for different hazard scenarios, including procedures for initiating signal power backup and strategic placement of traffic control personnel during evacuation events.
- Action HS-8.a requires coordinating with fire districts and departments to review all development plans and subdivision maps and provide recommendations for fire prevention and protection, including but not limited to safe circulation, ingress and egress, sprinkler requirements, water storage and flows, and water pressure requirements.
- Action HS-8.c requires preparing and implementing plans to repair and maintain County-owned roadways as needed to meet current standards and encouraging private property owners to do the same, to the extent feasible and given the absence of other site constraints. These standards include road standards for evacuation and emergency vehicle access, vegetation clearance, and other requirements of the California Fire Safe Regulations.
- Policy HS-10.8 requires ensuring all evacuation routes and emergency access roads meet applicable State safety standards, including Public Resources Code Sections 4290 and 4291 requirements for width, clearance, and surface conditions.
- Action HS-10.f requires evaluating road conditions throughout the county for compliance with Public Resources Code Sections 4290 and 4291, including assessment of width, surface compaction, and accessibility. It requires identifying roads currently designated as two-lane that may functionally operate as one-lane or one-way under emergency conditions and prioritizing improvements or signage accordingly.
- Policy HS-12.6 requires evaluating and upgrading selected streets and highways vital to the functioning of emergency services and critical facilities to an acceptable degree of safety that considers potential earthquake effects.
- Policy M-LU-1.5 requires all new residential and commercial development have at least two (or multiple) access routes to an existing publicly maintained road or a new road meeting current County standards.
- Policies CM-C-4.5, EL-C-4.4, K-C-4.4, L-C-4.4, LL-C-4.5, M-C-4.5, NL-C-4.5, and R-C-4.5 require the County to, when modifying the transportation network, consider opportunities to expand emergency access so that all residential areas have at least two means of emergency access.

Further, the proposed project would not interfere or create inconsistencies with the Lake County Wildfire Evacuation and Preparedness Plan (2025) and the Evacuation Plan: Soda Bay Corridor and Surrounding Communities (2024). Additionally, potential future development in the EIR Study Area would be required to integrate the EOP and Wildfire Evacuation and Preparedness Plan as necessary into development to continue its facilitation of evacuation for people living and working in wildfire-prone areas. However, population and employment growth could require updates or modifications to these plans over time, thus there is a potential for impacts related to evacuation to be **potentially significant.**

Impact TRA-2: Implementation of the proposed General Plan 2050 could result in inadequate evacuation access.

Significance with Mitigation: Implementation of the proposed General Plan 2050 policies and actions would increase the effectiveness of emergency operations and evacuation, and therefore would support adequate emergency access throughout the EIR Study Area. Specifically, proposed Action HS-2.a* requires regular review of and updates to emergency evacuation plans for all identified hazards, at least every five years, and following any major emergency event, to ensure alignment with current best management practices and evolving hazard conditions are followed. Additionally, future development would be required to comply with adopted local, regional, and State plans and regulations addressing emergency access, including SRA and Very High FHSZ Fire Safety Regulations, the California Building Standards Code, the Public Resources Code, the California Fire Code, and the Lake County Code of Ordinances, which have requirements for a minimum of two different ingress and egress route to each homesite, maximum lengths of single-access roads, minimum widths of roadways, year round access for firefighting equipment, and vegetation fuel management around roadways. Therefore, implementation of the proposed project would provide adequate emergency access and impacts would be **less than significant**.

3.17.5 Cumulative Impact Discussion

Would the project have a cumulative effect related to transportation?

This analysis evaluates whether the impacts of the proposed project could result in a cumulatively significant impact with respect to transportation. This analysis then considers whether incremental contribution of impacts associated with the implementation of the proposed project would be cumulatively considerable and thus significant. Both conditions must apply for the proposed project's cumulative effects to rise to the level of significance.

VMT

As discussed in the LCI *Technical Advisory*, "A project that falls below an efficiency-based threshold that is aligned with long-term environmental goals and relevant plans would have no cumulative impact distinct from the project impact. Accordingly, a finding of a less-than-significant project impact would imply a less than significant cumulative impact, and vice versa." As the characteristics of the proposed project, including location, land use diversity, and presence of medium high-density housing would go unchanged under the cumulative condition, cumulative VMT impacts will likely remain similar to baseline impacts.

However, in consideration of guidance in the LCI *Technical Advisory*, the proposed project was found to exceed VMT thresholds under the baseline condition and thus would result in a **potentially significant cumulative impact**.

BICYCLE AND PEDESTRIAN

As described in impact discussion (c), the proposed project would include new residential and employment uses which would result in increased bicycle and pedestrian trips on local roadways. With dedicated bicycle and pedestrian facilities along these local roadways and the extensive active transportation network identified in the RTP/ATP, future bicycle and pedestrian facilities would generally be capable of accommodating increases in bicycle and pedestrian demand associated with the project. Therefore, this cumulative impact would be **less than significant.**

TRANSIT

The proposed project would not interfere with the right-of-way or potential design features of any reasonably foreseeable transit services or facilities. Therefore, this cumulative impact would be **less than significant.**

ROADWAYS AND EMERGENCY ACCESS

Modifications to the transportation network that due to implementation of the proposed project would also be consistent with applicable design standards and the anticipated changes in travel demand or behavior over time will have been accounted for in transportation network planning. The proposed project would not make a cumulatively considerable contribution to inadequate roadways or emergency access; therefore, impacts would be **less than significant.**

Impact TRA-3: Growth associated with the proposed project would cause a cumulatively significant impact to VMT.

Significance with Mitigation: While proposed General Plan 2050 Actions CM-C-3a*, EL- C-3a*, K-C-3a*, L-C-3a*, LL-C-3a*, M-C-3a*, NL-C-3a*, R-C-3a*, CM-C-3b*, EL- C-3b*, K-C-3b*, L-C-3b*, LL-C-3b*, M-C-3b*, NL-C-3b*, and R-C-3b* would reduce potential project level VMT, the proposed actions would not be sufficient to reduce cumulative impacts to less than significant, and impacts would remain significant and unavoidable.

3.17.6 References

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3.18 TRIBAL CULTURAL RESOURCES

This section of the Draft EIR describes the potential impacts to Tribal Cultural Resources (TCRs) associated with the adoption and implementation of the proposed project. This section describes the regulatory framework and existing conditions, identifies criteria used to determine impact significance, and provides an analysis of the potential impacts to TCRs. The proposed General Plan 2050 policies and actions that would minimize any potentially significant impacts are shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, and denoted with the abbreviation TCR. Where policies and actions are required for mitigation, those policies and actions are described in this section and denoted with an asterisk (*).

Because TCRs are, by definition, cultural resources, potential impacts to TCRs as they relate to the cultural resource California Environmental Quality Act (CEQA) standards are presented in Section 3.5, *Cultural Resources*, of this Draft EIR.

Terminology

- **Cultural Resource:** This term is used to describe several different types of properties: pre-contact (prehistoric) and historic archaeological sites, viewsheds, buildings, objects, structures, and districts or any other physical evidence associated with human activity considered important to a culture or a community for scientific, traditional, spiritual or religious reasons.
- **Pre-contact:** The pre-contact era is the period prior to European contact with Native Americans, when Native American peoples lived on and managed their ancestral lands according to traditional cultural, spiritual, and subsistence practices. In California, this is recognized as prior to the Common Era 1492.
- **Historic-era/Historic-period:** The historic period is generally defined as being between the pre-contact era and 50 years ago.
- **Unique Archaeological Resource:** CEQA defines this term as an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:
  - It contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.
  - It has a special and particular quality such as being the oldest of its type or the best available example of its type.
  - It is directly associated with a scientifically recognized important prehistoric or historic event or person.

- **Tribal Cultural Resource:** CEQA defines TCRs as sites, features, places, cultural landscapes (geographically defined in terms of the size and scope), sacred places, cultural viewsheds, and objects with cultural value to a California Native American tribe that are included or determined to be eligible for inclusion in the California Register; and/or included in a local register of historical resources; and/or a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant. Tribal Historic Preservation Officers (THPOs) serve as key authorities for identifying, evaluating, and managing TCRs, and early consultation with the affiliated tribes ensures that traditional knowledge, cultural practices, and tribal protocols guide the protection, treatment, and interpretation of these resources.

3.18.1 Regulatory Framework

FEDERAL

Archaeological Resources Protection Act

The Archaeological Resources Protection Act (United States Code [USC], Title 16, Sections 470aa–mm) (ARPA) regulates the protection of archaeological resources and sites that on federally and tribally managed lands, including ancestral sites of Native American Tribes. ARPA requires consultation and collaboration with Tribes before excavation, study, or removal of archaeological materials, ensuring that tribal cultural values, traditional knowledge, and spiritual connections are respected and incorporated into resource management and protection.

American Indian Religious Freedom Act

The American Indian Religious Freedom Act (USC Title 15 Section 1996) (AIRFA) recognizes that Native American religious practices, sacred sites, and sacred objects have not been properly protected under other statutes. The act underscores the ongoing cultural and spiritual significance of ancestral lands, sacred sites, and ceremonial objects to descendant Tribes, It establishes as national policy that traditional Native American practices; beliefs; sites, including the right of access; and the use of sacred objects shall be protected and preserved. While AIRFA does not provide enforcement mechanisms, THPOs and affiliated Tribes serve as stewards of these resources and advocate for their protection in land use planning, permitting, and development processes. Early consultation with Tribes helps ensure that traditional knowledge, cultural values, and tribal protocols guide the management and preservation of sacred sites and religious practices.

Native American Graves Protection and Repatriation Act

The Native American Graves Protection and Repatriation Act of 1990 (NAGPRA**)** (USC, Title 25, Sections 3001 et seq.) protects Native American remains, including Native American graves on federal and tribal lands, and recognizes tribal authority over the treatment of unmarked graves. The NAGPRA affirms the sovereignty of tribes over the treatment, protection, and repatriation of ancestral remains and associated funerary objects. THPOs play a critical role in consulting with federal agencies, museums, and other institutions to ensure proper identification, handling, and return of these resources. This act prohibits the selling of Native American remains and provides guidelines for the return of Native American human remains and cultural objects from any collection receiving federal funding, such as museums, universities, or governments. Compliance with NAGPRA is essential to respect tribal cultural values, spiritual practices, and ancestral connections, and Tribes are central decision makers in determining appropriate treatment and reburial of human remains and sacred objects. Noncompliance with this act can result in civil and criminal penalties.

STATE

California Environmental Quality Act

CEQA Section 21083.2 and CEQA Guidelines Section 15126.4 specify lead agency responsibilities in determining whether a project may have a significant effect on archaeological resources. If it can be demonstrated that a project will damage a unique archaeological resource, 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. The Public Resources Code (PRC) also details required mitigation if unique archaeological resources are not preserved in place. CEQA defines a unique archaeological resource as an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.
- Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

CEQA Guidelines Section 15064.5(e) requires that excavation activities stop whenever human remains are uncovered during a project or activity, and that the county coroner be called in to assess the remains. If the county coroner determines that the remains are Native American, the Native American Heritage Commission (NAHC) must be contacted within 24 hours. At that time, the lead agency must consult with the appropriate Native American descendants, if any, as identified by the NAHC. Under certain circumstances, the lead agency (or applicant), is required

to develop an agreement with the Native American descendants for the treatment and disposition of the remains. In addition to the mitigating provisions pertaining to accidental discovery of human remains, CEQA Guidelines Section 15064.5(f) also requires that a lead agency make provisions for the accidental discovery of historical or archaeological resources. These provisions should include an immediate evaluation of the find by a qualified archaeologist. If the find is determined to be a Historical Resource or Unique Archaeological Resource, avoidance measures should be implemented, or appropriate mitigation should be available.

Native American Historic Resource Protection Act

In addition to historical and archaeological resources, PRC Section 21074 recognizes TCRs under the Native American Historic Resource Protection Act, commonly referred to as its legislative bill number Assembly Bill (AB) 52, passed in 2014. This act amended CEQA to address California Native American tribal concerns regarding how cultural resources of importance to tribes are treated under CEQA and created the new TCR category. CEQA identifies a TCR as a separate and distinct category of resource, separate from, but related to a historical resource or archaeological resource. CEQA specifies that a project that may cause a substantial adverse change in the significance of a TCR (as defined in CEQA Statute or PRC Section 21074[a]) is a project that may have a significant effect on the environment. To help determine whether a project may have such an effect, the CEQA Statute requires a lead agency to consult with any California Native American tribe that requests consultation and is traditionally and culturally affiliated with the geographic area of the proposed project. According to AB 52, tribes may have expertise in tribal history and "tribal knowledge about land and TCR at issue should be included in environmental assessments for projects that may have a significant impact on those resources."

CEQA Section 21074(a) defines a TCR as a site, feature, place, or cultural landscape that is geographically defined in terms of size and scope, sacred place, and object with cultural value to a California Native American tribe that is either included or eligible for inclusion in the CRHR or included in a local register of historical resources, or if Lake County, acting as the lead agency, supported by substantial evidence, chooses at its discretion to treat the resource as a TCR. Because these criteria also meet the definition of a historical resource under CEQA, a TCR may also require additional consideration as a historical resource. TCR may or may not exhibit archaeological, cultural, or physical indicators.

PRC Sections 21080.3.1 and 21080.3.2, lead agencies must consult with California Native American tribes that are traditionally and culturally affiliated with the project area and have requested notification. The goal of consultation is to identify potential project effects on TCRs and to develop mutually agreed-upon measures for avoidance, minimization, or mitigation. PRC Section 21080.3.2 provides that the tribal consultation process includes, but is not limited to, discussing the type of environmental review necessary, the significance of TCR, the significance

of the project impacts on the TCR, and alternatives and mitigation measures recommended by the tribe. If the California Native American tribe requests consultation to include project alternatives, mitigation measures, or significant effects, the consultation would be required to cover those topics. PRC Section 21082.3 provides that any mitigation measures agreed upon during this consultation "shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring program" if determined to avoid or lessen a significant impact on TCR. Consultation is considered concluded when:

1. The parties agree to measures to avoid or reduce a significant impact on a TCR if such a significant impact exists, or
2. When a party concludes that mutual agreement cannot be reached.

If no formal agreement on the appropriate mitigation has been established, mitigation measures that avoid or substantially lessen potential significant impacts should be implemented.

Government Code Section 65352.3-5

California Government Code Section 65352.3-5, commonly known by its legislative bill number, 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. Tribal consultation under Government Code Section 65362.3-5 is a government-to-government process where the city or county must engage in meaningful consultation with culturally affiliated tribes. The intent of this legislation is to preserve or mitigate impacts on places, features, and objects, as defined in PRC Section 5097.9 and PRC Section 5097.993, that are within the city's or county's jurisdiction but that may not be visible or formally recorded. Tribes provide the most reliable information regarding the location, significance, and appropriate treatment of their cultural resources. Government Code Section 65362.3-5 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.

Public Resources Code and Health and Safety Code

PRC Section 5097.5(a) specifies that a person shall not knowingly and willfully excavate upon, or remove, destroy, injure, or deface any historic or prehistoric ruins; burial grounds; archaeological sites; or Native American sanctified cemeteries, places of worship, and cultural sites, which can include fossilized footprints, inscriptions made by human agency, rock art, or any other archaeological or historical feature situated on public lands, except with the express permission of the public agency having jurisdiction over the lands. The term "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. County and city lands are exempt from

this provision, except for parklands larger than 100 acres. PRC Sections 5097.9–5097.991 protect Native American sanctified cemeteries, places of worship, and cultural sites. The NAHC is the State authority responsible for identifying and protecting sacred sites and burial locations.

Health and Safety Code Section 7052 states that disturbance of Native American cemeteries is a felony. Section 7050.5(b) of the Health and Safety Code specifies protocols for the discovery of human remains during project activities. The unauthorized disturbance of Native American sites can violate both State and federal laws protecting tribal cultural heritage.

If human remains are discovered or identified in any location other than a dedicated cemetery, there should be no further disturbance or excavation nearby until the county coroner has determined that the area is not a crime scene that warrants further investigation into the cause of death and has made recommendations to the persons responsible for the work in the manner provided in PRC Section 5097.98 (the California Native American Historical, Cultural, and Sacred Sites Act). This section, which applies to both State and private lands, provides guidance for proceeding when human remains associated with Native American burials and associated items are encountered. If the remains are of a Native American, the coroner must notify the NAHC within 24 hours of making that determination (Health and Safety Code Section 7050[c]). The NAHC then notifies the person or persons most likely to be descended (MLD), as determined by the NAHC, from the Native American remains. This act stipulates the procedures that the MLD may follow for treating or disposing of the remains and associated grave goods. Accordingly, the treatment and disposition of Native American remains and associated cultural items are determined in consultation with the MLD and the affiliated Tribe, not solely by the lead agency. Specifically, the role of the NAHC and the MLD are identified under PRC Section 5097.98. That these laws recognize the cultural and spiritual importance of ancestral remains and require their respectful handling consistent with tribal customs.

California Code of Regulations

Archaeological resources on lands that are administered by the California Department of Parks and Recreation (CDRP) are addressed in CCR Title 14, Division 3, Chapter 1. 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. Additionally, many archaeological features on California Department of Parks and Recreation land may also be TCR as defined under PRC Section 21074, as they are of tribal origin and hold ongoing cultural and spiritual importance. The CDPR has an obligation to consult with culturally affiliated California Native American Tribes when management or ground-disturbing activities could affect such resources. TCRs, as defined under PRC Section 21074, may also occur within State Parks and require protection under CEQA and related laws.

Assembly Bill 168

Signed in 2020, Assembly Bill (AB) 168 requires a development proponent to consult with Native American tribes when such developments are completed under 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, which allows for such developments to occur without going through a CEQA review or screening process to determine if they would affect TCRs. 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 that the proposed development could have on a potential TCR (California Government 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. AB 168 deems a project ineligible for the streamlined ministerial approval process and requires it be subject to CEQA if:

- The site of the proposed development is a TCR that is on a national, State, Tribal, or local historic register list;
- The local government and the California Native American tribe do not agree that a potential TCR would be affected by the proposed development; or
- The local government and California Native American tribe find that a potential TCR 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 TCRs, as provided.

LOCAL

Code of Ordinances

The Lake County Code of Ordinances (LCCO) includes various directives that pertain to TCRs. The LCCO is organized by chapter, article, and section. Most provisions related to TCRs are included in Chapter 23, *Clear Lake Shoreline* and Chapter 30, *Grading Ordinance*, as follows:

- **Chapter 23, *Clear Lake Shoreline*.** Section 23-5, *Standards for Regulating Uses, Operations, Construction, and Alterations, and Activities on the Lake*, stipulates that it will withhold an encroachment permit for any activities that will cause significant harm to archaeological or historical resources of state-wide significance.
- **Chapter 30, *Grading Ordinance*.** Section 30-8, *Cultural Resources*, outlines procedures during grading activities for historical, archaeological, paleontological, and Native American sites. This section provides procedures in the event human remains are found, as well as

when Historical Resources, archaeological and paleontological sites, and Native American sites are encountered.

It is important to note that TCRs exist within the county, including areas regulated under zoning, grading, shoreline, or building regulations. As previously described under the "State" regulations, TCRs can include archaeological sites, historical sites, sacred places, cultural landscapes, or locations of ongoing cultural practices. Because tribal significance may not be evident through typical land-use or zoning reviews, and that cultural or spiritual values may extend beyond physical structures or sites, the State recognizes that local ordinances can affect TCRs and that compliance requires coordination and consultation with Tribes as an important and required part of the project approval and entitlement process. Accordingly, there are State mandated requirements to ensure that TCRs are considered as part of the County's entitlement processes, which have been summarized under the subheading "State" in the previous section.

With respect to these sections and how they relate to TCRs, regulated under State procedures in coordination with the lead agency and the tribes, the following should be noted:

- **Zoning**
  - TCRs may exist within or near these districts and their significance often extends beyond architectural or visual features.
  - TCRs may not be formally designated by local, State, or federal agencies but still have cultural, spiritual, or historical importance.
  - Consultation with culturally affiliated Tribes and THPOs is essential before any alteration, grading, or construction activity affecting TCRs.
  - Tribal significance includes traditional, ceremonial, and ancestral associations, which may not be evident from the physical appearance of the site or structure.
  - Protection measures should incorporate tribal knowledge and cultural protocols alongside standard historic preservation requirements.
- **Clear Lake Shoreline**
  - TCRs along the lake and the lake itself may be significant, even if not formally designated as State or federally recognized.
  - Tribal significance may not be captured solely by NRHP or CRHR status—many sites are culturally or spiritually important to Tribes.
  - Tribal consultation is required before approving encroachments, construction, or alterations that could affect TCRs, in accordance with PRC Sections 21074, 5097.9, and AB 52.
  - Traditional use areas, sacred sites, and ancestral landscapes along the shoreline and in the lake may require protection even if they lack visible structures or archaeological features.

- Permitting decisions should incorporate tribal knowledge and cultural protocols to avoid inadvertent disturbance of these resources.

- **Grading Ordinance**
  - TCRs may include sacred sites, traditional use areas, cultural viewsheds and ancestral landscapes, which may not be apparent or recorded in existing databases.
  - Discovery protocols for human remains must prioritize tribal consultation in accordance with Health and Safety Code Sections 7050.5 and 7052, and PRC Sections 5097.98 and 5097.9.
  - All grading and excavation activities should avoid or minimize impacts to TCRs whenever feasible.
  - Tribal knowledge and guidance are critical for identifying and evaluating cultural significance, determining appropriate treatment, and implementing mitigation measures.
  - Confidentiality of tribal site locations and sensitive information must be maintained throughout grading and reporting processes.

3.18.2 Existing Conditions

METHODS

Cultural resources data was obtained via a records search at the Northwest Information Center (NWIC) of the California Historical Resources Information System at California State University, Sonoma. A records search request was sent on April 1, 2025, and the results were received on May 15, 2025.

The County understands that a records search alone is not sufficient for identifying TCRs since, as stated previously, many TCRs, sacred sites, and traditional use areas may not be recorded in NWIC or other historical/archaeological databases, reliance solely on previously documented resources risks overlooking sites of ongoing cultural, spiritual, or ancestral significance. This could be due to a variety of reasons including NWIC records may be outdated or incomplete, and additional field surveys or oral histories provided by tribes may reveal new or previously undocumented resources and information provided by tribes about TCRs must be protected and not publicly disclosed, which may not be addressed by a standard records search. Tribal consultation is essential and direct engagement with culturally affiliated Tribes and their THPOs are necessary to identify resources that may not appear in public records, which is consistent with the requirements outlined under Section 3.5.1, *Regulatory Framework*; specifically, federal NHPA Section 106 guidance and State PRC Sections 21074 and 5097.9, AB 52. Accordingly, tribal consultation was also conducted as part of the proposed project to support existing conditions as described in the following section. However, some information provided by tribes about TCRs

may be confidential and thus must be protected and not publicly disclosed. These may also not be included in a standard records search.

Native American Consultation

Tribes provide specialized knowledge of ancestral villages, sacred sites, traditional use areas, cultural viewsheds, and other culturally significant locations that may not be documented in public records or archaeological surveys. Tribal input is critical in developing mitigation, avoidance, or preservation strategies and guiding project planning. Early and ongoing tribal consultation allows for collaborative decision-making and supports the protection of resources that hold enduring cultural significance for the Tribe. Pursuant to Government Code Section 65352.3-5 (SB 18) and the Native American Historic Resource Protection Act (AB 52), a request was sent to the NAHC for a Tribal Consultation List on April 15, 2024. The NAHC identified representatives from 28 tribes as potentially having local knowledge of Native American places, features, and objects, as defined in PRC Section 5097.9 and PRC Section 5097.993, that are within the EIR Study Area. As part of a larger Lake County tribal outreach process, the County sent letters to the representatives of the following tribal organizations and nations:

- Lake County Tribal Health
- Northern Circle Indian Housing Authority
- Big Valley Band of Pomo Indians/ Big Valley Rancheria
- Cachil Dehe Band of Wintun Indians of the Colusa Indian Community
- Cahto Tribe
- Cloverdale Rancheria of Pomo Indians
- Cortina Rancheria - Kletsel Dehe Band of Wintun Indians
- Coyote Valley Band of Pomo Indians
- Dry Creek Rancheria of Pomo Indians
- Elem Indian Colony of Pomo Indians of the Sulphur Bank Rancheria
- Estom Yumeka Maidu Tribe of the Enterprise Rancheria
- Grindstone Rancheria of Wintun-Wailaki
- Guidiville Rancheria of California
- Habematolel Pomo of Upper Lake
- Hopland Band of Pomo Indians
- Koi Nation of Northern California
- Manchester Band of Pomo Indians of the Manchester Rancheria
- Middletown Rancheria of Pomo Indians of California
- Mishewal-Wappo Tribe of Alexander Valley
- Noyo River Indian Community
- Paskenta Band of Nomlaki Indians
- Pinoleville Pomo Nation
- Potter Valley Tribe
- Redwood Valley or Little River Band of Pomo Indians
- Robinson Rancheria of Pomo Indians of California
- Round Valley Reservation/ Covelo Indian Community
- Scotts Valley Band of Pomo Indians of California
- Sherwood Valley Rancheria of Pomo
- Yocha Dehe Wintun Nation
- Yokayo Tribe

The County initially met with representatives from Big Valley Band of Pomo in February 2025, Habematolel Pomo of Upper Lake in July 2024, Koi Nation of Northern California in October 2024, and Robinson Rancheria of Pomo Indians in November 2024. As a result of the consultations to date (November 2025), the following requests have been made.

The County should:

- Work to develop a better system for tribal involvement for projects early in the process, including those determined to qualify for categorical exclusions under CEQA;
- Distinguish between cultural resources and TCRs;
- Develop a TCRs policy and procedures, including required annual training that includes tribal consultation, cultural sensitivity of the County, and all laws pertaining to the protection of TCRs, for all departments to use;
- Create a new General Plan policy for the protection of sacred viewsheds;
- Include mitigation measures for tribal cultural monitors;
- Require sensitivity trainings for site workers and procedures in the event of an accidental discovery, documentation, and reporting procedures; and
- Create County committee or ad hoc for TCRs.

A description of how the County has responded to each of these requests is provided in Table 3.18-1, *Tribal Consultation Requests and County Responses.*

COUNTYWIDE AREA

Lake County is named after the largest natural body of fresh water, Clear Lake, which is situated in the heart of the County and at the base of the grandeur of the dominant volcano Mount Konocti. Lake County's landscapes, waterways, and geological features have long been central to the lifeways, spirituality, and cultural practices of the Northern Wappo, Western Wappo, Eastern Pomo, Southeastern Pomo, and Lake Miwok. Tribal use of the land included village sites, seasonal camps, resource procurement areas, ceremonial sites, and trade routes, many of which remain culturally significant today. Mount Konocti, Clear Lake, and surrounding sacred areas continue to hold spiritual, ceremonial, and ancestral importance for affiliated tribes. Recognizing these enduring cultural connections is essential in planning, resource management, and environmental review, ensuring that tribal knowledge guides protection of TCRs alongside natural and geological features.

Tribal Cultural Groups

The Pomo and Lake Miwok people have maintained continuous cultural, spiritual, and subsistence connections to the Clear Lake region, including villages, ceremonial sites, hunting and gathering areas, and trade routes. Tribal knowledge encompasses traditional ecological practices, sacred sites, cultural viewsheds, and cultural landscapes, which are critical for

understanding the historic and ongoing significance of the region. Recognizing these tribal cultural connections ensures that planning, development, and environmental review incorporate tribal consultation, protection of ancestral sites, and preservation of resources that remain central to tribal identity and heritage (Geary 2025).

There are following tribes that reside in the Lake County Area, and are listed below (Wayback Machine 2024):

- Big Valley Band Rancheria
- Elem Indian Colony
- Habematolel Pomo of Upper Lake
- Koi Nation of Northern California
- Middletown Rancheria of Pomo Indians
- Robinson Rancheria
- Scotts Valley Reservation

PLANNING AREAS

Cobb Mountain Planning Area

- **Pre-contact Environment.** The Upland Areas of Cobb Mountain were used by over five linguistically different tribal groups: Northern Wappo, Western Wappo, Eastern Pomo, Southeastern Pomo, and Lake Miwok.
- **Archaeological Resources.** There are more than 200 recorded pre-contact and historic-era archaeological resources within the Cobb Mountain Planning Area. Pre-contact archaeological resources include major villages, hunting camps, resource gathering and processing sites, and obsidian quarries.

East Lake Communities Planning Area

- **Pre-contact Environment.** The Clear Lake Basin is within the East Lake Communities Planning Area. Many of the sites within the Clear Lake Basin are part of the ancestral homeland of the Lake Pomo, Lake Miwok, Hill Patwin, and Wappo Tribes, most of whose people have lived in the area since time immemorial. The Clear Lake Basin includes traditional village locations, ceremonial areas, and resource gathering sites that remain culturally and spiritually significant to the tribes today. The Elem Indian Colony recognizes these areas as part of a living cultural landscape (Geary 2025).
- **Archaeological Resources.** Within the East Lake Communities Planning Area, there are several recorded archaeological sites on Rattlesnake Island, known to local Pomo people as the original village of Elem. It is a sacred site and part of the Tribe's ancestral homeland. It remains central to the tribe's cultural and spiritual traditions. Archaeological sites in the East Lake Communities Planning Area are part of a connected cultural landscape, not isolated artifacts. Protection efforts should include tribal consultation, cultural monitoring, and respect for traditional knowledge and cultural values that are still practiced today in this

Planning Area (Geary 2025). Patwin Indian Site is listed on the NRHP and is estimated to be between 200 to 300 hundred years old.

Kelseyville Planning Area

- **Pre-contact Environment.** The Kelseyville Planning Area was inhabited primarily by the Eastern Pomo. The Planning Area lies within the ancestral homeland of the Big Valley Band of Pomo Indians. The Big Valley Band maintains deep cultural, spiritual, and historical connections to this landscape, which includes traditional village sites, seasonal camps, and areas used for fishing, hunting, and plant gathering. The Big Valley Band of Pomo recognizes these places as part of an interconnected cultural landscape that continues to hold meaning for the tribe today. Additionally, Wappo tribes lived in the area temporarily, though their ancestral land is along the Napa River.
- **Archaeological Resources.** The Kelseyville Planning Area contains more than 200 pre-contact and historic-era cultural resources. Many of the pre-contact and historic-era cultural resources in the Kelseyville Planning Area are directly linked to Eastern Pomo and Wappo ancestral villages, ceremonial sites, and traditional use areas.

Lakeport Planning Area

- **Pre-contact Environment.** The Lakeport Planning Area was inhabited primarily by the Eastern Pomo; however, a small area in Big Valley was occupied by the Wappo. The Scotts Valley Band of Pomo Indians, Wialaki, and Round Valley Tribes have land within the Lakeport Planning Area. The Wappo tribes do not consider this area as their ancestral land.
- **Archaeological Resources.** There are more than 75 recorded cultural resources within the Lakeport Planning Area. This area was intensively inhabited, and development should be investigated before approval.

Lower Lake Planning Area

- **Pre-contact Environment.** The area around Lower Lake was inhabited by two ethnographic groups, the Southeastern Pomo and Lake Miwok. The territory of the Southeastern Pomo was located north of Cache Creek and Lower Lake; the territory of Lake Miwok was located to the south of Lower Lake. This region contains traditional village sites, resource gathering areas, and sacred places that remain important to descendant tribal communities today.
- **Archaeological Resources.** Over 300 archaeological resources have been recorded in the Lower Lake Planning Area. Three pre-contact archaeological resources are listed on either the NRHP or CRHR within the Lower Lake Planning Area:
  - Anderson Marsh Archaeological District
  - Borax Lake-Hodges Archaeological Site
  - Cache Creek Archaeological District

The Lower Lake Planning Area lies within the ancestral territory of the Koi Nation and the Lake Miwok. These archaeological sites are part of a broader cultural landscape that remains significant to affiliated Tribes today. All development should be investigated before getting approved given the density of resources within this Planning Area.

Middletown Planning Area

- **Pre-contact Environment.** The area around Middletown was inhabited by three ethnographic groups: the Wappo, the Lake Miwok and the Patwin. The territory of the Wappo was divided into two portions, one small (the southern portion of the City of Clearlake) and one large, encompassing the south, central and western portions of the Middletown Planning Area. The Lake Miwok were hunters and gatherers who had permanent dwelling areas along the drainages of several small creeks and stream valleys south of Clear Lake. The Patwin inhabited the easternmost portion of the Middletown Planning Area.
- **Archaeological Resources.** The Middletown Planning Area contains the highest number of pre-contact and historic-era resources in Lake County. Archaeologically, the Middletown Planning Area contains high densities of prehistoric sites and is considered an extremely sensitive area. Among the more than 300 archaeological sites with pre-contact components is resource CA-LAK-711, which is listed on the NRHP.

North Lake Communities Planning Area

- **Pre-contact Environment.** The North Lake Communities Planning Area lies within the ancestral homeland of the Habematolel Pomo of Upper Lake and Robinson Rancheria. This area contains traditional village sites and culturally important places that remain significant to the tribes.
- **Archaeological Resources.** The Planning Area lies within the ancestral territory of the Habematolel Pomo of Upper Lake and Robinson Rancheria. Archaeological sites in this area remain culturally and spiritually significant to these Tribes. There are more than 150 known pre-contact archaeological sites in the vicinity of this Planning Area and 32 resources with both pre-contact and historic-era components.

Rivieras Planning Area

- **Pre-contact Environment.** The Rivieras Planning Area is part of the ancestral homelands of the Southeastern Pomo, Eastern Pomo, and Wappo people, whose ancestors established villages, seasonal camps, and resource gathering areas throughout the region. The Southeastern Pomo and Eastern Pomo occupied most of the territory surrounding the southern end of Clear Lake and the Wappo primarily lived on about five square miles near Mount Konocti. Many of these sites retain cultural, historical, and spiritual significance to descendant tribes today.

- **Archaeological Resources.** The Rivieras Planning Area contains over 100 archaeological resources. The Rivieras Planning Area lies within the ancestral homeland of the Southeastern Pomo, Eastern Pomo, and Wappo peoples, whose descendants continue to maintain cultural, spiritual, and historical connections to this region. Archaeological sites in the area are part of a broader living cultural landscape that includes villages, ceremonial areas, and resource gathering locations. The Southeastern Pomo followed an annual subsistence cycle and lived in circular, tule-reed houses. These houses were situated around a central ceremonial house or sweathouse. Pre-contact resources within the Rivieras Planning Area may include remnants of these houses and villages, as well as areas of resource procurement (Geary 2025).

3.18.3 Standards for Analysis

Appendix G, *Environmental Checklist Form*, of the CEQA Guidelines states that the proposed project would result in a significant impact related to a TCR if it would cause a substantial adverse change in the significance of a TCR, defined in PRC Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k).

b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

3.18.4 Project Impact Analysis

a) Would the project include a Tribal Cultural Resource listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources, as defined in Public Resources Code Section 5020.1(k)?

As described under Section 3.5.2, *Existing Conditions*, of Section 3.5, *Cultural Resources,* several historical resources exist in the EIR Study Area. Table 3.5-1, *Federal- and State-Recognized Historic Resources*, details the historic resources within Lake County, of which, some are also considered TCRs. Impact discussions (a) and (b) of Section 3.5, *Cultural Resources,* provide a discussion of impacts associated with the proposed project on listed or eligible historic resources.

Furthermore, the proposed General Plan 2050 contains policies and actions that require local planning and development decisions to consider impacts on historic resources and that would serve to minimize impacts to historic resources. These are shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation TCR. In particular, the following key policies and actions would serve to minimize potential impacts to TCRs listed or eligible for listing in a historic register:

- Policies CM-OS-2.1*, EL-OS-2.1*, K-OS-2.1*, L-OS-2.1*, LL-OS-2.1*, M-OS-2.1*, NL-OS-2.1*, and R-OS 2.1* require review of proposed development projects in conjunction with the California Historical Resources Information System, Northwest Information Center, at Sonoma State University, to determine whether project areas contain known archaeological resources, both prehistoric and/or historic-era, and TCRs, or if they have the potential to hold such resources, and if so, implement mitigation to protect the resource.
- Policies CM-OS-2.2*, EL-OS-2.2*, K-OS-2.2*, L-OS-2.2*, LL-OS-2.2*, M-OS-2.2*, NL-OS-2.2*, and R-OS 2.2* require, whenever possible, that new development preserve significant historical, archaeological, or paleontological resources on-site through project design. If on-site preservation is not feasible, mitigate impacts through techniques such as relocation of structures, adaptive reuse, preservation of facades, and thorough documentation and archival of records. Any documentation of historic resources shall be conducted in accordance with Historic American Building Survey Level III standards, as defined by the US Secretary of the Interior.
- Policies CM-OS-2.3*, EL-OS-2.3*, K-OS-2.3*, L-OS-2.3*, LL-OS-2.3*, M-OS-2.3*, NL-OS-2.3* and R-OS-2.3* require, upon discovery of significant archaeological, paleontological, historic, or TCRs during site development, that all activity be halted within 100 feet of the find(s) and notify a professional archaeologist, paleontologist, historian, and/or local Tribal government representative (if appropriate) to evaluate the find(s) and recommend mitigation procedures, if necessary. Findings and mitigation measures are subject to review and approval by the Lake County Planning Commission prior to resuming site development work.
- Policies CM-OS-2.4*, EL-OS-2.4*, K-OS-2.4*, L-OS-2.4*, LL-OS-2.4*, M-OS-2.4*, NL-OS-2.4*, and R-OS-2.4* require, as a condition of approval for discretionary grading permits, that construction employees be trained in recognizing potentially significant archaeological, paleontological, historic, or TCRs that may be discovered during ground-disturbing activities. Requires project proponents to submit verification that all site workers have received sensitivity training prior to commencement of ground-disturbing activities.
- Policies CM-OS-2.5*, EL-OS-2.5*, K-OS-2.5*, L-OS-2.5*, LL-OS-2.5*, M-OS-2.5*, NL-OS-2.5*, and R-OS-2.5* require discretionary review for demolition permit applications on important historic sites to mitigate impacts.
- Policies CM-OS-2.8, EL-OS-2.8, K-OS-2.8, L-OS-2.8, LL-OS-2.8, M-OS-2.8, NL-OS-2.8, and R-OS-2.8 require prioritization of preservation and adaptive reuse of buildings, sites, and areas with identified archaeological, cultural, or historic significance.

- Policies CM-OS-2.11, EL-OS-2.11, K-OS-2.11, L-OS-2.12, LL-OS-2.11, M-OS-2.11, NL-OS-2.11, and R-OS-2.11 require the County to conduct education and outreach to the community about the various federal, Tribal, State, local, and private funding sources and economic mechanisms available to support historic resource preservation.
- Actions CM-OS-2.a, EL-OS-2.a, K-OS-2.a, L-OS-2.a, LL-OS-2.a, M-OS-2.a, NL-OS-2.a, and R-OS-2.a require contracting with a qualified cultural resource coordinator for the development of review procedures and ordinances for the protection of cultural heritage resources, including mechanisms for the protection of identified cultural sites from vandalism and instances when owners of designated historic properties assert economic hardship.
- Actions CM-OS-2.b*, EL-OS-2.b*, K-OS-2.b*, L-OS-2.b*, LL-OS-2.b*, M-OS-2.b*, NL-OS-2.b*, and R-OS-2.b* require contracting with an archaeologist(s) that meets the Secretary of the Interior's Professionally Qualified Standards to perform cultural resource studies for environmental analysis on discretionary projects where a cultural resource report is deemed necessary, including outreach to Tribal governments for input on TCRs.
- Actions CM-OS-2.c, EL-OS-2.c, K-OS-2.c, L-OS-2.c, LL-OS-2.c, M-OS-2.c, NL-OS-2.c, and R-OS-2.c require establishing a process for considering the designation of structures older than 50 years as historic structures or landmarks eligible for special recognition and preservation protections.
- Action CM-OS-2.d engages the Cobb Mountain Area community to identify appropriate sites for the Historic Preservation Combining District and application of the District to identified sites.
- Action EL-OS-2.d supports an ongoing Lake County Historic Commission to review development projects that may impact historic resources.
- Action K-OS-2.d engages the Kelseyville Area community to identify appropriate sites for the Historic Preservation Combining District and application of the District to identified sites.
- Action L-OS-2.d engages the Lakeport Area community to identify appropriate sites for the Historic Preservation Combining District and application of the District to identified sites.
- Action M-OS-2.d engages the Middletown community to identify appropriate sites for the Historic Preservation Combining District and application of the District to identified sites.
- Action NL-OS-2.d engages the North Lake Area community to identify appropriate sites for the Historic Preservation Combining District and application of the District to identified sites.
- Action R-OS-2.d engages the Rivieras Area community to identify appropriate sites for the Historic Preservation Combining District and application of the District to identified sites.
- Actions CM-OS-2.e, EL-OS-2.f, K-OS-2.e, L-OS-2.e, LL-OS-2.e, M-OS-2.e, NL-OS-2.e, and R-OS-2.e supports continued operation of the Lake County Heritage Commission to review development projects that may impact historic resources.
- Action EL-OS-2.e requires engagement of the East Lake community to identify appropriate sites for the Historic Preservation Combining District and application of the District to identified sites.

- Actions CM-OS-2.f, K-OS-2.f, L-OS-2.f, LL-OS-2.f, M-OS-2.f, NL-OS-2.f, and R-OS-2.f require preparation of a historical resources inventory for the Planning Area, using State and federal standards to evaluate their significance.
- Actions CM-OS-2.g, EL-OS-2.g, K-OS-2.g, L-OS-2.g, LL-OS-2.g, M-OS-2.g, NL-OS-2.g, and R-OS-2.g require application to the State to become a Certified Local Government, making the County eligible for historic preservation programs.
- Policies CM-OS-3.3, EL-OS-3.3, K-OS-3.3, L-OS-3.3, LL-OS-3.3, M-OS-3.3, NL-OS-3.3, and R-OS-3.3 require the County to respect and protection of TCRs, including historic, cultural, and sacred sites; cultural landscapes; views of or access to resources; and objects with cultural value to California tribes, recognizing that protecting TCRs supports both cultural preservation and environmental health outcomes.
- Policies CM-OS-3.5, EL-OS-3.5, K-OS-3.5, L-OS-3.5, LL-OS-3.5, M-OS-3.5, NL-OS-3.5, and R-OS-3.5 require protection of cultural resource sites in subdivision projects by avoiding identification of sites on maps, relying instead on other techniques, including establishing building envelopes.
- Policies CM-OS-3.6*, EL-OS-3.6*, K-OS-3.6*, L-OS-3.6*, LL-OS-3.6*, M-OS-3.6*, NL-OS-3.6*, and R-OS-3.6* require consultation with culturally affiliated Tribal governments when developing mitigation measures to avoid or minimize impacts on TCRs. Mitigation could include notification of culturally affiliated Tribal governments prior to and tribal monitoring during ground-disturbing activities.
- Actions CM-OS-3.a, EL-OS-3.a, K-OS-3.a, L-OS-3.a, LL-OS-3.a, M-OS-3.a, NL-OS-3.a, and R-OS-3.a require the establishment and maintenance of collaborative relationships with local Tribal government representatives to facilitate tribal consultation, preserve TCRs, and coordinate land use planning in areas around tribal lands.
- Actions CM-OS-3.b, EL-OS-3.b, K-OS-3.b, L-OS-3.b, LL-OS-3.b, M-OS-3.b, NL-OS-3.b, and R-OS-3.b require working with local Tribal governments to establish programs and secure funding to implement actions aimed at preserving TCRs.
- Actions CM-OS-3.c, EL-OS-3.c, K-OS-3.c, L-OS-3.c, M-OS-3.c, NL-OS-3.c, and R-OS-3.c require collaboration with Tribal governments to identify cultural sites, sacred landscapes, cultural viewsheds, and traditional use areas, and incorporate them into land use planning through a Tribal Resource Conservation Overlay or equivalent mechanism, that requires a consultation-based review for any future land use designation changes affecting these areas to protect TCRs and uphold the tribes' ongoing stewardship of their ancestral lands.
- Action LL-OS-3.c requires collaboration with the Koi Nation and other Tribal governments to identify cultural sites, sacred landscapes, cultural viewsheds, and traditional use areas, and incorporate them into land use planning through a Tribal Resource Conservation Overlay or equivalent mechanism that requires a consultation-based review for any future land use designation changes affecting these areas to protect TCRs and uphold the tribes’ ongoing stewardship of their ancestral lands. Where appropriate, explore partnerships for co-

management, conservation, and interpretive uses that honor the ancestral and ongoing relationship between the Koi Nation and these lands.

Potential impacts from future development on TCRs could lead to: (1) demolition, which by definition results in the material impairment of a resource's ability to convey its significance; (2) inappropriate modification, which may use incompatible materials, designs, or construction techniques in a manner that alters character-defining features; (3) inappropriate new construction, which could introduce incompatible new buildings that clash with an established architectural context; and (4) conflict with tribal cultural or spiritual values that extend beyond physical structures. Any of these scenarios have the potential to change setting of an TCR, including, but not limited to, traditional use areas, sacred sites, and ancestral landscapes such that the TCR's ability to convey its significance may be materially impaired. Compliance with existing federal and State regulations, including tribal consultation in place to protect known and unknown TCRs resources within the EIR Study Area are intended to ensure that development would not result in adverse impacts to identified TCRs. Consultation with tribes and their THPO may be required when planning or development activities may affect ancestral sites or traditional cultural properties, ensuring that tribal knowledge and cultural values are incorporated into resource protection and management. However, because future development under the proposed General Plan 2050 has the potential to occur where TCRs may exist, known and yet to be classified, impacts from the proposed General Plan 2050 are **potentially significant.**

Impact TCR-1: Impacts to known or yet to be classified Tribal cultural historic resources could occur from potential future development under the proposed General Plan 2050.

Significance with Mitigation: Implementation of the proposed General Plan 2050 policies and actions, as well as compliance with federal, State, and local regulations pertaining to the protection of historic resources would ensure that potential future development under the proposed project would not create a substantial adverse change in the significance of a historical resource. Specifically, proposed General Plan 2050 Policies CM-OS-2.1*, EL-OS-2.1*, K-OS-2.1*, L-OS-2.1*, LL-OS-2.1*, M-OS-2.1*, NL-OS-2.1*, and R-OS-2.1* require the review of proposed development projects in conjunction with the California Historical Resources Information System, Northwest Information Center, at Sonoma State University to determine if the project area contains or has the potential to contain known archaeological resources, both prehistoric and/or historic-era, and TCRs; Policies CM-OS-2.2*, EL-OS-2.2*, K-OS-2.2*, L-OS-2.2*, LL-OS-2.2*, M-OS-2.2*, NL-OS-2.2*, and R-OS-2.2* requires new development to preserve significant historical, archaeological, or paleontological resources on-site through project design whenever possible; Policies CM-OS-2.3*, EL-OS-2.3*, K-OS-2.3*, L-OS-2.3*, LL-OS-2.3*, M-OS-2.3*, NL-OS-2.3* and R-OS-2.3* require all activity to be halted within 100 feet if a historic resource is found on a project site and requires notifying a professional archaeologist, paleontologist, historian, and/or local tribal government representative (if appropriate) to evaluate the find(s) and recommend mitigation procedures, if necessary; Policies CM-OS-2.4*,

EL-OS-2.4*, K-OS-2.4*, L-OS-2.4*, LL-OS-2.4*, M-OS-2.4*, NL-OS-2.4*, and R-OS-2.4* require construction employees to be trained in recognizing historic resources; Policies CM-OS-2.5*, EL-OS-2.5*, K-OS-2.5*, L-OS-2.5*, LL-OS-2.5*, M-OS-2.5*, NL-OS-2.5*, and R-OS-2.5* require discretionary review for demolition permit applications on important historic sites to ensure impacts are mitigated; Actions CM-OS-2.b*, EL-OS-2.b*, K-OS-2.b*, L-OS-2.b*, LL-OS-2.b*, M-OS-2.5*, NL-OS-2.b*, and R-OS-2.b* require cultural resource studies for environmental analysis on discretionary projects where a cultural resource report is deemed necessary; and Policies CM-OS-3.6*, EL-OS-3.6*, K-OS-3.6*, L-OS-3.6*, LL-OS-3.6*, M-OS-3.6*, NL-OS-3.6*, and R-OS-3.6* require consultation with culturally affiliated tribal governments when developing mitigation measures to avoid or minimize impacts on TCRs. Accordingly, implementation of the proposed General Plan 2050 would require the protection of TCRs and require new development to analyze and avoid any potential impacts to designated TCRs through record searches, tribal consultation, preconstruction field surveys, ground-disturbance monitoring, and implementation of appropriate measures or project alternatives to avoid identified significant impacts. Finally, CEQA would require that future potential projects in the EIR Study Area with the potential to significantly impact TCRs be subject to project-level CEQA review wherein the future potential project's potential to affect the significance of a surrounding historical resource would be evaluated and mitigated to the extent feasible. The requirement for subsequent CEQA review, pursuant to State law, would minimize the potential for new development to indirectly affect the significance of existing TCRs to the maximum extent practicable. Therefore, impacts would be **less than significant.**

b) Would the project include a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

As described in Section 3.18.2, *Existing Conditions,* as part of the consultation process, some requests were made by the tribes. Table 3.18-1, *Tribal Consultation Requests and County Responses*, shows the requests presented to the County during the tribal consultation process completed to date and how the request has been responded to as part of the proposed General Plan 2050.

Table 3.18-1 Tribal Consultation Requests and County Responses

Request/Comment	Response
Work to develop a better communication system between County staff and Tribes.	Proposed General Plan 2050 policies and actions include coordinating with tribal governments as appropriate.

Table 3.18-1 Tribal Consultation Requests and County Responses

Request/Comment	Response
Emphasize the rich tribal cultural history of Lake County and continue to document tribal cultural sites.	A County committee or ad hoc for TCRs will be created. The County would also like to develop a GIS layer of protected viewsheds and explore how to share a nonconfidential version to ensure tribal viewsheds are protected and analyzed.
TCRs are found even in pre-disturbed areas.	The County will incorporate a tribal sensitivity checklist for project applications at submittal.
Consider early tribal involvement for projects, including those determined to qualify for categorical exclusions under CEQA.	Proposed General Plan 2050 Actions CM-OS-2.b*, EL-OS-2.b*, K-OS-2.b*, L-OS-2.b*, LL-OS-2.b*, M-OS-2.5*, NL-OS-2.b*, and R-OS-2.b*
The County should develop a TCRs policy and procedures for all departments to use, including consultation procedures, best management practices, common mitigation measures, construction monitoring, unanticipated discoveries, treatment protocols for reburials, etc.	Proposed General Plan 2050 Policies CM-OS-3.6*, EL-OS-3.6*, K-OS-3.6*, L-OS-3.6*, LL-OS-3.6*, M-OS-3.6*, NL-OS-3.6*, R-OS-3.6*, CM-OS-3.7*, EL-OS-3.7*, K-OS-3.7*, L-OS-3.7*, LL-OS-3.7*, M-OS-3.7*, NL-OS-3.7*, and R-OS-3.7* and Actions CM-OS-2.b*, EL-OS-2.b*, K-OS-2.b*, L-OS-2.b*, LL-OS-2.b*, M-OS-2.5*, NL-OS-2.b*, and R-OS-2.b*
The Lake County Open Space, Conservation, and Recreation Element does not include TCRs.	The proposed General Plan 2050 includes an updated Open Space, Conservation, and Recreation Elements that include TCRs.
The Lake County Environmental Justice Element should include TCRs.	The proposed General Plan 2050 incorporates tribal perspectives into the Environmental Justice Elements.
Consider including the Tribes when naming County buildings and public facilities.	The County will consider including tribes when naming County buildings and public facilities.
The County should continue to fund a Tribal Liaison position.	The County will prioritize continuing to fund a Tribal Liaison position.

In addition to the TCRs described in impact discussion (a), there is the potential to unearth archaeological resources or human remains, which could be identified as TCRs upon discovery. The proposed General Plan 2050 contains policies and actions that require local planning and development decisions to consider impacts and mitigation to TCRs and archaeological resources, which have the potential to be identified as TCRs upon discovery archaeological resources. These are shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation TCR. In addition to the policies and actions provided under impact discussion (a), the following key policies and actions would serve to minimize impacts to TCRs in the EIR Study Area:

- Policy WR-1.1 requires strengthening of County-Tribal government coordination to protect water quality, cultural resources, and ecosystem health in Clear Lake and its watershed and promote joint stewardship and integration of Traditional Ecological Knowledge with modern water management and restoration practices.
- Action WR-1.a requires partnership with Tribal governments to develop and implement public education and restoration projects that promote water quality, habitat protection, and the use of Traditional Ecological Knowledge in watershed management.
- Policy WR-2.6 requires consultation and coordination with Tribal governments and Tribal Environmental Protection Directors on groundwater management, monitoring, and restoration projects to protect culturally significant sites, traditional water uses, and watershed health.
- Policy WR-5.3 requires coordination with Tribal governments, water districts, scientific partners, and State agencies to support ongoing water quality monitoring and early detection systems for cyanobacteria to improve public health and water quality management.
- Action CM-LU-3.a requires coordination with local non-profit and other non-governmental organizations to install or maintain public art and gateway, wayfinding, and interpretive signage in Cobb, Loch Lomond, Pine Grove, Seigler Springs, and Whispering Pines to support each area's sense of place; foster an understanding and appreciation for local history and culture, including tribal culture; promote inclusivity; and improve the visual quality of each community.
- Action L-LU-3.a requires coordination with local non-profit and other non-governmental organizations to install or maintain public art and gateway, wayfinding, and interpretive signage in North Lakeport to support the area’s sense of place; foster an understanding and appreciation for local history and culture, including tribal culture; promote inclusivity; and improve the visual quality of the community.
- M-LU-3.a requires coordination with local non-profit and other non-governmental organizations to install or maintain public art and gateway, wayfinding, and interpretive signage in downtown Middletown and the Coyote Valley Town Center to support the areas’ sense of place; foster an understanding and appreciation for local history and culture, including tribal culture; promote inclusivity; and improve the visual quality of each community.
- NL-LU-3.a requires coordination with local non-profit and other non-governmental organizations to install or maintain public art and gateway, wayfinding, and interpretive signage in Blue Lakes, Lucerne, Nice, and Upper Lake to support each area’s sense of place; foster an understanding and appreciation for local history and culture, including tribal culture; promote inclusivity; and improve the visual quality of each community.
- R-LU-3.a requires coordination with local non-profit and other non-governmental organizations to install or maintain public art and gateway, wayfinding, and interpretive signage along Soda Bay Road to support the area’s sense of place; foster an understanding

and appreciation for local history and culture, including tribal culture; promote inclusivity; and improve the visual quality of each community.

- Policies CM-OS-3.1, EL-OS-3.1, K-OS-3.1, L-OS-3.1, LL-OS-3.1, M-OS-3.1, NL-OS-3.1, and R-OS-3.1 require the protection of tribal heritage, honor for the early stewards of this land, and treatment of Native American remains and TCRs with sensitivity and respect.
- Policies CM-OS-3.4, EL-OS-3.4, K-OS-3.4, L-OS-3.4, LL-OS-3.4, M-OS-3.4, NL-OS-3.4, and R-OS-3.4 require formal and early government-to-government consultation with culturally affiliated Tribes on all projects with potential cultural, environmental, or scenic impacts to identify and protect recorded and unrecorded TCRs through the discretionary development review process.
- Policies CM-OS-3.7*, EL-OS-3.7*, K-OS-3.7*, L-OS-3.7*, LL-OS-3.7*, M-OS-3.7*, NL-OS-3.7*, and R-OS-3.7,* require that upon discovery of a burial, human remains, or suspected human remains, an immediate halt to all work within 100 feet and notify the Sheriff's Department, the culturally affiliated Tribal governments, and a qualified archaeologist for proper internment and tribal rituals according to Public Resources Code Section 5097.98 and Health and Safety Code Section 7050.5.

As described under impact discussion (c) in Section 3.5, *Cultural Resources,* of this Draft EIR, compliance with the mandatory regulatory procedures described and the proposed General Plan 2050 policies and actions, potential impacts related to the potential discovery or disturbance of any human remains accidently unearthed during construction activities associated with future development in the EIR Study Area would be less than significant. Because future development under the proposed General Plan 2050 may occur where there is the potential for archaeological resources, known and unknown, which could be identified as TCRs upon discovery, impacts from the proposed General Plan 2050 are **potentially significant.**

Impact TCR-2: Impacts to unknown Tribal Cultural Resources could occur from potential future development under the proposed General Plan 2050.

Significance with Mitigation: Future development would be required to follow local, State, and federal regulations including consultation with Tribes and their THPO for any projects that may affect ancestral sites, ensuring that traditional knowledge, cultural values, and tribal protocols guide the protection and management of these resources. Implementation of the proposed General Plan 2050 policies and actions would ensure that new development in the EIR Study Area reduces and mitigates potential impacts to TCRs. Specifically, Specifically, proposed General Plan 2050 Policies CM-OS-2.1*, EL-OS-2.1*, K-OS-2.1*, L-OS-2.1*, LL-OS-2.1*, M-OS-2.1*, NL-OS-2.1*, and R-OS-2.1* require the review of proposed development projects in conjunction with the California Historical Resources Information System, Northwest Information Center, at Sonoma State University to determine if the project area contains or has the potential to contain known archaeological resources, both prehistoric and/or historic-era, and TCRs; Policies CM-OS-2.2*, EL-OS-2.2*, K-OS-2.2*, L-OS-2.2*, LL-OS-2.2*, M-OS-2.2*, NL-OS-2.2*, and

R-OS-2.2* requires new development to preserve significant historical, archaeological, or paleontological resources on-site through project design whenever possible; Policies CM-OS-2.3*, EL-OS-2.3*, K-OS-2.3*, L-OS-2.3*, LL-OS-2.3*, M-OS-2.3*, NL-OS-2.3* and R-OS-2.3* require all activity to be halted within 100 feet if a historic resource is found on a project site and requires notifying a professional archaeologist, paleontologist, historian, and/or local tribal government representative (if appropriate) to evaluate the find(s) and recommend mitigation procedures, if necessary; Policies CM-OS-2.4*, EL-OS-2.4*, K-OS-2.4*, L-OS-2.4*, LL-OS-2.4*, M-OS-2.4*, NL-OS-2.4*, and R-OS-2.4* require construction employees to be trained in recognizing historic resources; Policies CM-OS-2.5*, EL-OS-2.5*, K-OS-2.5*, L-OS-2.5*, LL-OS-2.5*, M-OS-2.5*, NL-OS-2.5*, and R-OS-2.5* require discretionary review for demolition permit applications on important historic sites to ensure impacts are mitigated; Actions CM-OS-2.b*, EL-OS-2.b*, K-OS-2.b*, L-OS-2.b*, LL-OS-2.b*, M-OS-2.5*, NL-OS-2.b*, and R-OS-2.b* require cultural resource studies for environmental analysis on discretionary projects where a cultural resource report is deemed necessary; Policies CM-OS-3.6*, EL-OS-3.6*, K-OS-3.6*, L-OS-3.6*, LL-OS-3.6*, M-OS-3.6*, NL-OS-3.6*, and R-OS-3.6* require consultation with culturally affiliated tribal governments when developing mitigation measures to avoid or minimize impacts on TCRs; and Policies CM-OS-3.7*, EL-OS-3.7*, K-OS-3.7*, L-OS-3.7*, LL-OS-3.7*, M-OS-3.7*, NL-OS-3.7*, and R-OS-3.7* which requires compliance with PRC Section 5097.98. Compliance with federal and State laws, as described in Section 3.18.1., *Regulatory Framework,* and the proposed General Plan 2050 policies and actions listed previously, would protect recorded and unrecorded TCRs in the EIR Study Area by requiring consultation with appropriate tribal representatives, providing for the early detection of potential conflicts between development and resource protection, and by preventing or minimizing the material impairment of the ability of archaeological deposits to convey their significance through excavation or preservation would ensure that potential impacts from implementation of the proposed project would be **less than significant.**

3.18.5 Cumulative Impact Analysis

As discussed in Chapter 3, *Environmental Analysis,* of this Draft EIR, the cumulative setting includes growth within the EIR Study Area in combination with projected overall growth trends within Lake County and adjacent counties. The cumulative setting for TCRs includes potential future development under the proposed project, combined with effects of development on lands adjacent to the EIR Study Area and surrounding region.

Would the project have a cumulative effect related to Tribal Cultural Resources?

Cumulative impacts to TCRs occur when a series of actions leads to adverse effects on local Native American tribes or tribal lands. In association with CEQA review, future AB 52 and other consultations with Native American tribes to identify TCRs would be required for projects that have the potential to cause significant impacts to TCRs.

Future development planned for under the proposed project would be primarily within the developed portions of the EIR Study Area. This, in conjunction with buildout of the County and the region, has the potential to cumulatively impact TCRs. Impacts to TCRs that may be identified as part of project-specific development over the course of the implementation of the proposed project would be less than significant with implementation of the proposed General Plan 2050 policies and actions. As previously discussed, impacts to TCRs in the EIR Study Area would be less than significant with implementation of the proposed General Plan 2050 policies and actions described in impact discussions (a) and (b) and shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation TCR. Implementation of the proposed General Plan 2050 policies and actions described in impact discussions (a) through (c) in Section 3.5, *Cultural Resources*, of this Draft EIR and shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation CUL would also help to ensure impacts are less than significant. Additionally, the existing federal, State, and local regulations and the proposed General Plan 2050 policies and actions described throughout this section serve to protect TCRs in the EIR Study Area. Continued compliance with these regulations substantially decreases potential impacts to TCRs to the maximum extent practicable and cumulative impacts would be **less than significant.**

Significance without Mitigation: Less than significant

3.18.6 References

Geary, Robert (Cultural Resources Administrator, Habematolel Pomo Cultural Resources). 2025, October 30. Edits to PlaceWorks.

Lake County. 2023. History of Lake County Pomo Indians. Accessed January 19, 2024. https://www.lakecountyca.gov/1524/History-of-Lake-County-Pomo-Indians.

Wayback Machine. 2024, June 3. Lake County, History of Lake County Pomo Indians. https://web.archive.org/web/20240603171424/https://www.lakecountyca.gov/1524/History-of-Lake-County-Pomo-Indians. Accessed on June 19, 2025.

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3.19 Utilities and Service Systems

This section of the Draft EIR describes the potential utilities and service systems impacts associated with the adoption and implementation of the proposed project. This section describes the regulatory framework and existing conditions, identifies criteria used to determine impact significance, and provides an analysis of the potential hydrology and water quality impacts. The proposed General Plan 2050 policies and actions that would minimize any potentially significant impacts are shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, and denoted with the abbreviation USS. Where policies and actions are required for mitigation, those policies and actions are described in this section and denoted with an asterisk (*).

The regulatory framework for stormwater is described in detail in Section 3.10, *Hydrology and Water Quality*, of this Draft EIR. The regulatory requirements that pertain solely to storm drain systems are repeated below. The regulatory framework for energy is described in detail in Section 3.6, *Energy*, of this Draft EIR. The regulatory requirements that pertain solely to energy infrastructures are repeated below.

Due to the connectiveness of the utility systems throughout the county, this section refers to service systems in both unincorporated and incorporated Lake County.

3.19.1 Regulatory Framework

FEDERAL

Safe Drinking Water Act

The Safe Drinking Water Act, the principal federal law intended to ensure safe drinking water to the public, was enacted in 1974 and has been amended several times. The Safe Drinking Water Act authorizes the Unites States Environmental Protection Agency (USEPA) to set national standards for drinking water, called the National Primary Drinking Water Regulations, to protect against both naturally occurring and human-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 Water Resources Control Board (SWRCB) Division of Drinking Water regulates public drinking water systems. If a water system does not meet standards, it is the water supplier’s responsibility to notify its customers.

Clean Water Act

The Clean Water Act (CWA) regulates the discharge of pollutants into watersheds throughout the nation. Under the CWA, the USEPA implements pollution control programs, sets wastewater

standards, and makes it unlawful to discharge pollutants from a point source into any navigable waters without obtaining a permit. Point sources include any conveyances, such as pipes and man-made drainage channels, from which pollutants may be discharged.

The CWA establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. Under the CWA, the USEPA has implemented pollution-control programs, such as setting wastewater standards for industry. USEPA 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.

America's Water Infrastructure Act

America's Water Infrastructure Act was signed into law on October 23, 2018, and authorizes federal funding for water infrastructure projects; expands water storage capabilities; assists local communities in complying with the Safe Drinking Water Act and CWA; reduces flooding risks for rural, western, and coastal communities; and addresses significant water infrastructure needs in tribal communities (Barasso 2018). Additionally, the act requires that drinking water systems that serve more than 3,300 people develop or update risk assessments and emergency response plans. Risk assessments and emergency response plans must be certified by the USEPA within the deadline specified by the act.

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 from their municipal separate storm water systems (MS4s). 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; set prohibitions on discharges not specifically allowed under the permit; and establish provisions that describe required actions by the discharger, including industrial pretreatment, pollution prevention, self-monitoring, and other activities. Wastewater discharge is regulated under the NPDES permit program for direct discharges into receiving waters and by the National Pretreatment Program for indirect discharges to a sewage treatment plant.

Under the NPDES program, all facilities that discharge pollutants into waters of the United States are required to obtain an NPDES permit. Requirements for stormwater discharges are also regulated under this program. Lake County lies within the jurisdiction of the Central Valley RWQCB (Region 5) and is subject to the waste discharge requirements of the Phase II Small MS4 permit (Order No. 2013-001—DWQ; NPDES Permit No. CAS000004) as amended by Order R5-2023-0047.

Under Provision E.12 of the MS4 Permit, the co-permittees use their planning authorities to include appropriate source control, site design, and stormwater treatment measures in new development and redevelopment projects to address both soluble and insoluble stormwater runoff pollutant discharges and prevent increases in runoff flows from new development and redevelopment projects. This goal is accomplished primarily through the implementation of low impact development techniques. In addition, projects that create and/or replace one acre or more of impervious surfaces must comply with the hydromodification requirements specified in the E.12.f provisions of the MS4 permit. For Lake County, these requirements include implementing stormwater control measures such that the post-project runoff does not exceed estimated pre-project flow rate for the 2-year, 24-hour storm.

Resource Conservation and Recovery Act

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.

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.

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.

STATE

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Water Code Sections 13000 et seq.) was passed in 1969 and amended in 2013. It is the basic water quality control law for California. Under this act, the SWRCB has authority over State water rights and water quality policy. The act divided

the state into nine regional basins, each under the jurisdiction of a Regional Water Quality Control Board (RWQCB), to oversee water quality on a day-to-day basis at the local and regional levels. RWQCBs engage in various water quality functions in their respective regions and regulate all pollutant or nuisance discharges that may affect either surface water or groundwater. The Central Valley RWQCB (Region 5) oversees Lake County.

State Water Resources Control Board

In California, the SWRCB has broad authority over water quality control issues for the State. 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. It also regulates public drinking water systems, NPDES wastewater discharges, water quality monitoring, water recycling programs, landfill disposal, water rights, and implements drought restrictions. Lake County is within the jurisdiction of the Central Valley RWQCB (Region 5).

Phase II Small MS4 General Permit

The SWRCB adopted the General Permit for Stormwater Discharges from Phase II Small Municipal Separate Storm Sewer Systems under Order No. 2013-0001-DWQ (Statewide Phase II Small MS4 Permit) on February 5, 2013. Since 2013, the State Water Board adopted five amendments to this permit. The Statewide Phase II Small MS4 Permit, regulates stormwater discharges from municipal areas serving populations less than 100,000 that are either within a census-defined ("urbanized area") or designated as subject to the permit requirements. The State Phase II Small MS4 Permit was amended in December 2017 to include the adopted Trash Policy Implementation plan and Total Maximum Daily Load (TMDL) requirements.

Under Provision E.6 of the MS4 Permit, the co-permittees use their planning authorities to include appropriate source control, site design, and stormwater treatment measures in new development and redevelopment projects to address both soluble and insoluble stormwater runoff pollutant discharges and prevent increases in runoff flows from new development and redevelopment projects. Regulated projects include new development and redevelopment projects that create and/or replace 5,000 square feet or more of impervious surface. This goal is accomplished primarily through the implementation of low impact development techniques. In addition, projects that create and/or replace greater than 22,000 square feet of impervious surface must implement peak flow controls to match pre-development peak flows from the 2-year, 24-hour rain event.

Division of Drinking Water

The California Division of Drinking Water (DDW) regulates public water systems within California; oversees water recycling projects; permits water treatment devices; and supports and promotes water system security. The Division of Financial Assistance provides funding opportunities for drinking water system improvements; provides support for small water

systems and for improving technical, managerial, and financial capacity; and certifies drinking water treatment and distribution operators. The Field Operations Branch of the Division of Drinking Water 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. All public water systems in Lake County are under the purview of the DDW. Additionally, the public water systems that obtain surface water from Clear Lake are required to submit a watershed sanitary survey to DDW every five years.

The DDW regulates small public water systems, which applies to most of the water purveyors in Lake County. Small public water systems are defined as serving 15 to 2,999 connections or delivering less than 3,000 acre-feet of water in a year. There are three categories of small public water systems:

- A community water system has at least 15 service connections used by yearlong residents or regularly serves at least 25 or more yearlong residents. This typically includes subdivisions, mutual water companies, mobile home parks, and similar residential areas.
- A non-transient non-community (NTNC) water system regularly serves at least 25 or more of the same people for six months of the year.
- A transient non-community (TNC) water system does not regularly serve at least 25 or more of the same people over six months of the year. This typically includes restaurants, campgrounds, small grocery stores and other retail stores, wineries with tasting rooms, motels, and other nonresidential uses.

If the water system serves at least five connections but not more than 14 connections and does not regularly serve water to more than an average of 25 people per day for more than 60 days of the year, it is classified as a state small water system and is regulated by the County's Environmental Health Department.

General Water Discharge Requirements for Small Domestic Wastewater Treatment Systems

Monthly flow of 100,000 gallons per day (gpd) or less that discharge to land are eligible for coverage under SWRCB Order No. WQ 2014-0153-DWQ established in 2014. This includes individual residences, rural parks, schools, campgrounds, mobile home parks, roadside rest stops, small commercial or residential subdivisions, restaurants, resort hotels/lodges, small correctional facilities, temporary firefighting camps, and recreational vehicle (RV) dump locations, including RV parks. A small domestic system that uses subsurface disposal may be

regulated by a local agency consistent with the Onsite Wastewater Treatment Systems (OWTS) Policy, rather than the RWQCB.

OWTS Policy Implementation Program

In 2012, the SWRCB adopted the Water Quality Control Policy for Siting, Design, Operation, and Maintenance of OTWS (OTWS Policy). The goal of the OWTS Policy is to allow the continued use of OWTS, while protecting water quality and public health and preventing excessive OWTS densities. The OWTS Policy establishes a statewide, risk-based, tiered approach for the regulation of OWTS installations and replacements and sets the level of performance and protection expected from OWTS. This policy also waives the requirements of OWTS owners to apply for and receive Waste Discharge Requirements to operate their systems as long as they meet the conditions set forth in the policy.

The following risk tiers require increasing RWQCB oversight of local agencies.

- Tier 0 covers properly functioning, existing OWTS with up to 10,000 gallons per day of projected flow. These require no change in local codes and ordinances.
- Tier 1 covers low-risk new and replacement OTWS with up to 3,500 gallons per day of projected flow and the OWTS Policy provides conservative, largely prescriptive default standards.
- Tier 2 covers new and replacement OWTS with up to 10,000 gallons per day of projected flow that do not meet Tier 1 standards.
- Tier 3 includes OWTS less than 600 feet from CWA Section 303(d) listed impaired water bodies for nitrates and pathogens. For these OWTS, the local agency management program (LAMP) must include Advanced Protection Management Programs.
- Tier 4 covers failing OWTS and specifies minimum corrective actions. Pursuant to the OWTS Policy, all LAMPs must submit annual reports to the RWQCB in their jurisdiction, summarizing (1) the number, location, and description of permits issued for new and replacement OWTS; (2) applications and registrations for the local septic tank cleaning companies; and (3) the number and location of complaints pertaining to OWTS operation and maintenance and how they were resolved.

Lake County is regulated under Tier 1 (Central Valley RWQCB 2012).

General Waste Discharge Requirement

On May 2, 2006, the SWRCB adopted a General Waste Discharge Requirement (Order No. 2006-0003-DWQ) and a monitoring and reporting program (Order No. WQ-2013-0058-EXEC) for all publicly owned sanitary sewer collection systems in California with more than one mile of sewer pipes. The order provides a consistent statewide approach to reducing sanitary sewer overflows (SSOs) by requiring public sewer system operators to take all feasible steps to control the

volume of waste discharged into the system, to prevent sanitary sewer waste from entering the storm sewer system, and to develop a Sewer System Management Plan (SSMP). The General Waste Discharge Requirement also requires that SSOs be reported to the SWRCB using an online reporting system. The SWRCB has delegated authority to the nine RWQCBs to enforce these requirements within their regions.

A SSMP evaluates existing sewer collection systems and provides a framework for minimizing the frequency and impact of SSOs. The SSMP includes an overflow emergency response plan; a fats, oil, and grease control program; scheduled inspections and condition assessment; design and construction standards; capacity assessment and management; and a monitoring program.

Irrigated Lands Regulatory Program

The SWRCB has delegated authority for implementation of the Irrigated Lands Regulatory Program (ILRP) to the RWQCBs. The Central Valley RWQCB is responsible for enforcing this requirement. Under the ILRP, all commercial irrigated lands are required to obtain regulatory coverage, with the following exceptions: (1) if the property is not used for commercial purposes; (2) if the land is not irrigated (i.e., dry farming); and (3) if the irrigated land is covered under another program, such as dairy, poultry, or bovine. Coalitions work with growers to assist in complying with the regulatory requirements by conducting monitoring and preparing and filing plans and reports to address water quality issues. Growers can also apply for individual coverage and conduct their own monitoring and reporting. The regulatory requirements are provided in the *Waste Discharge Requirements – General Order for Growers within the Sacramento River Watershed that are Members of the Third-Party Group* (Order R5-2104-0030-11, with the latest amendment in 2023). The Lake County Farm Bureau is responsible for implementing the ILRP as part of the Sacramento Valley Water Quality Coalition (Lake County FBEC 2019).

Mandatory Water Conservation

Following the declaration of a state of emergency on July 15, 2014, due to drought conditions, the SWRCB adopted Resolution No. 2014-0038 for emergency regulation of statewide water conservation efforts (SWRCB 2014). These regulations, which went into effect on August 1, 2014, were intended to reduce outdoor urban water use and persuade all California households to voluntarily reduce their water consumption by 20 percent. The SWRCB readopted the regulations several times, most recently requiring local water agencies to implement Level 2 drought contingency plans. In March 2023, the Governor announced the lifting of some of the drought restrictions following a wet winter, including the Level 2 demand reduction actions. Water companies with 3,000 or more service connections were required to report monthly water consumption to the SWRCB. None of the water purveyors in Lake County fall under this requirement. However, each water purveyor has the authority to implement their own water conservation measures.

The Special Water Districts operated by Lake County (CSA Number 13, 2, 20, 21, and Kelseyville County Water Works District No. 3) have developed their own Drought Management Plan (Lake County SDA 2021).

Safe and Affordable Funding for Equity and Resilience

The SWRCB also conducts a risk assessment for all community water systems, which is provided on the SWRCB's Safe and Affordable Funding for Equity and Resilience (SAFER) website (SWRCB 2024c). Each water system is assessed across four risk indicator categories: water quality; accessibility; affordability; and technical, managerial, and financial (TMF) capacity. There are four potential status categories: not at risk, potentially at risk, at risk, or failing. A failing status does not necessarily mean that the water system has exceeded federal or state drinking water standards. It could receive a failing status due to lack of affordability or source capacity violations.

Recycled Water Regulations

Two State agencies have primary responsibility for regulating the application and use of recycled water: the California Department of Public Health (CDPH) and the SWRCB. The CDPH establishes the statewide effluent bacteriological and treatment reliability standards for recycled water uses in California Code of Regulations, Title 22, Division 4, Environmental Health. Title 22 establishes standards for each general type of use based on the potential for human contact with recycled water. The SWRCB is responsible for establishing and enforcing requirements for the application and use of recycled water in California. Permits are required from the SWRCB for water recycling operations. As part of the permit application process, applicants are required to demonstrate that the proposed recycled water operation would not exceed the ground and surface water quality objectives in the basin management plan and that the operation is compliant with Title 22 requirements.

There are three water purveyors in Lake County that use recycled water: the City of Lakeport, Lake County Special Reclamation, and Northern California Power Agency - Middletown.

Sustainable Groundwater Management Act

On September 16, 2014, a three-bill legislative package was signed into law collectively known as the Sustainable Groundwater Management Act (SGMA). The Governor's signing message states "a central feature of these bills is the recognition that groundwater management in California is best accomplished locally." Under the roadmap laid out by the legislation, local and regional authorities in medium and high priority groundwater basins must form groundwater sustainability agencies (GSAs) that oversee the preparation and implementation of groundwater sustainability plans (GSPs).

Out of the 12 groundwater basins in Lake County, only Big Valley groundwater basin is designated as a medium-priority basin and has a GSP. The Lake County Watershed Protection District is the GSA and prepared the GSP, which was approved by the Department of Water Resources (DWR) in 2023. The other groundwater basins and groundwater source area are designated as very low-priority basins and are under the purview of Lake County's Groundwater Management Plan (Lake County WPD 2006a).

2018 Water Conservation Legislation

In 2018, the California Legislature enacted two policy bills (Senate Bill [SB] 606 and Assembly Bill [AB] 1668) to establish long-term improvements in water conservation and drought planning to adapt to climate change and longer and more intense droughts in California (DWR 2025). The framework applies to both urban and agricultural water use. The DWR and the SWRCB standards apply to indoor residential water use; outdoor residential water use; commercial, industrial, and institutional water use for landscape irrigation with dedicated meters; and water loss.

Small water suppliers (all water systems in Lake County) do not have to follow all the legislative mandates that are required of large water purveyors. However, small water suppliers with 1,000 to 2,999 service connections are required to implement drought preparedness measures and prepare abridged water shortage contingency plans. These suppliers have separate reporting requirements under DDW's Electronic Annual Reporting. For small water suppliers with less than 1,000 connections, drought planning elements must be incorporated into their existing emergency notification and response plan.

California Water Code

The California Water Code (CWC) states that the water resources of the State must be put to beneficial use and that waste or unreasonable use of water should be prevented. The code is divided into several sections that include provisions regarding water quality, formation of irrigation districts and water districts, safe drinking water, and water supply and infrastructure improvements.

CWC Section 13751 requires a Well Completion Report (WCR) to be completed by each person who digs, bores, or drills a water well, cathodic protection well, groundwater monitoring well, or geothermal heat exchange well or abandons or modifies an existing well. The WCR should be filed with the DWR within 60 days of the date that construction, alteration, abandonment, or destruction of a well is completed (DWR 2022). Completed WCRs are sent to and maintained at the DWR regional office that serves the area where the well is located.

CWC Section 10912 requires a Water Supply Assessment (WSA) that demonstrates that water demands would not exceed water supplies for residential development projects with more than 5000 dwelling units, commercial or industrial development employing more than 1,000 people,

or similar. CWC Section 10912 also stipulates that if a public water system has fewer than 5,000 service connections, then any proposed development that would increase connections by 10 percent or more would be required to prepare a WSA.

Executive Orders N-7-22 and N-3-23

The Executive Orders N-7-22 and N-3-23 issued by the Governor in 2022 and amended in 2023 contain well permitting requirements for local agencies to enforce to lessen the effects of intense drought conditions in California. The order states that a permit for a new groundwater well or alteration of an existing well in a groundwater basin subject to the SGMA and classified as a medium- or high-priority basin (i.e., Big Valley groundwater basin) shall not be issued without first obtaining written verification from a GSA managing the basin that the groundwater extraction would not be inconsistent with any sustainable groundwater management program established in the GSP and would not decrease the likelihood of achieving the sustainability goal for the basin. In addition, before issuing the permit, it must be determined that extraction of groundwater from the proposed well will not interfere with the production or functioning of existing nearby wells and is not likely to cause subsidence. This order does not apply to wells that would provide less than 2 AFY of groundwater for individual domestic users, or wells that would exclusively provide groundwater to public water supply systems.

Water Conservation in Landscaping Act of 2006

The Water Conservation in Landscaping Act (AB 1881) required the DWR to update the State of California's Model Water-Efficient Landscape Ordinance (MWELO). Under AB 1881, cities and counties were required to adopt the State's MWELO or to adopt a different ordinance that is at least as effective in conserving water as the State's MWELO.

The MWELO was revised in July 2015 via Executive Order B-29-15 to address the ongoing drought and to build resiliency for future droughts. The 2015 revisions to the MWELO increased water-efficiency standards for new and retrofitted landscapes through more efficient irrigation systems, greywater usage, and on-site stormwater capture and by limiting the portion of landscapes that can be covered in turf. Each city and county is required to submit annual reports to DWR that document how the agency is achieving compliance with the State MWELO and how many projects were subject to the ordinance during the annual reporting period. These regulations are found in Section 5-43, *The Updated Model Water Efficient Landscape Ordinance,* of Chapter 5, *Building Regulations,* of the Lake County Code of Ordinances (LCCO).

California Building Code

CALGreen

The California Building Standards Commission adopted the nation's first green building standards in July 2008, the California Green Building Standards Code, also known as CALGreen.

CALGreen applies to the planning, design, operation, construction, use, and occupancy of every newly constructed building or structure in California. It includes mandatory requirements for new residential and nonresidential buildings throughout California. CALGreen is intended to (1) reduce greenhouse gas (GHG) emissions from buildings; (2) promote environmentally responsible, cost-effective, healthier places to live and work; (3) reduce energy and water consumption; and (4) respond to the directives by the governor. The 2025 CALGreen, which builds off the 2022 CALGreen, was adopted on September 11, 2025, and becomes effective starting January 1, 2026. The County regularly adopts each new CALGreen update under LCCO Section 5-4G, *Adoption of California Green Building Code*. The building efficiency standards are enforced through the County's permit process.

CALGreen establishes planning and design standards for sustainable site development, including water efficiency and water conservation measures that typically reduce water consumption by 20 percent. CALGreen updates allow for consideration and possible incorporation of new low flow plumbing fixtures and water efficient appliances.

CALGreen Section 5.408, *Construction Waste Reduction Disposal and Recycling*, mandates that, in the absence of a more stringent local ordinance, a minimum of 65 percent of non-hazardous construction and demolition debris must be recycled or salvaged. CALGreen requires applicants to prepare and submit a Construction and Demolition Recycling & Waste Reduction Plan, which is submitted to the County for approval. For on-site sorting of construction debris, which is submitted to the County for approval. The plan must:

- Identify the materials to be diverted from disposal by recycling, reuse on the project, or salvage for future use or sale.
- Specify if materials will be sorted on-site or mixed for transportation to a diversion facility.
- Identify the diversion facility where the material collected will be taken.
- Supply weight tags for the entire period of the project for compliance review.

CALGreen also includes provisions to reduce construction waste, make buildings more efficient in the use of materials and energy, and reduce environmental impact during and after construction. CALGreen contains requirements for construction site selection, stormwater control during construction, construction waste reduction, indoor water use reduction, material selection, natural resource conservation, site irrigation conservation, etc. CALGreen provides design options, allowing the designer to determine the best way to achieve compliance for a given site or building condition. CALGreen also requires building commissioning, which is a process for verifying that all building systems (e.g., heating and cooling equipment and lighting systems) function at their maximum efficiency.

California Plumbing Code

The latest version of the California Plumbing Code (CPC) was issued in 2022 and became effective as of January 1, 2023. The CPC is updated on a three-year cycle. It specifies technical standards for the design, materials, workmanship, and maintenance of plumbing systems. One of the purposes of the CPC is to prevent conflicting plumbing codes within local jurisdictions. Among many topics covered in the CPC are water fixtures, potable and non-potable water systems, and recycled water systems. The County adopts the latest version of the CPC under Section 5.-4D*, Adoption of California Plumbing Code*, in the LCCO. The next iteration of the CPC will become effective starting January 1, 2026.

California Energy Code

The State of California provides a minimum standard for energy conservation through Title 24, Part 6 California Code of Regulations, commonly referred to as the California Energy Code. The California Energy Code was first adopted by the California Energy Resources Conservation and Development Commission (now the CEC) in June 1977. The standards are updated on a three-year cycle to allow for consideration and possible incorporation of new energy efficiency technologies and methods. The 2022 standards require mixed-fuel single-family homes to be electric ready to accommodate replacement of gas appliances with electric appliances. In addition, the standards also include prescriptive photovoltaic systems and battery requirements for high-rise, multifamily buildings (i.e., more than three stories) and non-commercial buildings such as hotels, offices, medical offices, restaurants, retail stores, schools, warehouses, theaters, and convention centers (CEC 2021). The 2025 Building Energy Efficiency Standards will replace the 2022 Building Energy Efficiency Standards and will become effective on January 1, 2026.

Integrated Waste Management Act

California's Integrated Waste Management Act of 1989 (AB 939) requires that cities and counties divert 50 percent of all solid waste from landfills as of January 1, 2000, through source reduction, recycling, and composting. This act requires that each city and county prepare a Source Reduction and Recycling Element to be submitted to the Department of Resources Recycling and Recovery (CalRecycle), a department within the California Natural Resources Agency. The act also establishes a goal for all California counties to provide at least 15 years of ongoing landfill capacity.

In 2007, SB 1016 amended AB 939 to establish a per capita disposal measurement system, which is calculated as a jurisdiction's reported total disposal of solid waste divided by a jurisdiction's population. CalRecycle sets a target per capita disposal rate for each jurisdiction. Each jurisdiction must submit an annual report to CalRecycle with an update of its progress in implementing diversion programs and its current per capita disposal rate.

Mandatory Commercial Recycling Act

The Mandatory Commercial Recycling Act, commonly referred to by its legislative number AB 341 (Chapter 476, Statutes of 2011) increases the statewide waste diversion goal to 75 percent, and mandates recycling for businesses producing four or more cubic yards of solid waste per week or multi-family residential dwellings of five or more units. The act is designed to reduce GHG emissions in the state by 5 million metric tons of carbon dioxide equivalents.

Mandatory Organics Recycling Act

The 2014 Mandatory Organics Recycling Act commonly referred to by its legislative number AB 1826, mandates organic waste recycling for businesses and multifamily dwellings with five or more units. All generators of 2 cubic yards or more of garbage, recycling, and compost combined per week must recycle organic waste. Organic waste includes food scraps, food-soiled paper waste, yard trimmings, and landscape materials. Organic waste can be recycled through composting, mulching, and anaerobic digestion which produces renewable energy and fuel. In addition to recycling food scraps, donating surplus food to local food banks can be part of the compliance effort. Multi-family dwellings do not need to have food-waste recycling on-site but must recycle yard and landscape materials.

California Short-Lived Climate Pollutants Act

The California Short-Lived Climate Pollutants Act, commonly referred to by its legislative bill number SB 1383, focuses on the elimination of methane gas created by organic materials in landfills. Organic waste makes up half of what Californians send to landfills. This act requires all businesses and residents to divert organic materials (including food waste, yard waste, and soiled paper products) from the landfill. This act requires that organics collection service be provided to all residents and businesses. Also, an edible food recovery program must be established by 2025 with the goal of recovering edible food for human consumption (CalRecycle 2021b). This act also requires jurisdictions to purchase recycled-content paper products that are recyclable. Jurisdictions must maintain records certifying the minimum recycled content and recyclability of paper purchases.

California Solid Waste Reuse and Recycling Access Act

The California Solid Waste Reuse and Recycling Access Act requires development projects to set aside areas for collecting and loading recyclable materials. The act required CalRecycle to develop a model ordinance for adoption by any local agency relating to 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, governing adequate areas in development projects for collection and loading of recyclable materials.

California Public Utilities Commission Long Term Energy Efficiency Strategic Plan

Adopted in September 2008 and updated in January 2011, the California Public Utilities Commission (CPUC) Long Term Energy Efficiency Strategic Plan 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-, mid-, and long-term strategies to assist in achieving these goals. The 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.
- All new commercial construction in California will be zero net energy by 2030.
- Heating, ventilation, and air conditioning 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.

The CPUC and CEC adopted the following to achieve zero net energy 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.

Appliance Efficiency Regulations

California's Appliance Efficiency Regulations 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 [CCR] Title 20, Parts 1600–1608). These standards are updated regularly to allow consideration of new energy efficiency technologies and methods (CEC 2017).

California Energy Benchmarking and Disclosure

The Building Energy Benchmarking Program is mandated under AB 802 and requires owners of large commercial and multifamily buildings to report energy use to the CEC by June 1 annually. This program applies to all buildings with more than 50,000 square feet of gross floor area and owners of multifamily residential buildings with more than 50,000 square feet and 17 or more

utility accounts. The bill requires each utility, upon the request and authorization of the owner, owner's agent, or operator of a building covered under the regulation, to deliver or provide aggregated energy usage data for a covered building. The required energy usage shall be reported to the CEC through the Energy Star Portfolio Manager.

California Renewable Portfolio Standards

A major component of California's Renewable Energy Program is the renewables portfolio standard established under SB 1078 (Sher) and SB 107 (Simitian). The standard requires that a specified percentage of the electricity that utilities provide comes from renewable resources. Renewable sources of electricity include wind, small hydropower, solar, geothermal, biomass, and biogas. SB 1020, signed into law on September 16, 2022, 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.

REGIONAL

Central Valley Regional Water Quality Control Board

Lake County is under the jurisdiction of the Central Valley RWQCB. The Central Valley RWQCB administers the Phase II Small MS4 Permit for Lake County and has prepared the *Water Quality Control Plan for the Sacramento and San Joaquin River Basins* (Basin Plan), which establishes beneficial uses, water quality objectives, and a program of implementation for water bodies within its jurisdiction. As part of the Basin Plan, the Central Valley RWQCB issued a Clear Lake Nutrient Total Maximum Daily Load (TMDL) in 2006, which established a total phosphorus load that can be introduced into Clear Lake. In 2020, pursuant to CWC Section 13267, the Central Valley RWQCB required the submittal of an updated technical report that addresses all management practices that have been implemented by irrigated agriculture to comply with the load allocation under the Clear Lake Nutrient TMDL, which will reduce phosphorus loads to Clear Lake.

LOCAL

Code of Ordinances

The LCCO includes various directives that pertain to utilities and service systems. The LCCO is organized by chapter, article, and section. Provisions related to utilities and service systems are included in Chapter 5, *Building Regulations*; Chapter 7, *Community Antenna Television Systems;* Chapter 9, *Health and Sanitation*; Chapter 13, *Nuisances;* Chapter 20*, Underground Utility Districts;* Chapter 21, *Zoning*; Chapter 23, *Clear Lake Shoreline*; Chapter 25, *Floodplain Management;* Chapter 28, *Groundwater*; Chapter 29, Storm Water Management Ordinance; and appendices as follows:

- **Chapter 5, Article 4, Section 5-43, *Updated Model Water Efficient Landscape Ordinance***. This section adopts the MWELO promulgated by the DWR. All projects that include new construction with a total landscape area greater than 500 square feet and rehabilitation of a landscape area greater than 2,500 square feet are required to submit a Landscape Documentation Package to the Community Development Department prior to the issuance of building permits.
- **Chapter 7, *Community Antenna Television Systems*:** This chapter governs licensing of cable and television (CATV) television systems in the county, and includes the requirements for permitting, installing, and providing CATV services. Section 7-17, *Locations, Construction and Undergrounding*, requires that in areas where the transmission or distribution facilities of both the public utility providing telephone service and those of the utility providing electric service are underground or may be placed underground, CATV transmission and distribution facilities should also be constructed, or reconstructed, operated and maintained underground.
- **Chapter 9, Article 1, Section 9-2, *Public Dumps***. This section states that it is unlawful to place, deposit, or dump the body of a dead animal or fish or any septic tank effluent in or upon any of the public dumps in Lake County. It also institutes a surcharge fee for any vehicle arriving at Eastlake Landfill or Lakeport Transfer Station with unsecured or inadequately covered loads.
- **Chapter 9, Article 2, *Garbage and Refuse.*** The article provides requirements for customers of the garbage collection providers, requirements for commercial/industrial refuse enclosures and need to prepare a Refuse/Litter Control Plan for these properties that don't have screened enclosures. The article also outlines requirements for solid waste disposal sites (i.e., Eastlake Sanitary Landfill and Lakeport Transfer Station) regarding hours of operation, prohibited items, tire disposal permits, and gate fees.
- **Chapter 9, Article 6 – *Protection of Water Systems.*** Pursuant to Section 450 of the California Health and Safety Code and Title 17, Section 1174 et seq. of the California Administrative Code, this article establishes a cross-connection control program for the following purposes:
  - To protect the public water supply against actual or potential cross-connections by isolating within the premises contamination or pollution that may occur because of some undiscovered or unauthorized cross-connection on the premises.
  - To eliminate existing connections between drinking water systems and other sources of water that are not approved as safe and potable for human consumption.
  - To eliminate cross-connections between drinking water systems and other sources of water or process water used for any purpose which jeopardizes the safety of the drinking water supply.
  - To prevent cross-connections in the future.

- **Chapter 9, Article 8, *Regulation of Wells and Preservation of Groundwater*:** This article regulates the construction, repair, and reconstruction of wells and the destruction of abandoned wells so that water obtained from wells is suitable for its intended and actual use and the groundwater of Lake County is not polluted or contaminated by such wells. This article requires that permits be obtained from the County's Health Officer prior to the construction, repair, reconstruction, demolition, or abandonment of any well, monitoring well, or cathodic protection well within the unincorporated area of Lake County.
- **Chapter 13, Article 2, *Removal of Rubbish/Weeds*.** Section 13-10 prohibits any property in Lake County to accumulate weeds, dead trees, or brush or allow rubbish or other refuse to accumulate, which is declared to a public nuisance. Owners or tenants of the property are required to remove all garbage and/or refuse accumulated on such premises. Trash disposal must be made in an appropriate manner through a trash pick-up service, self-haul to an approval disposal site, or properly composting in a backyard compost pile. Administrative penalties are also provided in Section 13-13.
- **Chapter 18, *Taxation***. Under Article IV, *Electricity Generation Tax*, an excise tax is imposed on every person that generates electricity from geothermal resources extracted in Lake County. The tax is paid quarterly to the Lake County Tax Collector and is based on a rate not to exceed six percent of the gross market value of the electricity generated.
- **Chapter 20, *Underground Utility Districts*:** The requirements of this chapter govern areas in the unincorporated area of the County within which poles, overhead wires, and associated overhead structures are prohibited.
- **Chapter 21, Article 65, Section 21-65 *Surface Domestic Water Source Mitigation and Reimbursement*:** It is the policy of Lake County that all possible significant or adverse impacts to surface domestic water sources from all major developments be mitigated in a manner wherein the costs are shared equitably by all those who cause the impacts. To accomplish this goal, this article establishes a method by which use permit holders, who are required to carry out a complete mitigation measure as a condition of approval for their project, are reimbursed by subsequent use permit holders who, but for the already implemented mitigation measures would have caused a significant impact to domestic surface water sources.
- **Chapter 23, *Clear Lake Shoreline*:** The purpose of this chapter is to improve and protect the public's interest in the waters and the bed of the waters in and around Clear Lake. A site water quality plan may be required by Lakebed Management if it is determined that a proposed project could increase sedimentation into Clear Lake. This chapter prohibits undertaking any of the following activities within the nearshore or foreshore without first obtaining an administrative encroachment permit from Lakebed Management:
  - Constructing or placing any pier, boat ramp, boat launching facility, navigational structure, buoy, jetty, breakwater, marina, harbor, shore zone protective structure, or any other improvement, a portion of which lies within the foreshore or nearshore.
  - Filling or dredging.

- Constructing or placing in the lake any cable, pipeline, or subaqueous conduit.
- Any use, operation, or activity with a significant impact on the public trust purposes of commerce, navigation, recreation, and fisheries.
- Beach clearing.

- **Chapter 25, *Floodplain Management:*** The purpose of this chapter is to minimize public and private losses due to flood conditions in flood prone specific areas. In order to accomplish its purposes, this chapter includes methods and provisions to:
  - Restrict or prohibit uses which are dangerous to health, safety, and property due to water or erosion hazards, or which result in damaging increases in erosion or flood heights or velocities.
  - Require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction.
  - Control the alteration of natural floodplains, stream channels, and natural protective barriers, which help accommodate or channel flood waters.
  - Control filling, grading, dredging, and other development which may increase flood damage.
  - Prevent or regulate the construction of flood barriers which will unnaturally divert flood waters, or which may increase flood hazards in other areas.
  - This chapter includes provisions that need to be met by all new construction in special flood hazard areas such as anchoring, elevation floodproofing, and special construction materials and methods.

- **Chapter 28, *Groundwater*:** The purpose of this chapter is to foster prudent water management practices to avoid significant adverse overdraft-related environmental, social, and economic impacts. This chapter requires a permit to extract or otherwise capture groundwater for any use outside the county. This chapter requires a permit for the export and use of groundwater outside the county and is not intended to regulate groundwater in any other way.
- **Chapter 29, *Storm Water Management Ordinance*:** The purpose of this chapter is to protect and enhance the water quality of water courses, and water bodies within the unincorporated area of the County in a manner pursuant to and consistent with the CWA, by reducing pollutants in storm water discharges to the maximum extent practicable and by prohibiting non-storm water discharges. The provisions of this chapter apply to all water entering the County storm drainage system or natural surface waters generated or deposited on any developed or undeveloped lands in the unincorporated area of Lake County. This chapter applies to facilities and premises subject to and in compliance with the Phase II Small MS4 General Permit, the General Construction Permit, the General Industrial Permit, the County Grading Ordinance, County Building Permit, and/or any other instrument of the County that establishes pollutant control provisions for construction activities.

- **Appendix A – *Sewer Use Ordinance – Lake County Sanitation District.*** This ordinance requires any owner of a building that is within 200 feet of a public sewer within the Lake County Sanitation District (LACOSAN) to connect the building to the sewer in accordance with the provisions of this ordinance. A permit and payment of all fees and connection charges is also required, and the connection must be in accordance with the Standards and Specifications of Lake County for sanitary sewers. Additionally, all new projects that consist of four or more single family dwelling equivalents to prepare a hydraulic analysis of the sewer collection and treatment capacity for County review prior to connection to the existing wastewater collection system.
- **Appendix B – *Sewer Use Ordinance – Adopted for Other Districts*.** This ordinance applies to Lake County CSA No. 13, Kono Tayee, and Kelseyville County Waterworks District No. 3 and regulates the use of public sewers, installation and connection of building sewers, laterals, and extensions, and establishes permits and fees for installation and connection.
- **Appendix C – Sewer Service Charge Ordinance.** This ordinance establishes sewer service charges and connection fees for Kelseyville County Waterworks District No. 3 and Anderson Springs.
- **Appendix D – *Cross-Connection Control Program – Kelseyville County Waterworks District No. 3*.** This ordinance establishes a cross-connection control program to protect the public water system and requires that any person or entity that installs or maintains a cross connection on any premises shall obtain a permit for such cross connection from the County Utilities Manager.
- **Appendix E, *Water Conservation Standards, Kelseyville County Waterworks District No. 3*.** This ordinance establishes water conservation standards that apply to all buildings served by the Lake County Sanitation District. The purpose of this ordinance is to reduce the use of potable water within the service area and thereby reduce sewer flows to the wastewater treatment facilities. All plumbing fixtures in existing structures shall at the time of change of ownership or change of use be retrofitted with low water-use plumbing fixtures as defined by the ordinance.
- **Appendix F – *Mandatory Water Connection to County Service Area No. 6, Finley Water*.** Every building or structure within the CSA No. 6 service area shall be connected to the CSA No. 6 water system, where water service is available.
- **Appendix G – *Mandatory Water Connection to Kelseyville County Waterworks District No. 3.*** Every building or structure within the Kelseyville County Waterworks District No. 3 service area shall be connected at the property owner's expense to the water system, where service is available. The ordinance also establishes connection fee charges and capacity expansion fees.

Design and Construction Standards

The Lake County Special Districts Administration has adopted water system design and construction standards for all water systems within Lake County that are operated as County Service Areas. The standards specify construction materials, connections to existing water mains, sizing criteria, meters for domestic and irrigation services, and fire system requirements (Lake County SDA 2013).

The Lake County Sanitation District Design and Construction Standards are applicable for the following wastewater service areas: Clearlake, Lower Lake, Middletown, Nice, Lucerne, Upper Lake, Paradise Valley, Kono Tayee, North Lakeport, Finley/Lands End, Corinthian Bay, and South Lakeport. For new projects, the project engineer must submit design calculations to Lake County Sanitation District for review and approval. The calculations must include manhole designation, tributary areas and population, incremental average and maximum domestic sewage flows, infiltration allowance, design flow, invert elevation, and length, size, slope, capacity, and velocity of the sewer run. Sewer profiles must also be prepared. Design criteria are based on the flow characteristics for each sanitation zone, which are available at the Lake County Sanitation District's Administrative office or the Lake County Community Development Department. Material specifications are also provided in the Design and Construction Standards along with standard drawings (Lake County Sanitation District 2013).

The Kelseyville County Waterworks District No. 3 has design and construction standards for sanitation facilities and sewer connections within the Kelseyville service area as well as water design and construction standards. The Kelseyville County Waterworks District Design and Construction Standards are similar to the Lake County Sanitation District's Design and Construction Standards, with design criteria applicable to the sanitation zones within the Kelseyville service area (Kelseyville CWD 2013).

The City of Lakeport also has design and construction standards for sewer system improvements, which are provided in Appendix 5 of the Sewer System Management Plan. All connections and modifications to the sanitary sewer must be reviewed and approved by Clear Lake Municipal Sewer District as a condition of the building permit.

Environmental Health Department

The Lake County Environmental Health Department (EHD) has jurisdiction over small public water systems that have between five and fourteen connections. Larger public water systems are regulated by the DDW, Santa Rosa Office. The EHD issues permits and conducts inspections in accordance with the California Health and Safety Code. All small public water systems must also prepare an Emergency Notification Plan for approval by EHD. Water quality sampling is also required with results submitted to the EHD for review.

The Land Development Program under EHD reviews the plans for groundwater wells, issues permits for the construction and destruction of wells and soil borings, and conducts inspections during drilling to ensure that wells and soil borings are installed or destroyed in a manner that does not contaminate the County's groundwater. Applications must be submitted to EHD along with a fee payment for review and approval. All groundwater wells must comply with the standards and procedures specified in LCCO Chapter 9, Article VIII, *Regulation of Wells and Preservation of Groundwater*.

The Land Development Program under EHD also regulates OWTSs. The Lake County Rules and Regulations for On-site Sewage Disposal provide the general standards, prohibitions, and requirements for on-site sewage disposal systems, as well as site evaluation procedures (Lake County EHD 2010).

An applicant for a new OTWS system must first provide an application to EHD with site maps and plans as well as the preparation of two holes on the property for the percolation testing. A qualified inspector from EHD will conduct an onsite evaluation of site conditions and perform the percolation testing. EHD will prepare a site evaluation report that specifies the approved leach field area, the type and size of the septic system required, and any other special requirements. An applicant then would apply for a septic permit with detailed specifications for the installation of the system. Once a permit has been obtained, the OWTS must be installed by a licensed C42 sanitation contractor. After installation, EHD would inspect the system and issue a Certificate of Satisfactory Completion.

Watershed Protection District

The Lake County Watershed Protection District (LCWPD) works to protect and maintain water resources within Lake County. LCWPD administers the National Flood Insurance Program for Lake County, manages the municipal stormwater program, plans and implements flood control projects, and conducts groundwater management and watershed management programs. LCWPD also maintains 10.5 miles of levees and 13.4 miles of creeks and a groundwater detention structure in Kelsey Creek. LCWPD also operates the Adobe Creek Reservoir, the Highland Creek Reservoir, the Highlands Spring Park, and administers the invasive Mussel Prevention Program. LCWPD maintains culverts only on LCWPD projects/property. LCWPD cooperates with the County Road Department in upgrading inadequate culverts and bridges, by reviewing designs and providing input. LCWPD is the GSA for the Big Valley Groundwater Sustainability Plan and developed the Lake County Groundwater Management Plan (Lake County WRD 2025). LCWPD reviews plans for parcel maps, subdivisions, and major development to ensure that the design is in accordance with the Lake County Hydrology Design Standards, mitigation of drainage and erosion impacts are addressed, and plans include proper floodplain management. LCWPD recently completed the Stormwater Resources Plan, which identifies and ranks potential stormwater and dry weather runoff capture project. The goals of

the projects are to improve water quality, water supply, and flood control in Lake County (Lake County WPD 2025b).

LCWPD also recently prepared the Lake County 319 Watershed Plan, which provides a strategy for managing non-point stormwater pollution in Lake County. The objective of the report is to analyze various non-point pollution sources that degrade surface water quality, identify six initial capital projects addressing stormwater pollution, and develop an ongoing project prioritization and implementation methodology (Lake County WPD 2024).

Big Valley Basin Groundwater Sustainability Plan

The Big Valley Basin GSP verifies and maintains sustainable groundwater management in the Big Valley groundwater basin by meeting the regulatory requirements of the SGMA. The Big Valley groundwater basin was identified as a medium-priority basin by DWR based on components such as population and groundwater use; therefore, it is subject to SGMA. The Big Valley Basin GSP was developed by the Lake County Watershed Protection District, which serves as the sole GSA in the Big Valley groundwater basin. The GSA has jurisdiction over most of the region, excluding the portion containing the Big Valley Rancheria, which is governed by the Big Valley Band of Pomo Indians of the Big Valley Rancheria, a federally recognized Tribe (Big Valley GSA 2022). The Big Valley Basin GSP has been approved by DWR.

Groundwater Management Plan

To address water supply reliability and water quality issues, the Lake County Watershed Protection District developed a Groundwater Management Plan (GMP) in 2006 to provide guidance in managing the groundwater resources in Lake County. The 2006 Lake County GMP was prepared prior to the development of the Big Valley GSP but is still relevant in addressing the other 11 groundwater basins within Lake County. The Lake County GMP also addresses one groundwater source area, designated as the Clear Lake Volcanics Groundwater Source Area. The Lake County GMP provides a description of the geology and land use of the area; basin management objectives for each groundwater basin that address groundwater levels, groundwater quality and land subsidence; proposed groundwater monitoring program; and groundwater recharge projects (Lake County WPD 2006a).

Clean Water Program

The Cities of Clearlake and Lakeport, and the Lake County joined planning, collaboration, and implementation efforts to establish the Lake County Clean Water Program (LCCWP). The purpose of the LCCWP is to collectively fulfill the requirements set forth by the NPDES Phase II Small MS4 general permit. LCCWP collectively make decisions and recommends management, budget, or funding actions that can achieve compliance with the NPDES permit and improve storm water management within Lake County (Clarkdale 2022).

Hydrology Design Standards

The Lake County Hydrology Design Standards provide design criteria and the methodology used to estimate peak flows for drainages within Lake County. These standards are utilized for estimating flows in minor waterways (drainage areas less than one square mile) with time of concentrations of less than two hours. The design standards include design criteria for waterways, roadways, and hydrologic design (Lake County WRD 1999).

Stormwater Resources Plan

The Lake County Stormwater Resources Plan documents strategies and measures to manage stormwater and dry weather runoff, improve water quality, and optimize water resources. The Stormwater Resources Plan focuses on groundwater recharge, pollution and stormwater runoff reduction, projects to reduce the effects of wetland and vegetation loss, and restoration of open space and habitat. Potential BMPs to achieve these goals are also identified. The Stormwater Resources Plan describes in detail 17 potential projects that are planned or in the process of implementation to meet the goals (Lake County WPD 2025b).

Countywide Integrated Waste Management Plan

The Countywide Integrated Waste Management Plan (CIWMP) is mandated by State law under AB 939. The purpose of the CIWMP 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 CIWMP serves as the primary tool for designing waste reduction programs that are countywide in scope. The CIWMP also addresses the County's landfill needs in a comprehensive way. Counties are required to submit a Five-Year Review Report of their CIWMP to CalRecycle. The latest Five-Year Review Report of the CIWMP was submitted in March 2021 and approved by CalRecycle in April 2021 (CalRecycle 2021a).

Waste Management and Environmental Health Departments

The Lake County Waste Management Department coordinates and oversees the solid waste activities of waste haulers and landfill/transfer station operators in Lake County in conjunction with the Lake County Environmental Health Department, which is responsible for the inspection of the facilities. Lake County Waste Management Department provides information on residential and commercial collection, hazardous waste disposal, composting and recycling centers, and compliance requirements to meet the State mandated recycling regulations.

The Lake County Department of Environmental Health is the local enforcement agency for solid waste operations. Lake County Department of Environmental Health permits and inspects solid waste haulers, the County’s solid waste landfill, transfer stations, and closed sites. The staff works with other County agencies to combat illegal dumping. The Solid Waste Appeals Panel has been established to resolve differences between the operators of solid waste facilities and the Lake County Department of Environmental Health. The Solid Waste Management Task Force

consists of 15 members and is tasked with developing and overseeing the implementation of an integrated waste reduction plan.

Recycling Handbook

Lake County, in conjunction with CalRecycle, the cities of Lakeport and Clearlake, and the solid waste collection services, have published a recycling handbook that includes information on the Lake County solid waste collection providers, recycling and buy-back facilities within the County, household hazardous waste disposal and collection events, and where to dispose of sharps, used oil and filters, used tires, and bulky items (Lake County PSD 2024). As of January 1, 2021, pressure-treated wood and wood waste is considered a California hazardous waste. The Eastlake Sanitary Landfill can accept treated wood.

Incorporated Cities in Lake County

While the regulations in the two incorporated cities do not widely apply to unincorporated Lake County, the regulations are applicable when resources are shared and are briefly summarized here.

- **City of Lakeport.** The City of Lakeport has storm drain design standards to estimate peak flows for drainages within the city and new development is required to prepare a drainage report for City of Lakeport review prior to the issuance of grading or building permits. The City of Lakeport's Public Works Department charges storm drain development fees that are used to fund the design and construction of storm drain infrastructure improvements to mitigate the impact of new development, specifically with the installation of impervious surfaces (City of Lakeport 2025b).
- **City of Clearlake.** The City of Clearlake completed a Storm Drain Master Plan, which contains a comprehensive assessment of the existing system, hydrologic modeling, and recommendations to improve stormwater infrastructure and reduce flood risks. The City of Clearlake has also adopted drainage design standards to be applied for all drainage improvements within the city, including hydrology maps and hydraulic calculations. The City of Clearlake has established development impact fees to pay for the cost of constructing and improving drainage facilities within the city (City of Clearlake 2025).

3.19.2 Existing Conditions

WATER

Several water systems serve the cities of Clearlake and Lakeport and may not directly serve the unincorporated areas of the county. However, due to the small size of the water systems and reliance on surface water from Clear Lake, these systems are closely connected and therefore described in more detail in the Planning Areas section. The following information comes from

DDW, DWR, Eric Zuniga, Lake County DOA, and SWRCB (DDW 2025; DWR 2024a, 2025; Zuniga 2024; Lake County DOA 2022; SWRCB 2024b)

Countywide Area

Surface water and groundwater are the main sources of water for domestic and agricultural uses in Lake County. The long-term availability of groundwater and surface water resources is a major public concern. Water concerns include a reduction in groundwater levels due to increased pumping rates, deterioration of Clear Lake water quality with sediment and pollutants in stormwater runoff, increases in water demand and supply requirements, surface water rights issues, and changes in the regulatory environment. The critical season for water supply occurs in the late summer when supply is low and water demand is high due to the increased tourist population.

Surface Water Supply

Clear Lake is the primary surface water supply in Lake County. Yolo County Flood Control and Water Conservation District (YCFCWCD) holds the majority of the water rights to Clear Lake, its tributaries, and Cache Creek, which drains into the lake. YCFCWCD holds appropriative water rights that allow them to divert up to 150,000 acre-feet per year (AFY) from Clear Lake under certain conditions. The Solano Decree regulates the summer lake levels and the maximum amount of water that can be diverted. If Clear Lake is full on May 1 of every year (7.56 feet on the Rumsey Gauge), the full allotment of 150,000 AF can be withdrawn. If Clear Lake is below 3.22 feet on the Rumsey Gauge, no water can be withdrawn. The Solano decree sets monthly maximum limits as well (Lake County WPD 2006b). Most of the water purveyors that use surface water must enter into contracts with YCFCWCD to purchase Clear Lake surface water.

A few of the water purveyors adjacent to Clear Lake, including the Highlands Water Company and the City of Lakeport, have limited riparian water rights to Clear Lake. Riparian rights are attached to the land that borders natural waterways and cannot be transferred. Riparian water rights users are held to a standard of “reasonable and beneficial use” and are prohibited from wasting water or unreasonable methods of diversion.

Because of the water quality issues associated with Clear Lake, including algae blooms and sediment loads, all the water purveyors that obtain raw water from Clear Lake are required to treat the water prior to distribution to their customers. Water treatment is difficult because of the unpredictability of the source water quality. The cost of treatment has been increasing and becoming more complex due to increases in sediment loading, water quality impacts from recent wildfires, required compliance with the disinfection byproduct regulations, and recent cyanotoxin sampling requirements.

Most of the water purveyors that use surface water obtain their supplies from Clear Lake with the following exceptions. Lake County CSA #2 – Spring Valley obtains its surface water from the Cache Creek gallery intake. Lake Pillsbury Ranch Water Company obtains its surface water from the Mill Creek intake and Lake Pillsbury Resort and Marina obtains its surface water from Lake Pillsbury. Lazy S Mobile Ranch obtains its surface water from Saint Helena Creek, Harbin Hot Springs obtains its surface water from Boggs Mountain Spring, and Langtry Farms obtains its water from the Langtry Reservoir (DDW 2019; DWR 2022).

Groundwater Supply

Water purveyors that are not near Clear Lake or other surface water bodies obtain their water supplies from groundwater wells. None of the twelve groundwater basins in Lake County are adjudicated; therefore, groundwater users are not required to apply for groundwater rights. However, in accordance with California Executive Order N-3-23, permits for new groundwater wells or alteration of an existing well in the Big Valley groundwater basin will not be issued without first obtaining written verification from a GSA managing the basin that the groundwater extraction would be consistent with any sustainable groundwater management program established in the GSP and would not decrease the likelihood of achieving the sustainability goal for the basin. In addition, it must be determined that the extraction of groundwater from the proposed well will not interfere with the production or functioning of existing nearby wells and is not likely to cause subsidence. This order does not apply to wells that would provide less than two AFY of groundwater for individual domestic users, or wells that would exclusively provide groundwater to public water supply systems.

Groundwater levels typically decline during the summer period and recover during the winter when demands are much lower. During drought periods, the groundwater basins do not fully recover. However, long term hydrographs indicate that annual groundwater extractions are not exceeding annual groundwater recharge, and therefore current groundwater usage is at sustainable levels (DDW 2024c). A detailed discussion of the twelve groundwater basins and one groundwater source area in Lake County is provided in Section 4-10, *Hydrology and Water Quality*, of the Draft EIR, as well as the *Lake County Groundwater Management Plan* and *Big Valley Groundwater Sustainability Plan.*

As reported on the DWR SMGA website, there are approximately 3,881 groundwater wells in Lake County. Most of the wells are domestic wells (80 percent) and irrigation wells (17.5 percent) (DWR 2024a). There are 98 public supply wells in Lake County, with most of the wells serving community water systems (DWR 2024a). Most of the groundwater wells are in the Big Valley groundwater basin, the Scotts Valley groundwater basin, and the Clear Lake Pleistocene Volcanics source area. However, there also are over one hundred wells in the Collayomi Valley and Upper Lake Valley groundwater basins.

Public Water Systems

One of the main challenges faced by Lake County is that there is a patchwork of 81 water systems within Lake County that operate independently, and most are considered small public water systems under SWRCB DDW regulations (DDW 2019). None of the water purveyors have more than 3,000 connections or supply more than 3,000 acre-feet of water per year and therefore are not required to prepare Urban Water Management Plans. Some of the water systems are so small that they just serve a single gasoline station or restaurant. In addition, many residents in rural areas obtain their water from domestic groundwater wells.

There are 44 community water systems, one NTNC water system (Harbin Hot Springs), and 36 TNC water systems in Lake County (DDW 2019). In addition, state small water systems (i.e., systems with between 5 and 14 connections) are permitted and regulated by Lake County's Environmental Health Department (21 number of systems) (DWR 2024c). There are also approximately 1,441 private domestic groundwater wells and 416 irrigation wells in Lake County (DWR 2024a). There are approximately 500 individual intakes that draw water directly from Clear Lake for consumptive use. These private self-supply intakes are not classified as public or as water systems and are not subject to monitoring under State or federal programs. Results of a voluntary monitoring program by Cal-WATCH show that despite point of entry treatment units, many of the intakes tested positive for total coliform, E. coli, nitrates, cyanotoxins, and cyanobacteria (California Rural Water Association 2023).

A variety of sources and documents were used to determine the existing water demand for Lake County. For the larger community water purveyors, information on water usage over the past three years (2021 to 2023) was obtained from the Central Valley RWQCB and then transmitted to Lake County (Lake County Planning 2024). For the smaller community water purveyors and the NTNC and TNC water systems, information was obtained from the SWRCB (Zuniga 2024). There are three failing community water systems and 12 at risk water systems in Lake County (SWRCB 2024c).

In addition, the Geysers has authorization to withdraw water from Clear Lake under the Clear Lake Water Supply Agreement (Lake County Sanitation District 2025). This agreement is between YCFCWCD, Lake County Sanitation District, Northern California Power Agency, and Geyser Power Company. The average amount of water withdrawn by the Geysers between 2020 and 2024 was 4,061 AFY, shown in the Cobb Mountain Planning Area total in Table 3.19-1, *Water Demand – Existing Conditions* (Zuniga 2024).

Agriculture

For agricultural water demand, the latest Lake County crop reports from 2022 were used to determine the acreage for each crop in production, including cannabis (Lake County DOA 2022). In addition, the DWR Statewide Crop Mapping data were used to determine the crop types and

acreage in each local area. The same methodology used in the Lake County Water Inventory and Analysis Report was used to determine the amount of applied water for each crop, accounting for the ETAW (evapotranspiration of applied water) and irrigation efficiency in estimating the amount of applied water per crop (Lake County WPD 2006b). The California Land and Water Use Data for Lake County in Water Year 2020 was used to determine the ETAW and applied water per crop type, with the exception if there were site-specific data available for Lake County (DWR 2024b).[1]

There is a slight reduction (15 percent) in the 2022 agriculture water demand as compared to the demand in 2006. This appears to be the result of a reduction in the acreage planted in pears and walnuts, which have relatively high water demands, and an increase in the acreage of wine grapes, which have much lower water demands per acre. Based on the number of irrigation wells, most of the farming occurs in the Big Valley groundwater basin, Upper Lake groundwater basin, Scotts Valley groundwater basin, and Clear Lake Volcanics Source Area. However, there are several vineyards and wineries north of State Route (SR-) 20 in the East Lake Communities Planning Area.

Table 3.19-1, *Water Demand – Existing Conditions*, shows the water demand per area for both urban and agricultural uses. In general, agricultural water demand is about 82 percent of the total demand.

Table 3.19-1 Water Demand – Existing Conditions

Planning Area	Urban Water Demand (AFY)	Agricultural Water Demand (AFY)	Total Water Demand (AFY)
Cobb Mountain	318	2,497	6,876 [1]
East Lake Communities	2,773	3,649	6,422
Kelseyville	531	11,800	12,331
Lakeport	991	3,386	4,377
Lower Lake	379	4,028	4,407
Middletown	1,485	2,626	4,111
North Lake Communities	712	6,042	6,754
Rivieras	746	1,540	2,287
Total	**7,935**	**35,568**	**47,565**

AFY = acre feet per year

1. Includes Geyser Power Company's 4,061 AFY

Sources: SWRCB 2024a; Zuniga 2024; DWR 2024b, 2025.

[1] Annual estimates by county of irrigated crop area, evapotranspiration of applied water (ETAW), and applied water (AW) for 20 crop categories.

Planning Areas

Cobb Mountain Planning Area

The Cobb Mountain Planning Area gets most of its water from the Cobb Area County Water District (CWD). The primary water supply source is groundwater from the Clear Lake Volcanics Groundwater Source Area.

Cobb Area County Water District

The Cobb Area CWD currently has approximately 1,065 residential connections and 16 commercial connections and serves a population of 3,515 (DDW 2024a). The primary water source is groundwater, although water is also obtained from Beatty Spring, Boggs Spring, and Schwartz Spring. There are 10 active groundwater wells in the system and one inactive standby well. All source water is treated with chlorine to ensure bacterial disinfection. Wells that do not meet the secondary standards for iron and manganese are treated with ozone gas and filtered through sand and anthracite carbon filters. Cobb Area CWD also operates the Loch Lomond Mutual Water Company under a mutual fee arrangement.

Cobb Area CWD includes the following water systems: Adam Springs Water System, Boggs Spring, Schwartz Spring, Pine Grove Water System, Starview County Water District, Bonanza Springs County Water District, Mount Hannah County Water District, Branding Iron Mutual Water Company, Hill 9 and 10 Water Association, Cobb Mountain Water Company, and Alpine Meadows (Cobb Area CWD ca. 2021). The water system is designated as not at risk by the SWRCB's SAFER 2023 Drinking Water Needs Assessment program.

Boggs Spring is in the southeastern corner of the Cobb Area CWD and serves the golf course and Cobb View Heights subdivision. Schwartz Spring is in the southwestern corner of the Cobb Area CWD and serves the downtown Cobb area, Cobb Valley, Cobb Estates subdivision, and the Rob Roy Golf Course.

Other Public Water Systems

There are also three other community water systems and three transient non-community water systems within the Cobb Mountain Planning Area.

Loch Lomond Mutual Water Company serves the unincorporated community of Loch Lomond, approximately 0.8 miles northeast of Cobb Mountain Water Company. The water system has 236 connections and serves a residential population of about 694 people. The water system has two groundwater wells for its water supply and is operated by Cobb Mountain Water Company. It is classified as potentially at risk by SAFER.

The California Department of Corrections and the California Department of Forestry and Fire Protection (CALFIRE) jointly operate the Konocti Conservation Camp #27. The primary mission of the camp is for incarcerated hand crews to support local, State, and federal agencies in response to emergencies such as wildfires or floods. Camp participants also complete community service and conservation projects year-round. The water system serves a population of about 100 people and is off SR-29 in Lower Lake. The water supply has one groundwater well and the water system is designated by SAFER as at-risk.

The Mountain of Attention is a spiritual retreat center in the Cobb Mountains northeast of Loch Lomond. The water system has 26 residential connections and serves a population of about 40 people. The water supply source is one groundwater well and the system is rated by SAFER as potentially at risk.

There are three transient non-community water systems in the Cobb Mountain Planning Area. Boatique Wines is in the Red Hills AVA along the Mayacamas Mountains. They have a tasting room that serves about 25 people/day with two permanent residents. Water is supplied by one groundwater well. The agricultural demand for the vineyards is calculated separately.

The Northern California Vipassana Center is another spiritual retreat center located off SR-175 in the Cobb Mountain Planning Area. The water system has 18 connections and serves a transient population of 66 people with one groundwater well as the supply source.

The Mandala Water System provides water to the Mandala Springs Wellness Retreat Center. The water system has 113 service connections and serves a residential population of 12 people and a transient population of 200 people. The water supply source is one groundwater well.

Agriculture

The agricultural acreage in the Cobb Mountain Planning Area consists primarily of vineyards (1,788 acres) followed by pasture (259 acres) and walnuts (183 acres). Minor amounts of olives (3 acres) and flowers/Christmas trees (43 acres) are also grown in this Planning Area. It is assumed that 14 percent of the pasture is irrigated, as per the USDA 2022 Agricultural Census for Lake County. Approximately 25 percent of the agricultural water demand is from surface water sources and about 75 percent is from irrigation wells.

In addition, the Geyser Power Company withdraws water from Clear Lake with an average demand of 4,061 AFY. Table 3.19-2, *Water Demand - Cobb Mountain Planning Area,* summarizes the water demand and supply sources for the Cobb Mountain Planning Area.

Table 3.19-2 Water Demand – Cobb Mountain Planning Area

Water Company	Water Demand (AFY)	Source	
		Surface Water	Groundwater
Cobb Area County Water District	250	X	X
Loch Lomond Mutual Water Company	31		X
CDF-Konocti Conservation Camp #27	16.8		X
Mountain of Attention Water	4.6		X
Boatique Wines	4.6		X
Northern California Vipassana Center	2.8		x
Mandala Water System	7.9		X
Geysers Power Company	4,061	X	
Subtotal	**4,379**		
Agriculture	2,497	X	X
TOTAL	**6,876**		

East Lake Communities Planning Area

The East Lake Communities Planning Area contains four groundwater basins: Long Valley Groundwater Basin, High Valley Groundwater Basin, Clear Lake Cache Formation Groundwater Basin, and Burns Valley Groundwater Basin. A very small portion of Lower Lake Valley Groundwater Basin is in the southwestern corner of the East Lake Communities Planning Area. Agricultural production is mainly in the High Valley and Long Valley areas and consists primarily of vineyards.

There are four large community water systems in the East Lake Communities Planning Area: Highlands Mutual Water Company, Konocti County Water District, Golden State Water Company – Clearlake and Konocti County Water District. All of these water systems obtain surface water from Clear Lake. There are four smaller community water systems that use either surface water or groundwater as their water supply source and there are three TNC water systems in the Planning Area.

Highlands Mutual Water Company

The Highlands Mutual Water Company provides potable water to the central portion of the City of Clearlake. The water system has 2,619 residential connections, 223 commercial connections, and 40 agricultural connections serving a population of 9,510. The water supply source is surface water from an intake at Clear Lake and the system has interties with Golden State Water Company and the Konocti County Water District. The water treatment system includes pre-oxidation, clarification, dual media filters, granular activated carbon filters, and chlorine gas

disinfection. Water is then delivered to six storage tanks for distribution. The current annual water usage is 1,075 AFY. According to the SAFER website, this water system is not at risk (SWRCB 2024b).

Clearlake Oaks County Water District

Clearlake Oaks County Water District serves the Clearlake Oaks community along the north shore of the Oak Arm of Clear Lake. The water system obtains its surface water from an intake on Clear Lake. The system has 2,047 residential connections and 73 commercial connections, serving a population of 2,359. The system has five pressure zones due to varied topography in the area, one surface water treatment plant, six storage tanks, and four booster pump stations. Water treatment consists of pre-oxidation with ozone, coagulation, peroxidation with sodium hypochlorite and a filter aid (as needed), upflow clarifier, mixed media filtration, granular activated carbon contactors, disinfection with sodium hypochlorite, and corrosion control with zinc orthophosphate as needed. The annual water usage is estimated to be 733 AFY. According to SAFER website, this water system is failing primarily due to fiscal issues (SWRCB 2024b). The water system is currently meeting State and federal drinking water standards.

Konocti County Water District

The service area for Konocti County Water District is the southern portion of the City of Clearlake. The water system has 1,807 residential connections, serving a population of 5,928. The water supply source is surface water from an intake at Clear Lake and the system has two emergency interties with Highlands Mutual Water Company, whose service area is to the north. The water treatment system includes pre-oxidation, coagulation, rapid mix, pH adjustment, flocculation/sedimentation, filtration, granular activated carbon filters, disinfection, and corrosion control. Water is delivered to six storage tanks for distribution. The current annual water usage is 449 AFY. According to the SAFER website, this water system is not at risk (DDW 2024c). Water is also purchased from Highlands Mutual Water Company (DDW 2025).

Golden State Water Company - Clearlake

The Golden State Water Company – Clearlake serves the western portion of the City of Clearlake. The water system has 2,056 residential connections and 45 commercial connections, serving a population of 4,648. The water company obtains surface water from Clear Lake, which is treated at Golden State Water Company's Sonoma Water Treatment Plant. Water treatment includes pre-oxidation, coagulation, rapid mix, flocculation/sedimentation, filtration, granular activated carbon contactors, disinfection, and corrosion control. Future upgrades include variable frequency pumps and generators at the intake facility and water treatment plant. The company states that large organic concentrations in Clear Lake provide technical and financial challenges to maintain compliance with drinking water standards. However, the company meets all federal and State requirements and is classified by SAFER as not at risk. The average annual water usage is estimated to be 327 AFY. Golden State Water Company – Clearlake also maintains

an emergency intertie with Highlands Mutual Water Company, whose service area is adjacent and to the south. According to the SWRCB DDW website, water is also purchased from Highlands Mutual Water Company (DDW 2025).

Lake County CSA #2 – Spring Valley

Lake County CSA #2 serves the Spring Valley Lakes subdivision and obtains its water supply from an infiltration intake at the confluence of Cache and Wolf Creek. The water system has 490 residential connections, serving a population of 1,624. The Spring Valley Water Treatment facility consists of a raw water pump station, slow sand filtration, chlorine injection, and chlorine contact before entering the distribution system. After treatment, the water is stored in a large clear well and pumped to a storage tank for distribution to its customers. The average annual water usage is 83 AFY. According to the SAFER website, this water system is potentially at risk (SWRCB 2024b).

Glenhaven Mutual Water Company

Glenhaven Mutual Water Company serves the community of Glenhaven along the north shore of the Oak Arm of Clear Lake. However, the company does not rely on surface water from Clear Lake as its water supply source but obtains its water from two groundwater wells located between Clear Lake and SR-20. Glenhaven Mutual Water Company has 122 residential connections, serving a population of 300. The water quality is typically good and minimal treatment is required. The annual water usage is approximately 79 AFY. According to the SAFER website, this water system is not at risk (SWRCB 2024b).

Lake County CSA #13 – Kono Tayee

Lake County CSA #13 - Kono Tayee provides potable water to a 327-acre area at Kono Tahee Point, which is along the eastern shore of Clear Lake. The water system does not use surface water from Clear Lake but relies on two groundwater wells for its water supply source. The system has 141 residential connections and one commercial connection, serving a population of 469. According to SAFER website, this water system is at risk (SWRCB 2024b). The annual water usage is 14 AFY.

Windflower Point Mutual Water Company

Windflower Point Mutual Water Company serves the community at Windflower Point, which is located on the point between the Oak Arm and Lower Arm of Clear Lake. This water system relies on one groundwater well for its water supply source. The system has 25 residential connections, serving a population of 25. The estimated water usage is 9.5 AFY and according to the SAFER website, this water system is at risk (SWRCB 2024b).

Other Public Water Systems

There are also three transient, non-community (TNC) water systems in the East Lake Communities Planning Area. The SAFER website does not rate TNC water systems.

Cache Creek Vineyards operates a tasting room and winery at the intersection of SR-20 and New Long Valley Road. The water system relies on groundwater from one well and has one commercial connection, serving a permanent population of 10 and a transient population of 300. The estimated water usage for the tasting room and the winery (the water demand for the vineyards is calculated separately) is 0.22 AFY.

Brassfield Estate Winery is located at 10915 High Valley Road in the High Valley area of Lake County. It also relies on groundwater for its water supply and is in the High Valley Groundwater Basin. The water system has seven residential connections and one commercial connection, serving a permanent population of four and a transient population of 50. It relies on one groundwater well to serve the permanent population, the tasting room, and the winery (water demand for the vineyards is calculated separately in the agricultural category). The estimated annual water usage is 2.38 AFY.

Indian Beach Resort is along the north shore of the Oak Arm of Clear Lake but uses groundwater as its source for water supply. The resort has ten cottages and access to Clear Lake for fishing, boating, and recreational use. The water system has 14 residential connections, serving a transient population of 75. Annual water usage is estimated to be 0.59 AFY.

Agriculture

Most of the agricultural production occurs north of Glenhaven and Clearlake Oaks in the High Valley and Long Valley areas. There also are vineyards and walnut orchards along SR-20 and SR-53. There is a total of 2,909 acres in production, with the majority in vineyards (1,788 acres), and lesser amounts of grain and hay (464 acres), walnuts (302 acres), and pasture (248 acres). Almonds (38 acres), olives (12 acres), and miscellaneous field crops, truck crops, and flowers/Christmas trees (23 acres) are also grown in the East Lake Communities Planning Area. The water supply sources for agriculture include both surface water and groundwater.

Table 3.19-3, *Water Demand – East Lake Communities Planning Area,* summarizes the water demand and supply sources for the East Lake Communities Planning Area.

Table 3.19-3 Water Demand – East Lake Communities Planning Area

Water Company	Water Demand (AFY)	Source	
		Surface Water	Groundwater
Highlands Mutual Water Company	1,075	X	

Table 3.19-3 Water Demand – East Lake Communities Planning Area

Water Company	Water Demand (AFY)	Source	
		Surface Water	Groundwater
Clearlake Oaks County Water District	733	X	
Konocti County Water District	449	X	
Golden State Water Company – Clearlake	327	X	
Lake County CSA #2 – Spring Valley	83	X	
Glenhaven Mutual Water Company	79		X
Lake County CSA #13 – Kono Tayee	14		X
Windflower Point Mutual Water Company	9.5		X
Cache Creek Vineyards	0.22		X
Brassfield Estate Winery	2.38		X
Indian Beach Resort	0.59		X
Subtotal	**2,773**		
Agriculture	3,649	X	X
TOTAL	**6,422**		

Kelseyville Planning Area

The sole water supply source for the public water systems is groundwater and most of the Kelseyville Planning Area is within the Big Valley groundwater basin. Agriculture also relies primarily on groundwater (irrigation wells) although a small amount of surface water (less than one percent of the total) is used in some areas.

Kelseyville County Waterworks District No. 3

The Kelseyville County Waterworks District (KCWWD) No. 3 provides most of the public water supplied to the area (488.6 AFY). The KCWWD serves the downtown and surrounding residential areas of Kelseyville and currently has approximately 1,126 residential connections, 133 commercial connections, and serves a residential population of 4,181 (DDW 2025). The KCWWD also serves the County Service Area (CSA) #6 – Finley through an intertie to the KCWWD that was completed in 2006.

The sole water source is groundwater, with four active groundwater wells in the system and one active standby well. All source water is treated with sodium hypochlorite for bacterial disinfection prior to entering the distribution system and storage tanks. The KCWWD is not considered to be at risk, according to the SAFER website (SWRCB 2024b).

Other Public Water Systems

There is one other community drinking water system and three transient, non-community drinking water systems in the Kelseyville Planning Area. The other community drinking water system is Corinthian Bay Mutual Water Company. The public water system supplies about 31 AFY to its customers and serves a community of resort homes along the south shore of Clear Lake west of Lakeside County Park. The water system has 74 connections and serves a population of 75 permanent residents and 75 transient residents. The water source is two groundwater wells, and the system is classified as not at risk by the SAFER website (SWRCB 2024b).

One of the four TNC water systems is Lakeside County Park, which is along the shore of Clear Lake at 1985 Park Drive. The system has 10 commercial connections and services a transient population of 1,000 people. The water usage is estimated to be 1.1 AFY. Westgate Petroleum, which is a gasoline station at 3740 Highland Springs Road, has two commercial connections and serves a population of 210. The estimated water usage is 5.5 AFY from one groundwater well. Two other TNC water systems are Sky Park Properties, which is a restaurant at the airport at 900 Sky Park Drive with one groundwater well and a water usage of 1.7 AFY, and The Mercantile, which is a winery tasting room and wine production facility with one groundwater well and a water usage of 3.5 AFY.

Big Valley Rancheria also owns and operates two water systems that are under the jurisdiction of USEPA, which administers the Safe Drinking Water Act on tribal lands. The community system serves the casino, hotel, marine, RV park, buildings, and 38 tribal homes. The water source is one active groundwater well, a treatment plant, pumping facility, a 270,000-gallon storage tank and a distribution system. The treatment plant includes iron and manganese oxidation and removal, granular activated carbon adsorptive filtration, the addition of orthophosphate for corrosion control and hypochlorination for disinfection. The second system is classified as a transient non-community water system and serves the community center (30 people) at the gymnasium.

Agriculture

The Kelseyville Planning Area is very productive in terms of agriculture and consists primarily of 4,024 acres of vineyards and several wineries. Agriculture in the area also includes 1,201 acres of walnuts, 902 acres of grain and hay, 903 acres of pears, 457 acres of pasture, 26 acres of olives, and lesser acreages of truck crops, flowers and Christmas trees, alfalfa, and melons/squash/cucumbers. Most of the agriculture occurs in an area about 3 to 4 miles north and south of SR-29. Nearly all agricultural water demand is from groundwater wells with less than one percent from surface water supplies. Table 3.19-4, *Water Demand – Kelseyville Planning Area,* summarizes the water demand and supply sources for the Kelseyville Planning Area.

Table 3.19-4 Water Demand – Kelseyville Planning Area

Water Company	Water Demand (AFY)	Source	
		Surface Water	Groundwater
Kelseyville County Waterworks District No. 3	489		X
Corinthian Bay Mutual Water Company	30.5		X
Lakeside County Park	1.1		X
Westgate Petroleum	5.5		X
Sky Park Properties	1.7		X
The Mercantile	3.5		X
Subtotal	**531**		
Agriculture	11,800	X	X
TOTAL	**12,331**		

Lakeport Planning Area

Most of the Lakeport Planning Area is in the Scotts Valley Groundwater Basin and rely on groundwater as their water supply source. However, the City of Lakeport and Lake County CSA #21 – North Lakeport obtain some of their water from intakes at Clear Lake.

City of Lakeport

The City of Lakeport has a water system that supplies about 544 AFY to its customers. The water system primarily serves the population within the city limits and is bounded by Lake County CSA #21 – North Lakeport public water system to the north. The system currently has approximately 1,118 residential connections and 496 commercial connections and serves a residential population of 4,762 (DDW 2025).

Lakeport has two water supply sources: surface water from Clear Lake and groundwater from four groundwater wells. The groundwater wells are in the Scotts Valley Groundwater Basin. Two of the wells (Scotts Creek) are within the Scotts Creek water channel and the other two wells are located on the Green Ranch property. The groundwater is stored in two storage tanks and disinfected with a chlorine gas system prior to distribution.

Water obtained from the Clear Lake intake is treated at the City's advanced water treatment plant, which includes pH control, pre-ozonation, coagulation, upflow clarification, multimedia filtration, post-ozonation, activated carbon, and chlorine disinfection. The City has water rights of up to 750 AF from its groundwater wells and the right to purchase an additional 2,000 AF from the Yolo Irrigation and Flood Control District (Lakeport 2008). The City of Lakeport's water system is not considered to be at risk, according to the SWRCB SAFER website (SWRCB 2024b).

Lake County CSA #21 – North Lakeport

The Lake County CSA #21 – North Lakeport is immediately south of Rodman Slough on the Upper Arm of Clear Lake and serves the customers in North Lakeport. The water system has 1,244 residential connections, 24 commercial connections, and 17 industrial connections, serving a population of 4,241. The water system relies solely on surface water from an intake at Clear Lake and has an intertie with the City of Lakeport. Lake County CSA #21 has the capability of purchasing water from the City of Lakeport. The system has three pressure zones due to varied topography in the area, one surface water treatment plant, four storage tanks, and two booster pump stations. The current average water usage for the system is 423 AFY.

Surface water obtained from Clear Lake is treated at the North Lakeport Water Treatment Facility. Water flows from the intake pumps to a strainer, an ozone tower, coagulation and flocculation, static mixer, flash mix, three combined clarifiers and mixed media filters, three granular activated carbon units, and disinfection with chlorine gas. According to the SAFER website, this water system is not considered to be at risk (SWRCB 2024b).

Other Public Water Systems

There is one other community water system (Pier 1900 HOA) and nine TNC water systems in the Lakeport Planning Area. Pier 1900 HOA is a small community water system within the larger service area of the City of Lakeport. It has 54 residential connections and serves a population of 152. Its water supply source is one groundwater well. According to the SAFER website, this water system is potentially at risk. Water usage is estimated to be 7.5 AFY.

There also are eight TNC water systems, as listed in Table 3.19-5, *Water Demand - Lakeport Planning Area.* All of the TNC water systems use groundwater wells as their water supply source. Information on each TNC is provided below:

- Mendo Mill & Lumber Company: hardware store, 1.22 AFY
- Wildwood: summer camp, 0.87 AFY
- Rotten Robbie: gasoline station, 8.31 AFY
- Wall Water: RV park, 2.38 AFY
- Jitter Bean Coffee: coffee shop, 0.15 AFY
- Thomas Water System: grocery store, 0.78 AFY
- Jack-in-the-Box, Lakeport: fast food restaurant, 1.58 AFY
- Lakeport Cinemas: movie theater, 1.33 AFY

Agriculture

The agricultural land use is primarily west of SR-29 and the City of Lakeport and North Lakeport in Scotts Valley and along Scotts Creek. There is a total of 2,072 acres in production, with most of the crops consisting of pasture (724 acres), walnuts (439 acres), vineyards (367 acres), and pear (315 acres). Water usage is almost exclusively from irrigation wells within the Scotts Valley Groundwater Basin. Table 3.19-5, *Water Demand - Lakeport Planning Area*, summarizes the water demand and supply sources for the Lakeport Planning Area.

Table 3.19-5 Water Demand - Lakeport Planning Area

Water Company	Water Demand (AFY)	Source	
		Surface Water	Groundwater
City of Lakeport	544	X	X
Lake County CSA #21 – North Lakeport	423	X	
Pier 1900 Homeowner's Association	7.5		X
Mendo Mill & Lumber Company	1.22		X
Wildwood	0.87		X
Rotten Robbie	8.31		X
Wall Water	2.38		X
Jitter Bean Coffee	0.15		X
Thomas Water System	0.78		X
Jack in the Box – Lakeport	1.58		X
Lakeport Cinemas	1.33		X
Subtotal	**991**		
Agriculture	3,386		X
TOTAL	**4,377**		

Lower Lake Planning Area

Other than the public water systems of Lower Lake County Water District and the Twin Creeks Mobile and RV Village, which supply water to the community of Lower Lake, most residents in the Lower Lake Planning Area obtain their water from domestic groundwater wells. The Lower Lake Planning Area is not in a designated groundwater basin, other than a small portion of the very northern area that is within the Lower Lake Valley Groundwater Basin and Clear Lake Cache Formation Groundwater Basin. Agriculture in this area consists primarily of vineyards, walnuts, pasture, and grain and hay.

Lower Lake County Waterworks District #1

The Lower Lake County Waterworks District (LLCWWD) #1 primarily serves the community of Lower Lake. The water system has 742 residential connections and 93 commercial connections, serving a population of 1,355. The water system relies solely on groundwater and has seven active groundwater wells in its network. All groundwater pumped from the wells is treated with chlorine for disinfection and some of the wells are also treated with filtration. The current average water usage for the system is 252 AFY.

The LLCWWD is proposing to establish an emergency intertie with Konocti County Water District and Highlands Mutual Water Company, which have service areas just north of the LLCWWD service area. The proposed interties would allow each water system to take delivery of treated water from one of the other water systems at a flow rate of approximately 400 gallons per minute in the event of an emergency disruption to its own system (Lower Lake County 2019). According to the SAFER website, the LLCWWD water system is classified as failing due to violations of drinking water standards for disinfection byproducts and the presence of other contaminants as well as inadequate funding and financial issues (SWRCB 2024b).

Twin Creeks Mobile and RV Village

The only other community water system in the Lower Lake Planning Area is the Twin Creeks Mobile and RV Village system. It is in the northwest corner of the LLCWWD service area and has 17 residential connections, serving a population of 50. It obtains its water supply source from one groundwater well and it is characterized by SAFER as at risk (SWRCB 2024b). Its water usage is estimated to be 127 AFY.

Agriculture

The agricultural land use is primarily along SR-29 west of Twin Lakes. There is a total of 2,735 acres in production, with most of the crops consisting of vineyards (1,2191 acres), walnuts (386 acres), pasture (419 acres), and grain and hay (277 acres). Water usage is exclusively from irrigation wells. Table 3.19-6, *Water Demand – Lower Lake Planning Area,* summarizes the water demand and supply sources for the Lower Lake Planning Area.

Table 3.19-6 Water Demand - Lower Lake Planning Area

Water Company	Water Demand (AFY)	Source	
		Surface Water	Groundwater
Lower Lake County Waterworks District #1	252		X
Twin Creeks Mobile & RV Village	127		X
Subtotal	**379**		
Agriculture	4,028		X

Table 3.19-6 Water Demand - Lower Lake Planning Area

TOTAL	**4,407**		

Middletown Planning Area

The Middletown Planning Area is within the Upper Putah Creek drainage basin and includes the Collayomi Groundwater Basin, the Coyote Valley Groundwater Basin, and the Clear Lakes Volcanic Source Area.

Hidden Valley Lake Community Services District

The Hidden Valley Lake CSD service area is approximately four miles north of Middletown on the east side of SR-29. The Hidden Valley Lake CSD provides potable water to the Hidden Valley Lake subdivision and various commercial and institutional facilities. There are 2,478 residential connections, 38 commercial connections, and 12 agricultural connections, serving a population of 6,235.

The water supply is obtained from three active groundwater wells in the Coyote Valley Groundwater Basin. The pumped groundwater is conveyed to one of two mixing tanks, which chlorinates the water, prior to discharge to the seven storage tanks in the distribution system. Currently, the water system provides 1,226 AFY to its customers. The Hidden Valley Lake CSD also provides an average of 408 AFY of reclaimed water to irrigate the Hidden Valley golf course and parks. The water system also prepares an annual groundwater monitoring report, with monthly recorded groundwater levels (Hidden Valley Lake CSD 2023a). Groundwater supplies are stable and there has been a declining per-capita water use since 2002. The annual groundwater report shows that there is no long-term negative impact on groundwater levels due to extraction of water from the wells operated by the Hidden Valley Lakes CSD. According to the SAFER website, the Hidden Valley Lake CSD water system is not at risk (SWRCB 2024b).

Callayomi County Water District

Callayomi County Water District provides potable water to the community of Middletown and the Middletown Rancheria of Pomo Indians of California. The water system has 456 residential connections, 27 commercial connections, and 49 industrial connections, serving a population of 1,481. The water system relies solely on groundwater from the Collayomi Valley Groundwater Basin for its water supply and has three active groundwater wells in its network. All groundwater pumped from the wells is treated with filtration to control taste, odor, and color and disinfected with sodium hypochlorite prior to entry into the two storage tanks and distribution system. The current average water usage for the system is 152 AFY. According to the SAFER website, the water system is not at risk (SWRCB 2024b).

Anderson Springs Community Services District

The Anderson Springs CSD provides potable water to the Anderson Springs community. Most of the homes (70 percent) in the Anderson Springs community are permanently occupied. The population increases significantly in the summer with tourists and second-home occupants. The Anderson Springs CSD does not use groundwater for its water supply but relies on water from Anderson Spring on Bureau of Land Management land. The water is piped to a 150,000-gallon storage tank. The average daily flow used by the Anderson Springs CSD is about 30 percent of the spring's total daily capacity. The water quality of the spring is good and only requires minimal chlorination for disinfection. The system has 225 residential connections and two commercial connections, serving a population of 373. The current water usage is about 27 AFY. The Anderson Springs CSD water system is designated as at risk by the SAFER website (SWRCB 2024b).

Other Public Water Systems

There is one additional community water system, one NTNC water system, and two TNC water systems in the Middletown Planning Area. The Lazy S Mobile Ranch is a community water system that serves a mobile home park just west of SR-29 in the southernmost portion of the Middletown Planning Area. The water system has 23 residential connections, one commercial connection, and serves a population of 73. The water source for this system is an intake on Saint Helena Creek. The water is treated with chlorination prior to distribution, which accounts for the presence of disinfection byproducts (DBPs) that have exceeded drinking water standards, such as trihalomethanes and haloacetic acids, in the past. Surface water sources are more likely to contain organic materials that combine with chlorine to form DBPs. Although there have been no violations of drinking water standards in the past three years, the SAFER website lists this water system as failing (SWRCB 2024b).

Harbin Hot Springs is an NTNC water system, located off Harbin Springs Road about three miles northwest of Middletown. The water system has 45 residential connections and 27 commercial connections, serving a non-transient population of 101 and a transient population of 300. The

water supply source is Boggs Mountain Spring. The water is treated and disinfected; the water that supplies the pools is treated using hydrogen peroxide, ozone gas, and ultraviolet light. Water usage is currently estimated to be about 75 AFY, with approximately 65 percent of the total for filling the pools and 35 percent for human consumption.

There are two TNC water systems in the Middletown Area. Langtry Farms has one residential connection and one commercial connection, serving a transient population of 35 and a non-transient population of six. The water source is from the Detert Reservoir, which is treated prior to distribution. The estimated water usage for the permanent population, winery production, and wine tasting room is estimated to be about 2.5 AFY. This excludes irrigation for the vineyards, which is calculated separately under agriculture. The other TNC water system is Hidden Valley Food Mart and Shell Gasoline Station, located along the east side of SR-29 at 18696 Putah Lane. The water system consists of one commercial connection and is estimated to use about 1.3 AFY.

Agriculture

The agricultural land use is primarily in the Langtry Farms/Guenoc area with scattered farms around the communities of Middletown and Hidden Valley Lakes. There is a total of 2,893 acres in production, with 67 percent of the crops consisting of vineyards (1,948 acres), with lesser amounts of pasture (758 acres), walnuts (46 acres) and other miscellaneous crops. The water supply sources are a combination of surface water and groundwater. Table 3.19-7, *Water Demand – Middletown Planning Area,* summarizes the water demand and supply sources for the Middletown Planning Area.

Table 3.19-7 Water Demand – Middletown Planning Area

Water Company	Water Demand (AFY)	Source	
		Surface Water	Groundwater
Hidden Valley Lake CSD	1,226		X
Callayomi County Waterworks District #1	152		X
Anderson Springs CSD	27	X	
Lazy S Mobile Ranch	1.3	X	
Harbin Hot Springs	75	X	
Langtry Farms	2.5	X	
Hidden Valley Food Mart/Gasoline Station	1.3		X
Subtotal	**1,485**		
Agriculture	2,626	X	X
TOTAL	**4,111**		

North Lake Communities Planning Area

The North Lake Communities Planning Area contains three groundwater basins: the Gravelly Valley Groundwater Basin, the Upper Lake Valley Groundwater Basin, and the Middle Creek Groundwater Basin. Most agricultural production occurs in the Upper Lake Valley around the community of Upper Lake and consists primarily of walnuts, pasture, and grain and hay.

There are eight community water systems in the North Lake Communities Planning Area, with the largest being Nice Mutual Water Company followed by Lucerne Water Company – Cal Water Service and Upper Lake County Water District. The other community water systems primarily serve small residential areas and mobile home parks in the Blue Lakes area. There also are 11 TNC water systems serving resorts, retreat centers, and campgrounds. Most of the water systems rely on groundwater as their water supply source, although the Nice Mutual Water Company and Lucerne Water Company – Cal Water Service use surface water from Clear Lake and the Lake Pillsbury TNCs use intakes on Lake Pillsbury or Mill Creek for their surface water supply. The USFS Middle Creek Campground relies on springs for its water supply.

Nice Mutual Water Company

The Nice Mutual Water Company provides water to the community of Nice and the surrounding area along the north shore of Clear Lake. Its water supply is from an intake in Clear Lake and the system has 969 residential connections and 89 commercial connections, serving a population of 2,731. The water system has four pressure zones due to the varied topography of the area, two surface water treatment plants that run in parallel, eight storage tanks, and two booster pump stations.

One water treatment train uses conventional filtration and the other one uses membrane filtration. Water entering the conventional treatment plant undergoes flash mix coagulation, sodium hypochlorite dosing, clarifiers, mixed media filtration and then enters the membrane filtration train prior to the granulated activated carbon units. The ultrafiltration membrane treatment plant receives water from the intake pumps which then passes through the ultrafiltration membrane unit followed by two granulated activated carbon units in series, UV light and sodium hypochlorite for disinfection and then enters the 20,000-gallon clear well until contact time is achieved. The estimated water usage is 305 AFY and according to the SAFER website, the water system is not at risk (SWRCB 2024b).

Lucerne Water Company – Cal Water Service

The Lucerne Water Company was acquired by California Water Service in 2000 and provides potable water to the community of Lucerne and surrounding area along the eastern shore of Clear Lake. The water company has 1,197 residential connections and 48 commercial connections, serving a population of 2,174. The system has two pressure zones, one surface water treatment plant, six storage tanks totaling 820,000 gallons, some of which are equipped

with aeration systems for disinfection byproduct reduction, and four booster pumps. Its water supply source is from an intake in Clear Lake approximately 340 feet offshore. Water treatment consists of pre-oxidation with potassium permanganate and sulfuric acid, coagulation, flash mixer, upflow clarifier, pre-filtration, microfiltration, UV light treatment, six granulated activated carbon units, corrosion control with zinc orthophosphate and disinfection with sodium hypochlorite. The average annual water usage is 192 AFY. According to the SAFER website, this water system is not at risk (SWRCB 2024b).

Upper Lake County Water District

The Upper Lake County Water District provides potable water to residential and commercial customers in the Upper Lake community. The water supply is from two groundwater wells within the Upper Lake Groundwater Basin. There are 347 residential connections and 56 commercial connections, serving a population of 989. Water treatment consists of chlorination at well sites prior to discharge to two storage tanks. The estimated water usage is 127 AFY and according to the SAFER website, the water system is not at risk (SWRCB 2024b).

Other Community Water Systems

The five other community water systems cover small service areas, primarily mobile home parks, and all the water systems use groundwater as their water supply source. These water systems are summarized below:

- Cal 20 Village & Meadow Pointe Park, mobile home park with 83 residential connections serving a population of 255: two groundwater wells, water usage of 25.7 AFY, classified by SAFER as not at risk.
- Blue Lakes Improvement Club, residential area with 41 residential connections and two commercial connections, serving a population of 86: one groundwater well, water usage of 11.4 AFY, classified as potentially at risk.
- Villa Blue Estates Water District, residential area with 21 residential connections serving a population of 60: one groundwater well, water usage of 5.5 AFY, classified as at risk.
- Blue Lake Mobile Home Park, mobile home park with 23 residential connections serving a population of 32: one groundwater well, water usage of 2.75 AFY, classified as not at risk.
- Blue Lakes Village, RV Park l serving a population of 65: one groundwater well, water usage of 1.76 AFY, classified as potentially at risk.

Other Public Water Systems

There are 11 TNC water systems in the North Lake Communities Planning Area, as summarized herein. None of the TNC water systems are rated by the SAFER website. Although Wall Water is listed on the SWRCB website as a TNC water system, it appears that the water system is now part of Nice Mutual Water Company.

- Lake Pillsbury Ranch Water Company serves 147 residential connections serving a permanent population of 24 and transient population of 30: water supply source is an intake on Mill Creek, water usage estimated to be 9.05 AFY.
- Lake Pillsbury Resort and Marina serves eight cabins and 38 campsites with 53 commercial connections serving a population of 150: water supply source is an intake on Lake Pillsbury, and water usage estimated to be 0.66 AFY.
- Sarasota Springs Retreat Center, a retreat center with guest cabins and campgrounds with seven residential connections and two commercial connections: water supply source is three groundwater wells, water usage estimated to be 2.82 AFY.
- Three Brothers Travel Plaza, a truck stop with gasoline station and fast-food restaurants, has two commercial connections and serves a transient population of 25: water supply from one groundwater well, water usage estimated at 7.66 AFY.
- USFS Oak Flat Water System, a campground with 37 commercial connections serving a population of 25: water supply from one groundwater well, water usage estimated at 0.32 AFY.
- USFS Sunset Point Campground, a campground with 16 commercial connections serving a population of 110: water supply from one groundwater well, water usage estimated at 0.13 AFY.
- USGS Middle Creek Campground, serves the Upper Lake Ranger Station and 23 campsites with 15 commercial connections serving a transient population of 40: water supply source is surface water from springs, estimated water usage at 1.13 AFY.
- Le Trianon Resor serves 10 cottages and campsites, open seasonally (April through October) with two residential connections and 148 commercial connections serving a permanent population of three and transient population of 240: water supply source from two groundwater wells, estimated water usage at 10.9 AFY.
- Narrows Family Resort, a campground, yurts, and cabins with one residential connection and 29 commercial connections, serving a population of 65: water supply source from two groundwater wells, estimated water usage at 1.45 AFY.
- Pine Acres Blue Lake Resort, cottages, motel rooms, and RV sites with 41 commercial connections serving a population of 25: water supply source from one groundwater well, estimated water usage of 4.42 AFY.
- Lodge at Blue Lakes, hotel with one residential connection and 27 commercial connections serving a population of 100: water supply source from one groundwater well, estimated water usage of 2.8 AFY.

Agriculture

Most of the agricultural production occurs in the area north of Upper Lake in Middle Creek Valley and to the west in Bachelor Valley. There is a total of 3,201 acres in production, with most of the acreage in walnut orchards (1,263 acres), with lesser amounts of pasture (983 acres),

grain and hay (460 acres), vineyards (297 acres), and pears (154 acres). Olives (12 acres), truck crops (17.5 acres), flowers (8.0 acres), and bush berries, melons, squashes, and cucumbers (total of 1.2 acres) are also grown in the North Lake Communities Planning Area. The water supply sources for agriculture include both surface water and groundwater.

Table 3.19-8, *Water Demand – North Lake Communities Planning Area* summarizes the water demand and supply sources for the North Lake Communities Planning Area.

Table 3.19-8 Water Demand – North Lake Communities Planning Area

Water Company	Water Demand (AFY)	Source	
		Surface Water	Groundwater
Nice Mutual Water Company	305	X	
Lucerne Water Company – Cal Water Service	192	X	
Upper Lake County Water District	127		X
Cal 20 Village & Meadow Pointe Park	25.7		X
Blue Lakes Improvement Club	11.4		X
Villa Blue Estates Water District	5.5		X
Blue Lakes Mobile Home Park	2.75		X
Blue Lakes Village	1.76		X
Lake Pillsbury Ranch Water Company	9.05	X	
Lake Pillsbury Resort and Marina	0.66	X	
Saratoga Springs Retreat Center	2.82		X
Three Brothers Travel Plaza	7.66		X
USFS Oak Flat Water System	0.32		X
USFS Sunset Point Campground	0.13		X
USFS Middle Creek Campground	1.13	X	
Le Trianon Resort	10.9		X
Narrows Family Resort	1.45		X
Pine Acres Blue Lake Resort	4.42		X
Lodge at Blue Lakes	2.80		X
Subtotal	**712**		
Agriculture	6,042	X	X
TOTAL	**6,754**		

Rivieras Planning Area

There are 13 community public water systems in Rivieras Planning Area, mostly situated in the small communities around Clear Lake. The main water supply source for most of the community water systems is surface water from Clear Lake, which requires advanced treatment to meet drinking water standards. The water systems have entered agreements with YCFCWCD to purchase, store, and divert water from Clear Lake for municipal purposes. Four of the community water systems rely on groundwater, which is pumped from the Clear Lake Volcanic Source Area.

Moun Konocti Mutual Water Company

The Mount Konocti Mutual Water Company is on the Lower Arm of Clear Lake and provides water service to the residents of the Clear Lake Riviera subdivision. The water system has 1,575 residential connections and 28 commercial connections, serving a population of 4,360. The water supply source is surface water from an intake at Clear Lake. The system has nine pressure zones due to varied topography in the area, one surface water treatment plant, nine storage tanks totaling 1.5 million gallons, and five booster pump stations. The water treatment system includes pre-oxidation with potassium permanganate or sodium hypochlorite, coagulation, upflow clarifiers, surge tanks, sodium hypochlorite as needed, filter aid, dual media filters, granular activated carbon units, disinfection with sodium hypochlorite, and corrosion control with zinc orthophosphate for the distribution system. The current annual water usage is 305 AFY. According to the SAFER website, this water system is not at risk (SWRCB 2024b).

Lake County CSA #20 – Soda Bay

Lake County Service Area (CSA) #20 – Soda Bay provides water service to Clear Lake State Park and the community area of Soda Bay, including the Riviera Heights subdivision. The water system consists of 601 residential connections serving a population of 2,003. The water supply source is surface water obtained from Clear Lake. The surface water is treated with coagulation, rapid mix, flocculation/solid contactor, filtration, granulated activated carbon contactors, and disinfection prior to discharge to the water storage tanks. It is estimated that the Lake County CSA #20 provides 133 AFY of surface water to its customers. According to the SAFER website, the water system is not at risk (SWRCB 2024b).

Buckingham Park Water District

Buckingham Park Water District provides water to the residents of the Buckingham Park subdivision and the Buckingham Golf and Country Club. The water system has 450 residential connections and seven commercial connections, serving a population of 1,508. The water supply is surface water obtained from an intake at Clear Lake. Water treatment consists of pre-oxidation, coagulant and polymer addition, flocculation/sedimentation, multimedia filtration, granular activated carbon filtration, and disinfection. The Buckingham Park Water District

supplies approximately 127 AFY to its customers. According to the SAFER website, the water system is potentially at risk (SWRCB 2024b).

Other Public Water Systems

There are ten other community water systems in the Rivieras Planning Area and five TNC water systems. The water systems all use less than 60 AFY and are summarized herein:

- Harbor View Mutual Water Company, community water system with 250 residential connections serving a population of 550, water treatment: pre-oxidation, coagulation, rapid mix, flocculation/dissolved air flotation, filtration, granular activated carbon contactors, and disinfection, water usage of 42 AFY, classified by SAFER as potentially at risk.
- Clear Water Mutual Water Company, community water system, uses surface water from Clear Lake with 99 residential connections and one commercial connection, serving a residential population of 154 and a transient population of 98, water treatment: pre-oxidation, coagulation, rapid mix, flocculation/sedimentation, filtration, granular activated carbon contactors, and disinfection, water usage of 20 AFY, classified by SAFER as at risk.
- Innisfree Water Company, community water system, uses one groundwater well for water supply with 22 residential connections serving a population of 56, water treatment: disinfection, water usage of 3.0 AFY, classified by SAFER as not at risk.
- Walnut Cove Mobile Estates, community water system, uses one groundwater well for water supply with 60 residential connections serving a population of 200, water treatment: disinfection, water usage of 7.0 AFY, classified by SAFER as not at risk.
- Konocti Shores, community water system with 99 residential connections serving a residential population of 30 and transient population of 247, water treatment: disinfection, water usage of 21.6 AFY, classified by SAFER as not at risk.
- Bella Lago Mobile Home Park, community water system, uses one groundwater well as water supply source with 46 residential connections serving a population of 152, water usage of 1.2 AFY, classified by SAFER as not at risk.
- Westwind Mobile Home Park, community water system, uses surface water from Clear Lake as its water supply source with 38 residential connections serving a population of 104, water treatment: pre-oxidation, coagulation, rapid mix, flocculation/solids contactor, filtration, and disinfection, water usage of 6.3 AFY, classified by SAFER as potentially at risk.
- Golden State Water Company – South Shore, recently acquired the Crescent Bay Improvement Company which was classified as a failing water system by SAFER, community water system, uses surface water from Clear Lake for its water supply with 24 residential connections serving a population of 30, water treatment: coagulation, filtration, and disinfection, water usage of 4 AFY, planned future upgrades
- Baycliff Water, community water system, uses one groundwater well with 57 residential connections serving a permanent population of 50 and transient population of 20, water treatment: disinfection, water usage of 4 AFY, classified by SAFER as not at risk.

- Sunrise Short Mutual Water Company, community water system, uses one groundwater well as its water supply source with 42 residential connections, serving a population of 83, water treatment: disinfection, water usage of 9 AFY, classified by SAFER as at risk.
- Konocti Harbor Resort, TNC water system, uses surface water from Clear Lake with 1 residential connection and 30 commercial connections, serving a residential population of 5 and a transient population of 150, water treatment: pre-oxidation, coagulation, rapid mix, flocculation/solid contactor, filtration, granular activated carbon contactors, filtration, and disinfection, water usage of 57 AFY, not assessed by SAFER.
- Richmond Park Resort, TNC water system, uses surface water from Clear Lake with 29 residential connections and 1 commercial connection, serving a residential population of 9 and a transient population of 25, water treatment: pre-oxidation, coagulation, rapid mix, flocculation/sedimentation, filtration, granular activated carbon contactor, and disinfection, water usage of 1.7 AFY, not assessed by SAFER.
- Reel In Resort, TNC water system, uses 1 groundwater well as its water supply source with 60 residential connections, serving a transient population of 200, water treatment: disinfection, uses about 1.33 AFY, not assessed by SAFER.
- Larsen's Office Complex, TNC water system, uses 1 groundwater well for water supply with 2 commercial connections, serving a non-transient population of 12 and a transient population of 100, water treatment: disinfection, uses 0.29 AFY, not assessed by SAFER.
- Jago Bay Mutual Water Company, TNC water system, uses 1 groundwater well as water supply source with 17 residential connections, serving 2 permanent residents and 9 transient residents, water treatment: disinfection, uses 2.35 AFY, not assessed by SAFER.

Agriculture

Agricultural production is somewhat limited in the Rivieras Planning Area and is concentrated in the southern portion, just north of SR-29. There is a total of 1,446 acres in production, with 76 percent of the crops consisting of vineyards (1,093 acres) and the remainder in walnuts (203 acres), pasture (147 acres), and a total of 8 acres in cannabis, olives, and flowers/Christmas trees. The water supply sources are a combination of surface water and groundwater. Table 3.19-9, *Water Demand – Rivieras Planning Area,* summarizes the water demand and supply sources for the Rivieras Planning Area.

Table 3.19-9 Water Demand - Rivieras Planning Area

Water Company	Water Demand (AFY)	Source	
		Surface Water	Groundwater
Mount Konocti Mutual Water Company	305	X	
Lake County CSA #20 – Soda Bay	133	X	
Buckingham Park Water District	127	X	
Harbor View Mutual Water Company	42	X	
Clear Water Mutual Water Company	20	X	
Innisfree Water Company	3.0		X
Walnut Cove Mobile Estates	7.0		X
Konocti Shores	21.6		X
Bella Lago Mobile Home Park	1.2		X
Westwind Mobile Home Park	6.3	X	
Golden State Water Company – South Shore	4	X	
Baycliff Water	4		X
Sunrise Shore Mutual Water Company	9		X
Konocti Harbor Resort	57.4	X	
Richmond Park Resort	1.7	X	
Reel In Resort	1.33		X
Larsen's Office Complex	0.29		X
Jago Bay Mutual Water Company	2.35		X
Subtotal	**746**		
Agriculture	1,540	X	X
TOTAL	**2,286**		

WASTEWATER

Several wastewater systems serve the cities of Clearlake and Lakeport and may not directly serve the unincorporated areas of the county. However, these systems are closely connected and therefore described in more detail in the Planning Areas section below. The following information comes from Lake County SDA; Hidden Valley Lake Community Services District; City of Lakeport; Central Valley RWQCB; and Peterson, et al (Lake County SDA 2022; Hidden Valley Lake CSD 2023b; Lakeport 2034; Central Valley RWQCB 2025; Peterson 2025).

Countywide Area

Wastewater treatment in Lake County is provided by three types of treatment systems: wastewater treatment plants (WWTPs), community wastewater treatment systems, and OTWSs. Most of the developed areas of Lake County along the shores of Clear Lake as well as Kelseyville and Hidden Valley are served by sewer collection systems, which discharge to WWTPs. Community wastewater treatment systems in areas without sewer collection systems that have a high concentration of development, such as wineries, resorts, retreats, and Big Rancheria. Areas that are more remote as well as some residences and commercial facilities along Clear Lake rely on OTWSs for the treatment of wastewater.

Regional and Community Wastewater Systems

Regional and community wastewater collection and treatment systems serve the more populated areas of Lake County. Typically, these systems are operated by cities or special districts under permits issued by the RWQCB.

The 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. Most of the sewer collection systems within the county are impacted by inflow and infiltration (I&I), which occurs when storm water or groundwater from high water tables enter the sewer system through cracked pipes, leaky manholes, or improperly connected storm drains. This results in high sewer flow rates in the winter months after storm events and can lead to overflows or spills into Clear Lake and increased wastewater treatment costs.

The treatment systems and facilities 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 often used.

Wastewater effluent disposal for these systems in Lake County include discharge by pipeline to the Geysers steam field for injection to increase steam flow for power generation, land application for agricultural or landscape irrigation, or evaporation/percolation ponds.

Lake County Sanitation District

LCSD oversees five wastewater systems in Lake County.

Northwest Regional Wastewater System

The Northwest Regional Wastewater System (NW) is administered by LACOSAN and serves the communities of North Lakeport, Upper Lake, Nice, Lucerne, Kono Tayee, and Paradise Valley. The system consists of approximately 1,500 manholes, 70 miles of piping within the gravity collection system, 23 lift stations, 16 miles of force main piping, and two effluent pump stations conveying wastewater to the NW treatment plant. The facility receives and treats mainly domestic and resort wastewater, with little commercial or industrial contribution. Customers are billed a fixed rate every two months for sewer service based on the customer class. The collection system consists of approximately 4,220 connections or 6,038 single family dwelling (SFD) equivalents. In addition, the City of Lakeport currently discharges wastewater from North Lakeport to the NW Collection System at the rate of 706 Residential Unit Equivalents (RUEs), or approximately 141,200 GPD through an intertie between the two collection systems (Lake County SDA 2022a).

Inflow and infiltration of freshwater from Clear Lake and seasonal high lake levels contribute to increase wastewater flows during the winter. The high seasonal flows result in lift stations operating for extended periods of time and the District often must hire emergency pumper trucks and crews to minimize spills.

The Northwest Regional Wastewater Treatment Plant is regulated by the WDR permit issued by the Central Valley RWQCB (Order No. 5-01-111) in 2001. The order allows treatment of 2.0 MGD. The WWTP includes headworks, three lagoon cells mixed with surface aerators, two lagoon cells partially mixed with surface aerators, a chlorine contact pipeline, and an effluent reservoir with a capacity of 281 million gallons. Design flows are 1.6 MGD for average dry weather flow, 5.6 MGD for peak monthly flow, and 8.5 MGD for peak day or wet weather flow. Effluent from the reservoir is conveyed to the Southeast Regional Wastewater Plant effluent reservoir where it combines with effluent from that facility and the Clearlake Oaks WWTP and is then conveyed via pipeline to the injection wells in the Geysers geothermal field to boost steam production. According to the Master Plan (2005), the system has the potential capacity for 7,379 connections.

Southeast Regional Wastewater System

The LACOSAN Southeast System provides wastewater collection and treatment in the area extending from Pirates Cove to Lower Lake and includes the City of Clearlake. The collection system has over 1,950 manholes, 100 miles of sewer pipes, 23 lift stations and over 16 miles of force main piping. Due to proximity to Clear Lake and seasonally high water tables, a significant amount of groundwater intrusion occurs, requiring the lift stations to operate almost

continuously during multi-day storm events. LACOSAN is currently implementing a project to smoke test, line clean, and replace sections of old and defective sewer lines throughout the collection area, which will reduce the potential for I/I and SSOs (Lake County 2021).

According to the Master Plan (2005), the system has the potential capacity for 14,641 connections. The system currently serves 8,591 connections (Lake County SDA 2022b). As in the case of the Northwest Regional Wastewater System, all new projects that consist of four single-family dwelling unit equivalents or greater are required to prepare a hydraulic model to determine the necessary upgrades that will result with the proposed development. The area around Pirates Cove is now connected to the sewer system.

The WWTP is subject to RWQCB's WDR Permit No. 96-166, which established a monthly average wet weather effluent flow not to exceed 6.1 MGD and the hydraulic capacity of the WWTP not to exceed 8.5 MGD. The WWTP consists of headworks with a bar screen and bypass channel and two slide gates that split flow to the north and south treatment lagoons. Each lagoon is divided by baffled curtains into one fully mixed cell and two partially mixed cells, with four surface aerators providing mixing in each cell. The effluent then enters the chlorine contact channel through a rapid mix structure where sodium hypochlorite is injected for disinfection. The flow is then channeled to an effluent reservoir, where the wastewater is combined with effluent from the Northwest WWTP and the Clearlake Oaks WWTP and conveyed via pipeline to injection wells at the Geysers geothermal field to boost steam production.

Middletown Wastewater System

The Middletown Wastewater System provides wastewater collection and treatment to the community of Middletown, Harbin Springs Resort, and Anderson Springs. The Twin Pine Casino Expansion was added to the collection system in 2008. LACOSAN operates and maintains the Middletown Treatment Plant. The collection system consists of 492 connections, over 250 manholes, over 13 miles of gravity-flow sewer pipes, four lift stations, and over eight miles of force main piping that is conveyed to the Middletown Wastewater Treatment Plant (Lake County SDA 2022c). The Valley Fire of 2015 destroyed 140 connections to the system, resulting in a lateral "cap and seal" program to protect the collection system and treatment plant from excessive I/I and toxic materials. As customers rebuild, they will reconnect to the collection system.

The WWTP is regulated by the Central Valley RWQCB's WDR permit (Order No. 97-249) which limits flows to 0.15 MGD (average dry weather flow) and 0.5 MGD for peak wet weather flow. The WWTP consists of a facultative pond system consisting of a primary pond, three secondary ponds, a sodium hypochlorite feed system and contact basin, an effluent storage reservoir, an effluent pump stations, and a spray irrigation system. Treated effluent is discharged to the Southeast Geyser Effluent Pipeline, where it is conveyed and then injected into the Geysers steam field to increase steam flow for power production. When discharge to the Geysers field is

not available, treated wastewater is discharged to a 240 AF backup storage pond. The spray irrigation system is used for effluent disposal by irrigating fodder crops only on an emergency basis.

The Middletown WWTP is currently operating at approximately 85 percent of its permitted capacity. Expansion of the treatment capabilities is currently underway. LACOSAN has received funding approval to move forward with improvements to the treatment plant, and a rate increase has been approved to finance these improvements.

Kelseyville County Waterworks District No. 3

Kelseyville County Waterworks District No. 3 provides wastewater service to the community of Kelseyville and surrounding residential areas, Corinthian Bay, and Clear Lake State Park. The system serves approximately 913 connections and metered flow from Clear Lake State Park that is equivalent to 16 SFDs. The collection system consists of 212 manholes and over 12 miles of gravity-flow pipes, seven lift stations, and over 12 miles of force main piping conveying wastewater to the Kelseyville Wastewater Treatment Plant (KWWTP) (Gaddy Lane). Two pumps convey the treated effluent from KWWTP to the evaporation ponds on Mount Konocti.

The KWWTP consists of three aerated stabilization ponds, a disinfection system, and a fourth pond that acts as an effluent pump station clearwell and supplemental contact reservoir for the disinfection system. Plant effluent is pumped to seven evaporation/percolation ponds approximately 2.5 miles east of the KWWTP for final disposal. A portion of the effluent is used as irrigation water for a nearby vineyard. Customers are charged every two months at a fixed rate based on the customer class (Kelseyville CWD 2024).

In 2009, improvements at KWWTP were completed to increase treatment capacity and biological sludge removal using the Blue Frog Technology was implemented in 2015. Additional stages of expansion include the addition of a new force main and an increase in the disposal capacity of the percolation-evaporation ponds is planned. KWWTP is currently operating at close to its permitted capacity.

South Lakeport Collection System

South Lakeport Collection System provides wastewater collection to South Lakeport, Lands End/Finley, and portions of Big Valley Rancheria, Soda Bay Road, and South Main Street. The system serves 200 connections and consists of 65 manholes, 3.7 miles of gravity sewer pipes, 5 lift stations, and 2.45 miles of force main piping. The collected wastewater flows into a connection point with the City of Lakeport’s wastewater collection system and is subsequently treated at the City of Lakeport’s Wastewater treatment facility through an agreement with both entities.

City of Lakeport Municipal Sewer District

The City of Lakeport Municipal Sewer District (CLMSD) provides wastewater collection and treatment services for residential and commercial properties within the City of Lakeport. The collection system includes approximately 2,200 connections serving over 5,000 customers, 33 miles of sewer piping, and 13 lift stations (Lakeport 2024). The collection system that serves Assessment District 9-1 (Lands End, Holiday Cove, and Reeves Point) and Assessment District 9-3 (South Lakeport) is maintained by LACOSAN. However, the effluent is treated at the City's wastewater treatment facility (WWTF). Wastewater flows in the northern portion of the CLMSD service area are collected by LACOSAN and are treated in the NW Regional WWTP.

The CLMSD WWTF is located southwest of the City of Lakeport and west of the intersection of Highway 175 and Highway 29. It is regulated by a permit from the Central Valley RWQCB (Order R5-2012-0025). The permit requires dry weather influent flow to the WWTF not to exceed 0.53 million gallons per day (MGD) and a maximum average daily discharge not to exceed 1.39 million gallons with a total annual flow of 310 MG (Central Valley RWQCB 2012). According to the RWQCB permit, the average dry weather flow in 2010 was 0.472 MGD, with an annual average flow of 0.685 MGD. Although the current wastewater flow rates were not available, the 2008 Master Sewer Plan estimates the future wastewater dry weather flow rate to be 0.51 MGD and the wet weather flow rate to be 3.0 MGD, which is less than the RWQCB's permitted capacity (Lakeport 2008).

The WWTF includes headworks (mechanical screening), two unlined 11.8 MG aeration basins that provide secondary treatment, an effluent pump station, a chlorine contact pipe, a 212 MG effluent storage reservoir, an irrigation pump station, and on-site land application areas.

The four land application areas total 332 acres and consist of native grasses and trees. Cattle are grazed in this area for a few months out of the year. Effluent application is by a sprinkler system and typically occurs during the months from April to October. Tailwater runoff from the application areas is collected in recapture basins and pumped back into the WWTF. Shallow groundwater is encountered at depths ranging from two to 25 feet below ground surface (bgs) and therefore, the WWTF has six groundwater monitoring wells and one background well to monitor groundwater quality.

Clearlake Oaks County Water District – Wastewater Collection and Treatment

The Clearlake Oaks County Water District (CLOCWD) provides wastewater collection and also owns and operates a WWTF that serves approximately 2,350 residents in Clearlake Oaks, Orchard, Shores, Heritage, the Keys, and other unincorporated areas along the southeastern shore of Clear Lake. The collection system consists of 12 lift stations and about 54,000 feet of piping. This system experiences substantial inflow and infiltration, which has resulted in the past in discharges of treated effluent into Clear Lake. The SWRCB issued a moratorium on any new

sewer connections until additional capacity was provided. This moratorium was lifted in 2001 due to improvements to the WWTF and the ability to pump treated wastewater to the Geysers.

The WWTF is located at 13705 Jensen Road in Clearlake Oaks. According to the RWQCB's WDR permit (Order No. 98-211), the allowable maximum daily wastewater flow rate is 2.1 MGD, with a monthly average dry weather discharge flow not to exceed 0.5 MGD. The WWTF consists of headworks (grinder and bar screen to collect solids), oxidation ditch, clarifier, two lined facultative ponds, and a chlorine contact chamber. Treated effluent is pumped to LACOSAN's Southeast Reservoir and then pumped by LACOSAN twenty miles southwest to the Geysers for injection into the geothermal steam fields. The CLOCWD and LACOSAN have entered into an agreement to allow a wastewater flow of 1,500 gpm to be discharged into LACOSAN's Southeast Reservoir.

The WWTP is regulated by the Central Valley RWQCB and its WDR permit allows for a maximum daily flow of 2.1 MGD with a monthly average dry weather discharge flow not to exceed 0.5 MGD. Wastewater flows to the WWTF in 2012 were approximately 0.33 MGD for average dry weather flows to 0.756 MGD for the peak wet weather flow (Lake LAFCO 2013).

The CLOCWD has had a history of sewage spills and overflows. In 1999, the Central Valley RWQCB issued a Cleanup and Abatement Order (CAO) for a raw sewage spill estimated at 150,000 gallons per day into Clear Lake. The CAO was subsequently rescinded after a RWQCB 2003 site inspection showed that all the required items had been addressed. However, due to continued wastewater spills between 2007 and 2014, ranging from 3,000 to 20,000 gallons, the Central Valley RWQCB issued a new CAO (Order No. R5-2013-0707) requiring repairs to the lift stations and preparation of reports to address inflow/infiltration issues and a wastewater system improvement workplan. Several phases of the CLOCWD's Wastewater Infrastructure Rehabilitation Project have been implemented, with Phase 4 in progress.

Hidden Valley Lake Community Service District

The Hidden Valley Lake CSD provides wastewater collection and treatment services to Hidden Valley Lake and the surrounding area. The wastewater collection system serves 1,500 residential connections and 15 commercial/institutional connections. The collection system consists of approximately 15 miles of gravity flow sewer pipelines, eight pump stations, and 1.5 miles of force mains (Hidden Valley Lake CSD 2023b). Collected wastewater is discharged to the CSD Regional Water Reclamation Facility (RWRF).

Excessive inflow/infiltration during the winter months contributed in the past to treatment plant overflows to surface drainage courses tributary to Putah Creek, resulting in the issuance of Cleanup and Abatement Order from the Central Valley RWQCB in 1985. As a result, the new wastewater treatment system was constructed and became operational in 1996. It consists of tertiary treatment with mechanical screening, secondary treatment by extended aeration

activated sludge, secondary clarification, chemical addition (chlorine, alum, and polymer), direct tertiary filtration, chlorination, six sludge drying beds, a concrete-lined equalization basin, and an effluent storage basin. The tertiary treated effluent is discharged to a 412 AF clay-lined storage pond. The recycled water is delivered to the golf course for spray irrigation via 1.5 miles of reclaimed water pipes or to a 45-acre supplemental spray irrigation field adjacent to the RWRF. A maximum of 1.3 MGD may be discharged to the golf course and supplemental field, according to the RWQCB WDR permit.

The RWQCB's WDR permit allows for an average monthly dry weather flow rate from the treatment plant not to exceed 0.35 MGD and a maximum wet weather flow rate not to exceed 0.894 MGD. Currently, the RWRF is operating with an average dry weather flow of 0.35 MGD and can treat a peak flow of 0.894 MGD (Hidden Valley Lake CSD 2023). Therefore, the RWRF is currently operating at its permitted capacity.

Community Wastewater Systems

Community systems are comprised of wastewater treatment package units that are implemented in areas which are located far from a connection to a municipal sewer collection system and serve a larger population that could be accommodated with a traditional septic system. There are six community wastewater systems that have WDRs for their treatment processes with the Central Valley RWQCB and one community wastewater system (Big Valley Rancheria) that is under the jurisdiction of USEPA:

- Brassfield Estate Winery, under Order No. R5-2014-0707, has an aerated pond treatment process with wastewater flow from winery processing into one of two aeration ponds followed by a clarifier and two 2,500-gallon aboveground storage tanks. The effluent is discharged to an 8-acre land application area using a spray irrigation system.
- Guenoc Winery, under Order No. R4-2012-0067, screens the winery wastewater, treats it in a bioreactor, followed by clarification and discharge to a Class II surface impoundment. The effluent is mixed with fresh water and used to irrigate a 54-acre pasture.
- Harbor View Mutual Water Company, under Order No. R5-2012-0008, discharges supernatant decanted from the filter backwash tank during the water treatment process to an adjacent two-acre land application area via sprinklers.
- Mountain of Attention under, Order No. R5-2002-0221, upgraded the existing system, which now consists of a newly constructed 563,000-gallon storage pond, the lining of two existing aeration treatment ponds with a combined capacity of 342,000 gallons, and the construction of a new lined storage pond with a capacity of 628,000 gallons. Effluent is applied to a 1.5-acre land application area via spray irrigation.
- Konocti Harbor Resort, under Order No. R5-2008-0166, discharges wastewater from domestic wastes, filter backwash from swimming pools and spas, and filter backwash from the water treatment plant to a primary clarifier followed by a bentonite lined aeration pond,

then to a neoprene lined secondary settling pond, chlorine dosing, a concrete lined pond for flow control, and then to two subsurface leach fields under three lined ponds

- Wildhurst Vineyards, under Order No. R5-2012-0024, with winery wastewater flows into a mechanical screen with aqueous ammonia injection as needed to control pH, and then into two lined ponds equipped with mechanical aerators and a total capacity of 1.05 MG of storage. The treated effluent is pumped to a 30-acre land application area with pear orchards and future vineyards or recirculated back to the ponds.
- Big Valley Rancheria is a community collection system with three sewer lift stations that collects sewage from residences south of the casino, hotel, casino, RV park, gymnasium and Head Start facility. The wastewater treatment plant is designed as a Class V injection well system, which uses a subsurface drain field disposal method to treat and disperse the wastewater. The system has been designed under the USEPA's Underground Injection Control (IUC) program to ensure the protection of groundwater.

On-Site Sewage Disposal Systems

There are an estimated 16,000 on-site sewage disposal systems (i.e., OWTSs or septic/leach field systems) in Lake County (Peterson et al 2025). Standard septic tank / leach field systems are installed in the unincorporated areas of the County where there is no access to a municipal sewer collection system. The OWTSs are installed and inspected under the jurisdiction of Lake County Environmental Health Department and the Central Valley RWQCB.

Although the more densely populated areas around Clear Lake, including the City of Lakeport, Clearlake Oaks, and the City of Clearlake, are served by wastewater collection systems and treatment plants, many of the smaller communities rely on septic systems. A dense concentration of septic systems is present along the shores of the Lower Arm of Clear Lake and also in the Upper and Oaks Arms. These systems become problematic during periods of heavy rainfall and runoff, with failures attributed to root intrusion, limited percolation capacity, and high groundwater levels. Residential septic systems contain nitrates and phosphates, which contribute to nutrient loading to Clear Lake (California Rural Water Association 2023). This is especially problematic for OTWSs that are located along the shoreline or near Clear Lake.

In addition, problems with soil conditions, steep slopes, and high groundwater have precluded the use of conventional septic systems in some areas. For conventional OTWS systems, slopes cannot exceed 30 percent and the groundwater table must be at least 5 feet below the bottom of the leach field. Clay soils (Soil Group D) and saturated soils are not acceptable because of low percolation rates. Also, soils with rapid or very rapid permeability, such as very coarse sand, gravel, and cobbles, are problematic because of the potential to contaminate shallow groundwater. Alternative OWTSs have been approved by Lake County Environmental Health, including capped fill systems, sand filter systems, and steep slope systems.

Planning Areas

Cobb Mountain Planning Area

The Cobb Mountain Planning Area is not connected to any municipal wastewater collection system and the residents and commercial facilities rely solely on septic systems. There was a wastewater treatment package plant at Hoberg's Resort, but the facility burned down during the 2015 Valley Fire and has not been rebuilt.

East Lake Communities Planning Area

Development in the East Lake Communities Planning Area is connected to the LACOSAN Southeast System, CLOCWD, and the LACOSAN Northwest System. There is also one wastewater treatment package plant at the Brassfield Winery. The rest of the area is served by on-site OTWSs. A major concern is that some of the OTWSs that are situated along the shore of Clear Lake are failing and are releasing nutrients into the lake. The community of Glenhaven and the Spring Valley subdivision rely solely on OTWS.

Kelseyville Planning Area

Development in the Kelseyville Planning Area is connected LACOSAN's Kelseyville County Waterworks District No. 3, Wildhurst Winery's wastewater system, and Big Valley Rancheria's wastewater system. LACOSAN provides wastewater collection only to Assessment District 9-1, which includes Lands End and portions of Big Valley Rancheria and Soda Bay Road. The collected effluent is transported and treated at the City of Lakeport's WWTF under a mutual agreement between LACONSAN and the City.

The rest of the Kelseyville Planning Area is served by on-site OTWSs. Issues in some areas include high groundwater that impedes the percolation of leachate, such as the commercial area around Lampson Field and developed areas near Clear Lake.

Lakeport Planning Area

Development in the Lakeport Planning Area is connected to CLMSD, in the City of Lakeport and LACOSAN's NW Regional Wastewater Treatment System. Within the Lakeport Planning Area, virtually all the development around Clear Lake is connected to a wastewater collection system. However, the other locations in the Lakeport Planning Area, such as Scotts Valley, rely primarily on conventional OTWSs.

Lower Lake Planning Area

Development in northern Lower Lake is connected to LACOSAN's Southeast System. Portions of Lower Lake to the east, west, and south are not connected to the sewer system. These areas and the remainder of the Lower Lake Planning Area relies primarily on OTWSs.

Middletown Planning Area

There are two wastewater collection and treatment systems in the Middletown Planning Area. The community of Middletown, Harbin Springs Resort, and Anderson Springs is served by LACOSAN's Middletown Wastewater System. The Hidden Valley Lake CSD provides wastewater collection and treatment services to Hidden Valley Lake and the surrounding community. There is also one wastewater treatment package plant at the Guenoc Winery. The rest of the Middletown Planning Area is served by OTWSs.

North Lake Communities Planning Area

LACOSAN's NW Regional Wastewater System provides wastewater collection and treatment for the communities of Upper Lake, Nice, and Lucerne. The remainder of the North Lake Communities Planning Area relies on individual septic and leach field systems for the treatment and disposal of wastewater.

Rivieras Planning Area

The only location in the Rivieras Planning Area that is connected to a wastewater collection system is Clear Lake State Park, which is connected to LACOSAN's Kelseyville County Waterworks District No. 3. Because of the topography of the area as well as the distance between developed areas, connection to a wastewater collection system is economically impractical. Therefore, most of the Rivieras Planning Area relies on septic systems. Especially for existing development next to or in close proximity to Clear Lake, this is problematic, due to the potential for failing systems or high groundwater levels to result in the discharge of nitrates and phosphates into the lake. There are three wastewater package treatment plants in the Rivieras Planning Area: Mt. of Attention, Harbor View Mutual Water Company, and Konocti Harbor Resort.

STORMWATER INFRASTRUCTURE

Countywide Area

Lake County's storm drain system consists of streams, creeks, open ditches, culverts, and some flood control facilities that collect stormwater throughout the County and discharge it to the Eel River, Clear Lake, and Lake Berryessa. The County has three major drainage basins: the Upper Eel River Basin, which drains to the west into the Pacific Ocean; the Clear Lake Basin, which drains to the east into Yolo County; and the Upper Putah Creek Basin, which drains to the south

into Napa Valley (Lake County 2008). The Public Works Department is responsible for maintaining catch basins, culverts, and drainage inlets within unincorporated Lake County. The storm drain system includes numerous drainage inlets, culverts, connector outfalls, and outfalls. The stormwater drainage infrastructure around Clear Lake ultimately discharges into Clear Lake. The drainage in other areas typically discharges into streams and tributaries. Stormwater drainage along many of the roads in remote portions of Lake County discharges into forested areas or large undeveloped vacant parcels (Lake County GIS 2025).

Localized Flooding

Flooding in Lake County typically results from prolonged heavy rainfall during the period from November through March. Rain flooding on streams is characterized by high peak flows with durations of two to three days. On Clear Lake, the high lake stage could continue above flood level for many days. Of the streams, tributaries to Clear Lake, Scotts, Cole, Kelsey, and Adobe Creeks have the most serious flooding problems. These streams can also contribute to high lake stages and lakeshore flooding. Flood problems along Cache Creek downstream from Clear Lake mainly occur in the vicinity of Lower Lake and along the lower reaches of North Fork Cache Creek. There are also flood problems in the Coyote and Collayami Valleys and in Middletown (Lake County OES 2023).

Localized flooding may occur anywhere that rainfall exceeds the capacity of the drainage systems. Areas known to be subject to localized flooding include:

- Nice/Lucerne Cutoff
- Scotts Valley Road
- Hill Road
- New Long Valley Road
- Island Drive
- Keys Boulevard
- Lake Street
- St. Francis
- Soda Bay Road
- Lands End Drive
- Clearlake Keys Community
- Lands End Community Corinthian Bay Community.

Historically, much of the growth in the County has occurred adjacent to Clear Lake, rivers, or streams, resulting in significant damage to property and problems associated with stormwater runoff, including erosion, sedimentation, and degradation of water quality.

Phase II MS4 Permit

The responsibilities for implementation of the Phase II MS4 permit are shared jointly by Lake County, the City of Clearlake and the City of Lakeport under the management of the LCWPD and the auspices of the LCCWP. The areas under the jurisdiction of the Phase II MS4 permit include the Cities of Clearlake and Lakeport and the unincorporated areas of Clearlake Oaks, Kelseyville, Clearlake Riviera, Soda Bay, North Lakeport, Nice, and Upper Lake. The goal of the LCCWP is to

reduce the damage caused by polluted stormwater runoff and the impacts from increases in peak flows due to development.

Because Clear Lake has an established TMDL for nutrients, the permittees are responsible for TMDL monitoring. Each stormwater agency has an assigned waste load allocation and the responsibility to reduce sediment-bound phosphorus and nutrients (primarily phosphorus that is not sediment-bound), which are found in stormwater runoff that reaches Clear Lake. The LCCWP has developed a BMP effectiveness calculator tool that calculates the sediment-bound phosphorus loads that are reduced by a variety of stormwater BMPs. All new development within the County will be required to comply with the requirements of the Phase II MS4 permit, implement BMPs as described in the Lake County LID Manual, and implement the Lake County Hydrology Design Standards to reduce peak flows in stormwater runoff.

City of Lakeport

The City of Lakeport's Public Works Department maintains the storm drain system throughout the city. The storm drain system consists of a network of inlets and storm drains with eventual discharge into Clear Lake. Most of the City has curbs and gutters with storm drain inlets. However, the area south of Todd Road consists mainly of open channels and drainage ditches. Existing drainage facilities consist of box culverts, 8- to 21-inch PVC pipes, 6- to 72-inch corrugated metal pipes, and 12- to 60-inch reinforced concrete pipes (City of Lakeport 2025a).

There are several streams and tributaries as well as stormwater that flow into Clear Lake. Development over the years has exacerbated existing drainage problems and increased the potential for flooding. Shoreline flooding due to high lake levels and stream bank flooding caused by high intensity storms have resulted in historic flooding events. New construction increases the amount of impermeable surfaces and thus the amount of stormwater that flows through the City's storm drain system.

City of Clearlake

The City of Clearlake relies primarily on open channels and culverts to convey stormwater and flows from the streams that run through the city. Maintenance of the drainage system is conducted by the City's Department of Public Works. There is an absence of curbs and gutters throughout the city.

The lack of adequate storm drainage facilities to accommodate runoff from minor storms results in the risk of flood related damage to many properties. Many of the natural drainage channels are inadequate to carry flow during moderate to severe winter storms. The flat topography and low-lying areas adjacent to the shores of Clear Lake exacerbate the potential for flooding. During times when Clear Lake is at extremely high levels, the major watercourses that run through the city may overflow, also resulting in flooding. Development has also encroached into

the natural creek channels, further reducing the flow capacity of these channels (Lake LAFCO 2015).

Hidden Valley Lake Community Services District

The Hidden Valley Lake CSD is responsible for providing stormwater services to the Hidden Valley Lake subdivision (Winzler & Kelly 2000). Portions of the subdivision have experienced periodic flooding over the past 25 years. Hidden Valley Lake is in the Putah Creek Basin. The watershed drains from south Lake County southeast to Lake Berryessa in Solano County, and ultimately into the Sacramento River. Two main streams, Coyote Creek and Gallagher Creek, pass through the subdivision.

There are no curbs or gutters within the subdivision, but there is a storm drainage network that consists of corrugated metal (CMP) culverts and roadside ditches. Driveway crossings for the roadside ditches typically include a CMP or reinforced concrete (RCP) culvert. At the southeast edge of the subdivision, there is a levee along Putah Creek and a portion of Coyote Creek. Drainage from this area is piped through the levee in a 72-inch culvert. Stormwater behind the levee is pumped into Putah Creek via a stormwater pump station. According to the *2000 Master Storm Drainage Plan,* 78 drainage structures are undersized for the design flow and the stormwater pump station has inadequate capacity to convey the 10-year design storm (Winzler & Kelly 2000).

Planning Areas

Cobb Mountain Planning Area

There are no curbs or gutters in the Cobb Mountain Planning Area. Stormwater drainage primarily consists of drainage inlets along roadways, culverts, connector pipes, and outfalls to creeks (Lake County GIS 2025). The main drainage infrastructure is within the community of Cole, where the drainage from streets flows into creeks within the area, including Thurston, Cole, Rush, Big Canyon, and Sulphur Creeks. There also are drainage structures along Highway 175 and Bottle Rock Road.

Development in areas with high precipitation areas face drainage and erosion issues. Poor OTWS performance occurs where there are seasonally high water tables near riparian areas.

East Lake Communities Planning Area

There is no curb or gutter infrastructure in the East Lake Communities Planning Area. Stormwater drainage consists of drainage inlets, culverts, connector pipes, and outfalls that primarily discharge into Clear Lake. An area that has a developed storm drain system is the community of Clearlake Oaks, which relies on drainage inlets, culverts, and outlets that discharge to the marina or Clear Lake. Spring Valley has a drainage network along its roadways

that discharges to Wolf Creek, Long Valley Creek, or North Fork Cache Creek The rest of the East Lake Communities Area does not have a defined storm drain network other than isolated drainage structures along SR-20, SR-53, SR-303, and New Long Valley Road (Lake County GIS 2025).

Flooding is a major concern, mostly along the shoreline of Clear Lake and portions of the Clearlake Keys subdivision also are within the 100-year floodplain. Localized flooding can also occur outside of FEMA 100-year floodplains due to inadequate drainage facilities. Most of the affected areas are within the developed communities at the base of the hills along Clear Lake. Morrison Creek, Schindler Creek, and other creeks that flow into Clear Lake have been filling with debris and sediment, exacerbating local flood problems. Another flood related issue along the shoreline is the potential of leakage from septic tanks into the lake. Floodwaters have infiltrated the sewer system in Clearlake Oaks during past flood events.

As additional development has occurred over the years in this area, impervious surfaces have increased and drainage facilities are no longer adequate to handle the increased runoff. The County is preparing a series of master drainage plans for specific areas of the County.

Kelseyville Planning Area

There are no curbs or gutters within the Kelseyville Planning Area. Stormwater from streets and drainage inlets are conveyed via connector pipes to outfalls along Kelsey Creek, which runs through the community. Areas north of Kelseyville and stormwater that collects in Kelsey Creek eventually discharge to Clear Lake. There are isolated drainage networks along Bottle Rock Road and SR- 542 (Kelsey Creek Drive) that drain to Cole Creek and Kelsey Creek, respectively. Farther west, collected stormwater drains to Adobe Creek and Highland Springs Lake. Most of the southern portion of the Kelseyville Planning Area consists of rugged mountains with no stormwater collection network.

Due to its flat terrain, the Kelseyville community is subject to drainage problems and flooding. Flooding is known to occur along Adobe, Kelsey, and Cole Creeks. Overflows from Adobe Creek impact the community of Finley and several hundred acres of agricultural land and pasture. Overflows from Kelsey Creek occur about one mile north of Kelseyville, where it overflows the west and east banks and adds to Cole Creek flows at Soda Bay Road. Because of its limited channel capacity, Cole Creek overflows nearly every year, with extensive sheet flow during major flood events (Lake County OES 2023).

Storm drain structures are often inadequate to contain peak storm flows. The County is embarking on a series of master drainage plans to address these issues.

Lakeport Planning Area

West of the city of Lakeport, there are scattered storm drain collection systems along SR-409 (Scotts Creek Road) that discharge to tributaries of Scotts Creek (Eight Mile Valley and Panther Creeks). Scotts Creek eventually discharges into Clear Lake.

Several of the creeks in Scotts Valley overflow and inundate portions of Scotts Valley. There is a 2.6-mile levee along Scotts Creek west of SR-29 to protect residences and agricultural land to the west of the creek. However, the levee is not adequate and prone to failure, resulting in flooding that can extend for several days. Stormwater drainage is unable to flow into Scotts Creek during severe rainfall events, also causing flooding. Clear Lake can also cause flooding because the natural outlet, Cache Creek, is too small to allow floodwater to exit the lake as fast as it enters. Overflows from Thompson Creek near Soda Bay Road and Lyons Creek along Lakeshore Boulevard have resulted in localized flooding in the past (Lake County OES 2023).

Localized flooding can also occur due to a lack of or inadequate drainage infrastructure. This typically occurs during the rainy season from November through April. When rainfall exceeds the capacity of the drainage system or the system is clogged with debris, water accumulates in the streets until it results in overland flow. Most of the drainage system is not adequate to contain peak flow rates.

Lower Lake Planning Area

The community of Lower Lake relies primarily on drainage inlets, culverts, connector pipes, and outfalls to creeks for their drainage system. For the most part, there are no curbs and gutters. However, the community of Lower Lake has excellent natural drainage features. The storm drainage system discharges to Seigler Creek in the western portion of the community, and Copsey Creek and Herndon Creek in the eastern portion of the community. These creeks eventually discharge into Cache Creek. The northwestern corner of the Lower Lake Area drains to Clear Lake. The rest of the Planning Area has isolated drainage systems from roadways such as Morgan Valley Road and SR-29 that drain to Soda Creek and Copsey Creek, respectively. A portion of SR-29 east of the community of Lower Lake drains to Pinkeye Lake (Lake County GIS 2025). Parts of Excelsior Valley have seasonal high groundwater levels, which can result in poor drainage and problems with septic systems.

Middletown Planning Area

The community of Middletown has curbs and gutters in the downtown area. The rest of the community relies on drainage inlets, ditches, culverts, and connector pipes to convey stormwater from the streets. This can result in ponding along roadways and localized flooding. The collected stormwater is discharged to Dry Creek and St. Helena Creek which run through

the community. This can result in potential flooding when river levels are high. Dry Creek and St. Helena Creek eventually connect to Putah Creek.

The Hidden Valley Lake subdivision does not have curbs or gutters, but there is a storm drainage network that consists of corrugated metal (CMP) culverts and roadside ditches that is maintained by the Hidden Valley Lake CSD. Driveway crossings for the roadside ditches typically include a CMP or reinforced concrete (RCP) culvert. At the southeast edge of the subdivision, there is a levee along Putah Creek and a portion of Coyote Creek. Drainage from this area is piped through the levee in a 72-inch culvert. Stormwater behind the levee is pumped into Putah Creek via a stormwater pump station. Collected stormwater is primarily discharged to Coyote Creek and Putah Creek. However, some stormwater runoff from homes and streets will naturally flow into Hidden Valley Lake.

The other locations within the Middletown Planning Area that have an established storm drainage system are along SR-175, SR-29, and Butts Canyon Road. The rest of the Middletown Area does not have any stormwater infrastructure. The valley areas, such as Long Valley and Coyote Valley, which have seasonally high groundwater levels, generally have poor drainage. Localized drainage problems have been reported in the areas around Dry Creek and St. Helena Creek in the residential area north of SR-175, downtown Middletown west of Santa Clara Avenue, along SR-29 and Big Canyon Road north of Butts Canyon, south along Butts Canyon Road, and across SR-29 from the Hidden Valley Lake subdivision.

North Lake Communities Planning Area

A storm drain network is present in the communities of Upper Lake, Nice, and Lucerne. Most of these communities do not have curbs and gutters, although there are isolated patches of curbing along SR-20. The storm drain infrastructure consists primarily of roadway drainage inlets, culverts and collector pipes beneath the roadways. The collected stormwater from Nice and Lucerne drains into Clear Lake. The collected stormwater from the western portion of Upper Lake drains into Clover Creek, which eventually discharges into Cache Creek. The middle and eastern portion of Upper Lake drains into two unnamed streams, which eventually connect to Cache Creek.

The northern portion of North Lake Communities Planning Area is rugged and mountainous with natural drainage. However, there is an isolated drainage network along Highway 301 (Elk Mountain Road) that drains into Soda Creek, Eel River, and East Fork Middle Creek. There is no storm drain infrastructure in the Blue Lakes area other than isolated portions along Laurel Dell Road with culverts that drain into Blue Lake. Bachelor Valley also has a limited storm drain system with culverts along Bachelor Valley Road, Witter Springs Road, and Highway 304 that drain to Cooper Creek and Tule Lake. Portions of Bachelor Valley experience flooding when Tule Lake backs up at the culverts under SR-20.

Flooding is a concern in the Upper Lake area. Clover Creek flows through the middle of the community and Middle Creek flows along the western boundary of the area. Clover Creek joins Middle Creek about 1,000 feet south of SR-20. Middle Creek and its tributaries have a history of flooding, so levees were built along Middle Creek by the Army Corps of Engineers to protect the Upper Lake community. The Lake County Watershed Protection District operates and maintains the Middle Creek Flood Control Project that includes 14.4 miles of levees, a pump station, and a diversion channel to divert Clover Creek overflow around the community of Upper Lake. Through funds awarded by DWR' Small Communities Flood Risk Reduction Program, Lake County is conducting a study to identify flood risk reduction solutions for the community of Upper Lake.

There also are levees downstream of the Middle Creek – Scotts Creek confluence to protect the Reclamation Area from lake flooding. These levees are of substandard construction and will only protect the area from a four-year flood. Operation and maintenance of these levees are performed by DWR. There is a proposal to restore the Reclamation Area through the Middle Creek Flood Damage Reduction and Ecosystem Restoration Project. The plan is to reconnect this area as a functional wetland, which will eliminate flood risk to residences and agricultural land and improve the water quality of Clear Lake (Lake County 2025b).

Localized flooding may also occur in the community of Upper Lake and Nice due to inadequate drainage facilities. Level topography, inadequate maintenance, and individual property owners diverting drainage are aggravating the situation. The Blue Lakes area also has seen severe flooding in the past. However, Lake County is working on developing a Master Drainage Plan to alleviate some of these issues.

Rivieras Planning Area

Most of the storm drain infrastructure is along the shores of Clear Lake: Soda Bay and Riviera Height, Buckingham, Riviera West, and Clearlake Riviera. As is the case for most of Lake County, there are no gutter or curbs and drainage consists of roadway ditches, culverts, inlets, and connector pipes. All the collected stormwater drains to Clear Lake or in the area around the Buckingham Golf Course into Little Borax Lake. Stormwater collected along SR-29 drains to Thurston Creek. The mountainous areas in the west near Mount Konocti do not have a storm drain infrastructure and rely on natural drainage that flows from slopes to lower elevations.

The lands along the Clear Lake shoreline are subject to flooding, as the Cache Creek outlet channel is too narrow and shallow to accommodate the release of water from Clear Lake after prolonged rainstorms, resulting in a high water level in the lake and sheet flooding in the adjacent low-lying areas. Localized flooding also occurs in portions of the Clear Lake Riviera subdivision during heavy rain events due to inadequate drainage facilities. Portions of Thurston Creek on both sides of SR-281, south of Clear Lake Riviera, experience localized flooding in wetland areas from storm water flows from Clearlake Riviera. Although water infiltration is

generally good within the Rivieras Planning Area, the storm drain controls are disconnected and in some areas are inadequate to meet peak stormwater flow rates.

ENERGY INFRASTRUCTURE

Electricity

Electricity is quantified using kilowatts (kW) and kilowatt-hours (kWh). A kW is a measure of 1,000 watts of electrical power and a kWh is a measure of electrical energy equivalent to a power consumption of 1,000 watts for one hour. The kWh is commonly used as a billing unit for energy delivered to consumers by electric utilities. A therm is a measurement of the amount of heat energy in heating fuels, equal to 100 kBTU. According to the CEC's Electricity Consumption Database, total energy usage in California was 282,783 gigawatt-hours (GWh) of electricity, the latest year of available information (CEC 2025a). A gigawatt is equal to one million kilowatts.

PG&E is a publicly traded utility company that provides electric service to approximately 16 million people throughout a 70,000-square-mile service area in northern and central California. PG&E's service area stretches from Eureka in the north to Bakersfield in the south, and from the Pacific Ocean in the west to the Sierra Nevada in the east. PG&E's distribution system includes 106,681 circuit miles of electric distribution lines (PG&E 2024a). Total electricity consumption in PG&E's service area was 75,338 GWh in 2024 (CEC 2025a). Sources of electricity sold by PG&E in 2024 include the following (PG&E 2024b):

- 23 percent renewable – geothermal, biopower, small hydroelectric, solar, and wind power
- 63 percent nuclear
- 12 percent large hydroelectric
- 1 percent natural gas

In 2024, the total electricity demand in Lake County was estimated at 279,196,898 kWh (279.2 GWh) with approximately 68 percent from residential usage (see Table 3.6-1, *Estimated Existing Electricity and Propane Demand*, in Section 3.6, *Energy*, of this Draft EIR). The cost of electricity is relatively high at 39.34 cents per kWh in Lake County as compared to a California average of 30.44 cents/kWh and nationwide average of 16.14 cents/kWh (Find Energy 2024).

Building Heating Fuels

There are no natural gas pipelines and therefore no natural gas distribution system within Lake County. Residential and commercial properties rely on private vendors who provide propane, fuel oil, and kerosene for heating and cooking needs.

Liquefied petroleum gas (LPG), or propane, is a mixture of hydrocarbon gases predominantly composed of propane and butane used as an alternative source of fuel. Propane is commonly used for residential and commercial heating, cooking, transportation, agriculture, industrial processes, power generation, and refrigeration and air conditioning. In 2024, the total propane demand in Lake County was estimated at 2,242,123 million British thermal units (MMBTU) with approximately 88 percent from residential usage (see Table 3.6-1 in Section 3.6, *Energy*, of this Draft EIR). Propane suppliers serving Lake County, California, include Suburban Propane, which has a dispatch location in Lakeport, and Hunt Propane, which serves Northern California (Suburban Propane 2025; Hunt 2025). Other national companies like AmeriGas and Ferrellgas are also likely to serve the area and can be contacted for local services.

SOLID WASTE

Collection, Transfer, and Recycling

Curbside garbage, recycling, and green waste collection is available throughout Lake County provided by Clearlake Waste Solutions for the City of Clearlake, Lakeport Disposal Company for the City of Lakeport, and Lake County Waste Solutions for the rest of the County. Both Clearlake Waste Solutions and Lake County Waste Solutions are owned by the same parent company, C&S Waste Solutions, and provide the same services. Single-stream recyclable collection is available throughout Lake County; residents and commercial businesses do not have to separate their recyclables by type.

For both Clearlake Waste Solutions and Lake County Waste Solutions, three collection bins are provided for residential customers with a gray lid for garbage, blue lid for recyclables, and green lid for green waste. Solid waste collection occurs weekly for residential customers. For commercial and muti-family residential properties, the same bins are provided and pickup is scheduled on a daily, bi-weekly, or weekly basis, depending on the volume of waste generated by the business or multi-family property. Debris boxes and roll off bins are available for special projects or large jobs. Household hazardous waste drop-off events are posted in the Lake County Recycling News or Clearlake Recycling News quarterly newsletters (LCWS 2024).

Lakeport Disposal Company provides garbage, recycling and green waste collection services within the city limits of Lakeport. Curbside trash, recycling, and green waste is collected on a weekly basis in separate bins. One large bulky item or seven bags can be picked up free of charge once a year and large appliances can be picked up for free, except refrigerators and freezers that includes a $45 freon removal fee. The dates and locations for household waste drop-off are listed on Lakeport Disposal Company's website (Lakeport Disposal Company 2024).

Recycling and composting programs in Lake County are designed to make other waste management operations more environmentally friendly and economically efficient. The Lake County Waste Solutions Transfer Station and Recycling Center, at 230 Soda Bay Road in

Lakeport, operates as a location for the deposit of municipal solid waste as well as several other household and commercial materials that are recycled. When loads of mixed waste are received, they are sorted to the maximum extent feasible to extract recyclables and increase diversion from landfilling (C&S 2024a). The facility is permitted to receive 250 tons/day. Scrap metal and some types of hazardous and electronic waste can also be dropped off at this transfer station at no charge.

The Quackenbush Mountain Resource Recovery and Compost Facility (also known as the South Lake Resource Recovery and Compost Facility) is located at 16520 Davis Avenue in Clearlake. The facility accepts clean wood and green waste and construction and demolition material. The green waste is composted and is available for purchase as landscape materials. The construction debris is crushed and ground and is available for purchase as Class II recycled aggregate base rock. A large volume transfer station and processing facility is in the planning stage at this location with a maximum throughput of 460 tons/day (CalRecycle 2019c).

There also are five buy back centers in Clearlake, Lakeport, Lucerne, Nice, and Clearlake Oaks at grocery stores and shopping centers where cans and bottles can be recycled and redeemed for cash (LCIWM 2024).

Solid Waste Disposal

Solid waste from all of Lake County is transferred to Eastlake Landfill, at 16015 Davis Avenue in Clearlake. The facility is owned and operated by the Lake County Public Works Department. It is regulated under the WDR permit issued by the Central Valley RWQCB (Order R5-2024-0033), which has incorporated the plans for expansion of the landfill in the most recent WDR permit. The Local Enforcement Agency (LEA) is Lake County Environmental Health Department.

In 2023 Lake County generated a total of 55,071 tons of solid waste that was disposed in landfills with 98 percent of the total waste generated transported to Eastlake Sanitary Landfill (CalRecycle 2025a). Of the solid waste generated, approximately 27.5 percent originated from the City of Clearlake, 10 percent was from the City of Lakeport, and 62 percent was from unincorporated Lake County (CalRecycle 2025b). In 2019, the latest date on record at CalRecycle, minor amounts of solid waste were transported to Clover Flat Resource Recovery Park, Potrero Hills Landfill, Altamont Landfill & Resource Recovery, Recology Hay Road, Anderson Landfill, Yolo County Central Landfill, and Central Disposal Site for a total of approximately 1,100 tons (CalRecycle 2025b).

The Eastlake Sanitary Landfill is on a 219.5-acre property in Clearlake. The permitted disposal area acreage is approximately 74.6 acres. The balance of the property provides a buffer zone around operations. The facility is a canyon fill landfill and operation of the facility as a sanitary landfill began in 1972. Detailed information regarding Eastlake Sanitary Landfill is provided in Table 3.19-10, *East Lake Sanitary Landfill*.

Table 3.19-10 Eastlake Sanitary Landfill

Landfill Location and Name	Maximum Permitted Throughput, tons/day	Average Disposal, tons/day	Residual Disposal Capacity, tons/day	Remaining Capacity, cubic yards	Estimated Closing Year
Eastlake Sanitary Landfill 16015 Davis Ave Clearlake, CA 95422	200	183	17	2,859,962	2043

Sources: CalRecycle 2023, 2024.

1 The landfill is assumed to be operational for 300 days per year.

Eastlake Landfill is approaching its permitted daily average tonnage of 200 tons/day. The permit is scheduled to expire on December 13, 2026, and will need to be revised with updated population.

Solid Waste Diversion and Recycling

Compliance with AB 939 is measured by comparing the CalRecycle target disposal rates for residents and employees to actual disposal rates. There are different target disposal rates for the two cities within the County and unincorporated Lake County, as shown in Table 3.19-11, *CalRecycle Target Disposal Rates*.

Table 3.19-11 CalRecycle Target Disposal Rates

Jurisdiction	Population Disposal Target (pounds/day)	Population Disposal Rate (pounds/day	Employee Disposal Target (pounds/day)	Employee Disposal Rate (pounds/day)
Clearlake	4.3	5.0	22.6	20.7
Lakeport	6.1	6.1	11.1	10.0
Unincorporated Lake County	3.4	5.2	17.5	24.9

Source: CalRecycle 2023.

As can be seen in Table 3.19-11, *CalRecycle Target Disposal Rates,* the City of Lakeport has met its solid waste diversion goals. However, the City of Clearlake and unincorporated Lake County have not met their goals, which will require efforts to increase recycling rates. The increase in residential and employee disposal rates in recent years may be attributed to the impacts of wildfires in Lake County, which increase the volume and amount of debris during cleanup efforts.

Illegal Dumping

Another issue related to solid waste in Lake County is illegal dumping, which has immediate and long-term adverse effects of health and safety, community assets, community pride, economic development, and natural habitats. Illegal dumping hot spots are widespread, occurring in rural areas and agricultural land, and in urban environments affecting many communities regardless of socioeconomic status. Two of the sites where illegal dumping occurs are Morrison Creek and Borax Lake. Lake County Environmental Health Department is working with the Clean Water Program and other County agencies to combat illegal dumping. Clean Clearlake is a community effort to reduce the amount of litter and illegal dumping by providing education and outreach, additional waste receptables in parks, community clean-up days, and free dump days (Clean Clearlake 2024).

TELECOMMUNICATION SERVICES

Telecommunications services in Lake County include wireless internet, cellular and landline telephone, cable television, and satellite television. Numerous providers serve the county, offering residents and businesses a range of options. Major telephone and television providers include AT&T, Verizon, T-Mobile, U.S. Cellular, Dish, and DirecTV. Internet service providers operating in the county include Mediacom, T-Mobile Home Internet, HughesNet, Viasat, DigitalPath, and Lake County Broadband Solutions, among others (ISP 2025).

High-speed internet is available from multiple providers throughout Lake County, though service quality and availability vary between urban centers and rural areas. Mediacom provides cable internet service to approximately 90 percent of households in the county, with download speeds up to 1,000 megabits per second (Mbps), offering the fastest and most widely available broadband option (ISP 2025). AT&T provides digital subscriber line (DSL) service to much of the county—covering approximately 69 percent of households—though speeds are generally lower, averaging up to 10 Mbps in many areas (ISP 2025). EarthLink also provides DSL service through AT&T's network in portions of the county. Fixed wireless providers such as DigitalPath, T-Mobile Home Internet, Verizon Fixed Wireless, and Lake County Broadband Solutions expand broadband access, particularly in rural and outlying areas. DigitalPath reports coverage of approximately 86 percent of households with speeds up to 200 Mbps, while T-Mobile Home Internet is available to roughly 70 percent of households with speeds up to 100 Mbps (ISP 2025). Regional provider Lake County Broadband Solutions offers fixed wireless service to about 62 percent of households with speeds up to 80 Mbps (ISP 2025).

Satellite internet providers, including HughesNet and Viasat, offer countywide coverage, providing an alternative for residents in remote areas where cable or DSL service may not be available (ISP 2025). However, satellite service typically involves higher latency and lower data caps than cable or fixed wireless service. As of 2025, fiber-optic internet is not widely available

in Lake County, and no major provider has reported significant fiber-to-the-home deployment (ISP 2025).

Overall, Lake County residents and businesses have access to multiple telecommunication options, though service levels and speeds vary substantially by location. Broadband coverage is strongest in incorporated areas and along major transportation corridors, while remote or mountainous regions remain limited to fixed wireless or satellite connections.

3.19.3 Standards for Analysis

Appendix G, *Environmental Checklist Form*, of the California Environmental Quality Act (CEQA) Guidelines states that the proposed project would result in a significant impact related to utilities and service systems if it would:

a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.

b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years.

c) 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.

d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.

e) Comply with federal, state, and local statutes and regulations related to solid waste.

3.19.4 Project Impact Discussion

a) Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Water

The proposed General Plan 2050 buildout estimate would add approximately 3,830 dwelling units and 1,379,720 square feet of nonresidential development to Lake County by 2050.

Additional development would occur in areas currently served by public water systems or adjacent to their service areas. Implementation of the proposed General Plan 2050 is expected to increase the water demand by 1,145 AFY distributed among 11 water purveyors, as shown in Table 3.19-12, *Increase in Water Demand with Proposed General Plan 2050 Buildout*.

Table 3.19-12 Increase in Water Demand with Proposed General Plan 2050 Buildout

Water Purveyor	Planning Area	Increase in Water Demand (AFY)	Clear Lake Intake	Groundwater
Callayomi County Water District	Middletown	147.4		X
Hidden Valley Lake CSD	Middletown	246		X
Lower Lake County Water District	Lower Lake	97		X
Clearlake Oaks County Water District	East Lake Communities	35.8	X	
Mount Konocti Mutual Water Company	Rivieras	72.8	X	
Kelseyville County Waterworks District 3	Kelseyville	205		X
Lake County CSA No. 21	Lakeport	250	X	
Upper Lake County Water District	North Lake Communities	25.8		X
Nice Mutual Water Company	North Lake Communities	33.6	X	
Lucerne Water Company	North Lake Communities	4.5	X	
Cobb Area County Water District	Cobb Mountain	27	X	X
TOTAL		**1,145**		

For the proposed new dwelling units, the increase in water demand was calculated by taking the water demand per residential connection for each water purveyor and multiplying by the number of new dwelling units. This is a conservative estimate because compliance with the CALGreen, the CPC, and the County's MWELO for outdoor water use would result in a reduction in per-capita water usage rates of at least 20 percent, which was not accounted for in these estimates. Approximately 94 percent of the housing stock in Lake County was built before 2008, which is the date when CALGreen was enacted (US Census 2025). For the non-residential square

footage, a water demand factor of 0.1 gallons per day (gpd)/square foot was used as an estimate, which is a widely used design standard for mixed-use and commercial/office buildings.

The increase in water demand for Hidden Valley Lake CSD of 246 AFY is associated with the pipeline project, the Valley Oaks Planned Development, which would add 488 dwelling units and 661,241 square feet of commercial land use to the Middletown Planning Area. The Guenoc Valley Mixed Use Planned Development, which would also be in the Middletown Planning Area, would have its own public water system and wastewater treatment system, and therefore is not included in this water demand estimate.

Five of the water purveyors use groundwater as their water supply source. Kelseyville County Waterworks District 3 is the only water purveyor that is within a groundwater basin (Big Valley) that has a GSP. The basin is not in overdraft and the amount of water that would be pumped with implementation of the proposed General Plan 2050 (205 AFY) would not exceed the sustainability goals of the GSP. The latest GSP Annual Report shows that groundwater elevations are stable and groundwater storage is estimated to be 60,000 AF with an annual groundwater withdrawal of 25,100 AFY (Lake County WPD 2025a). Therefore, an increase of 205 AFY is within the storage capacity of the aquifer. The rest of the water purveyors are in groundwater basins that do not have GSPs but are under the purview of the Lake County Groundwater Management Plan. The Coyote Valley, Collayomi Valley, Lower Lake Valley, and Upper Lake Valley groundwater basins have sufficient groundwater storage capacity for the estimated water demand increase associated with buildout of the General Plan 2050. Although additional water distribution pipelines may be required to serve new development, this would not result in a significant environmental effect.

Five of the water purveyors listed in Table 3.19-12, *Increase in Water Demand with Proposed General Plan 2050 Buildout*, obtain water from Clear Lake as their water supply source. Clear Lake requires advanced treatment for drinking water. Seasonal harmful algal blooms release cyanotoxins, increase organic loading, cause pH wings, decrease oxygen availability, increase ammonia concentrations, and may precipitate iron and manganese. The resulting water treatment challenges are decreased filter run times, high water turbidity, increased sludge production, more frequent backwash cycles, increased coagulant and disinfectant demand, the formation of chloramines and disinfection byproducts, and taste, color, and odor concerns. Despite these challenges, all these water purveyors meet or exceed State and federal primary and secondary drinking water standards, although odor issues are sometimes reported (California Rural Water Association 2023).

For the five Clear Lake water purveyors, Table 3.19-13, *Water Demand and Water Treatment Capacity,* provides the total estimated water demand with buildout of the proposed General Plan 2050 and compares it to the capacity of the water treatment plants.

Table 3.19-13 Water Demand and Water Treatment Capacity

Water Purveyor	Current Demand (AFY)	Increase in Water Demand (AFY)	Total Water Demand (AFY)	Water Treatment Plant Capacity (AFY)
Clearlake Oaks County Water District	733	36	769	1,367
Mount Konocti Mutual Water Company	305	73	378	1,120
Lake County CSA No. 21	423	250	673	1,210
Nice Mutual Water Company	305	34	339	1,027
Cal Water Service – Lucerne Water Company	192	4.5	197	1,120

Source: California Rural Water Association 2023 for water treatment plant capacity converted from MGD.

All the Clear Lake water purveyors have the capacity to meet the increase in water demand associated with the proposed General Plan 2050 buildout. However, there is one potential constraint that is not related to treatment plant capacity. The water purveyors must enter into the agreements with YCFCWCD that specify how much water they can purchase from the District in AFY. The Solano Decree also specifies the maximum amount of water that the District can withdraw, tied to the lake's level on a specific date. If the lake level is 3.22 feet or lower on May 1 based on the Rumsey Gage, the District cannot withdraw any water from the lake. This impacts the water purveyors who have established water conservation and drought implementation measures to account for reduced water availability.

New development under the proposed General Plan 2050 would be required to implement the water-efficient requirements for new construction in accordance with Lake County Ordinance Code, the CALGreen, and the CPC. Also, individual projects that meet the thresholds established in SB 610 (e.g., 500 or more dwelling units) would be required to prepare a WSA to ensure that sufficient water is available to serve the project.

There are sufficient available groundwater supplies and the Clear Lake water purveyors have the capacity to accommodate increased growth without the construction of new or expanded water treatment facilities. Water users also pay connection fees and monthly water usage charges so that the water purveyors can maintain and expand their water distribution systems. Compliance with the LCCO requirements for new construction and water efficient landscaping. Additionally, the proposed General Plan 2050 contains policies and actions that require local planning and development decisions to consider impacts on utilities and service systems and that would minimize impacts to water supply and water infrastructure. These are shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the

abbreviation USS. In particular, the following key policies and actions would serve to support water infrastructure:

- Policy HS-8.18 requires coordination with water providers to maintain and enhance water supply infrastructure to ensure adequate, long-term water supplies for existing and future daily demands and firefighting suppression requirements.
- Policy WR-1.3 requires coordination of reviews of development proposals and potential new regulations impacting water quality and/or supply with local water service providers.
- Policy WR-1.4 requires review of local groundwater management plans and consultation with local water service agencies when considering the expansion of Community Growth Boundaries to ensure such expansions do not adversely affect water quality or supply.
- Policy WR-3.1 requires preservation of existing water supplies and pursuit of viable opportunities to tap into new water sources, including through careful management of groundwater and surface water resources, promotion of water conservation programs, and effective stewardship and expansion of water supply facilities in the county.
- Policy WR-3.4 requires coordination with Lake County and Yolo County water management agencies and other relevant interested parties to explore opportunities for mutually beneficial water resource projects and collaborative water management strategies to increase water supply and ensure sustainable water management.
- Policy WR-4.8* requires that new development projects demonstrate there is sufficient water supply to meet the additional demand associated with the proposed project prior to project approval and, where there is not sufficient water, ensure potential impacts on water supply are mitigated through measures such as the installation of low-flow water fixtures, water conservation efforts, or the retrofit of existing uses to offset increased demand. Require new development to obtain a will-serve letter from the water purveyor within the service area prior to the issuance of construction permits to ensure that the water purveyor has the capacity to supply water to the project.
- Policies CM-LU-1.4, EL-LU-1.4, K-LU-1.4, L-LU-1.4, LL-LU-1.4, M-LU-1.4, NL-LU-1.4, and R-LU-1.4 ensure future amendments to the General Plan Land Use map only allow development where it has access to adequate water supply, wastewater treatment, and public roadways; avoids steep terrain, sensitive natural resources, and natural hazards; and provides appropriate buffers with agricultural land and other incompatible uses.
- Policies CM-LU-5.4, EL-LU-5.4, K-LU-5.4, L-LU-5.4, LL-LU-5.4, M-LU-5.4, NL-LU-5.4, and R-LU-5.4 encourage medium-density residential development that is compatible with the neighborhood character, is close to services, and where adequate infrastructure is available or can be made available.
- Policies CM-LU-7.3, EL-LU-7.3, K-LU-7.3, L-LU-7.3, LL-LU-7.3, M-LU-7.3, NL-LU-7.3, and R-LU-7.3 require new industrial or heavy commercial uses to be sited appropriately, on land with average slopes not exceeding 20 percent and outside of a hazard zone, preferably served by public sewer and water facilities and within a Community Growth Boundary.

- Policies CM-PF-1.1, EL-PF-1.1, K-PF-1.1, L-PF-1.1, LL-PF-1.1, M-PF-1.1, NL-PF-1.1, and R-PF-1.1 ensure that all neighborhoods have access to safe, well-maintained public facilities, utilities, and services that meet community needs now and as the community grows.
- Policies CM-PF-1.6*, EL-PF-1.8*, K-PF-1.8*, L-PF-1.8*, LL-PF-1.8*, M-PF-1.8*, NL-PF-1.8*, and R-PF-1.8* require new development projects to provide their own infrastructure, tie into existing infrastructure, or be required to provide infrastructure that will tie into future infrastructure, as determined by the County and other affected agencies.
- Policies EL-PF-1.9*, K-PF-1.9*, L-PF-1.9*, LL-PF-1.9*, M-PF-1.9*, NL-PF-1.9*, and R-PF-1.9* require, prior to project approval, that new development projects will not create significant adverse impacts on existing infrastructure by implementing County-approved mitigation measures to reduce the impact.
- Policies CM-PF-4.2*, EL-PF-4.3*, K-PF-4.3*, L-PF-4.3*, LL-PF-4.3*, M-PF-4.3*, NL-PF-4.3*, and R-PF-4.3*require new development to demonstrate the availability of a safe, sanitary, and environmentally sound water delivery system with adequate capacity, including by securing a will-serve letter from the water purveyor within the service area prior to the issuance of construction permits, to ensure that the water purveyor has the capacity to supply water to the project. It requires the water purveyor to delineate if interior fire sprinklers can be connected to the system.
- Actions CM-PF-4.a, EL-PF-4.a, K-PF-4.a, L-PF-4.a, LL-PF-4.a, M-PF-4.a, NL-PF-4.a, and R-PF-4.a require pursuit of all available State and federal funding sources to upgrade publicly managed community water systems.
- Action CM-PF-4.b, EL-PF-4.b, K-PF-4.b, L-PF-4.b, LL-PF-4.b, M-PF-4.b, NL-PF-4.b, and R-PF-4.b require work with water service providers to upgrade substandard water systems to ensure adequate fire flows and backup power sources.
- Action CM-PF-4.f*, EL-PF-4.h*, K-PF-4.f*, L-PF-4.g*, LL-PF-4.g*, M-PF-4.h*, NL-PF-4.i*, and R-PF-4.g* require in water districts where there is insufficient water to serve new development, new developments to offset demand so that there is no net increase in demand through measures such as the installation of low-flow water fixtures, water conservation efforts, or the retrofit of existing uses to offset increased demand. These measures shall be achieved in partnership with the applicable water district.

However, growth associated with the proposed General Plan 2050 would cause a **potentially significant** impact, especially to water purveyors that use Clear Lake as a water supply source.

Impact UTIL-1: Impacts from potential future development under the proposed General Plan 2050 could create a significant impact on water infrastructure.

Significance with Mitigation: Implementation of the proposed General Plan 2050 policies and actions as well as compliance with CALGreen building standards that reduce water usage for new construction, would reduce potential impacts to water demand and water infrastructure. Specifically, proposed Policy WR-4.8* and Actions CM-PF-4.f*, EL-PF-4.h*, K-PF-4.f*, L-PF-4.g*,

LL-PF-4.g*, M-PF-4.h*, NL-PF-4.i*, and R-PF-4.g* ensures that new development projects demonstrate there is sufficient water supply to meet the additional demand associated with the project or how the development would development to offset demand. However, issues remain regarding the availability of water from Clear Lake during drought conditions. Also, toxic algae blooms, which typically occur twice a year, present problems that require additional treatment for the water purveyors that use Clear Lake as a water supply source. Although the proposed General Plan 2050 policy and actions would reduce project-level impacts related to water availability and infrastructure, it still would not be sufficient to reduce impacts at the program level, and impacts would be **significant and unavoidable.** The identification of this program-level impact does not preclude the finding of less-than-significant impacts for subsequent individual projects that meet applicable thresholds of significance.

Wastewater

Most of the proposed development under the proposed General Plan 2050 would be in areas already served by sewer collection systems and WWTPs. The existing wastewater demand was obtained from the latest Sewer System Management Plans (SSMPs). The increase in wastewater demand was calculated for new residential dwelling units using the wastewater demand factor of 210 gpd/DU and multiplying by the number of new dwelling units. This is a conservative estimate because compliance with the CALGreen and the CPC requires the installation of low-flow water fixtures, resulting in lower per-capita indoor water usage and reduced per-capita wastewater generation. For the non-residential development, the same factor used to determine water demand of 0.1 gpd/sf was used to estimate the wastewater demand, conservatively assuming that 100 percent of the water demand becomes wastewater. Table 3.19-14, *Wastewater Demand and Treatment Capacity*, provides the expected increase in wastewater demand with buildout of the proposed General Plan 2050 and compares the total wastewater demand to the current RWQCB WDR permits.

Table 3.19-14 Wastewater Demand and Treatment Capacity

Wastewater Purveyor	Existing Demand (MGD))	Increase in Wastewater Demand (MGD)	Total Wastewater Demand (MGD)	RWQCB Permit Limit (MGD)	Exceeds Permit Limit
LACOSAN NW WWTP	1.6	0.28	1.88	2	No
LACOSAN SE WWTP	1.9	0.15	2.1	6.5	No
LACOSAN Middletown WWTP	0.13	0.09	0.22	0.15	**Yes**
LACOSAN Kelseyville WWTP	0.18	0.15	0.33	0.26	**Yes**
Clearlake Oaks WWTP	0.33	0.04	0.37	0.5	No
Hidden Valley WWTP	0.35	0.17	0.52	0.35	**Yes**
TOTAL	**4.49**	**0.88**	**5.37**	--	--

Source: LACOSAN Sewer System Management Plans, RWQCB WDR permits, and PlaceWorks (2025).

As shown in Table 3.19-14, *Wastewater Demand and Treatment Capacity,* implementation of the proposed General Plan 2050 would result in three of the six WWTPs exceeding their RWQCB WDR permit limits. Although the other WWTPs might not exceed their permit limits, the WWTPs are currently at capacity or approaching capacity. Therefore, the additional wastewater associated with growth would exceed the capacity of existing and planned treatment facilities in the County.

Programs are currently being conducted by the various wastewater collection and treatment providers to reduce inflow and infiltration into the sewer collection systems, which has led to sanitary sewer overflows (SSOs) in the past. This will reduce the amount of wastewater conveyed to the WWTPs; however, it is likely that this still will not prevent an exceedance of permit limits with future buildout under the proposed project.

New development may also occur in the Cobb Mountain and Rivieras Planning Areas due to implementation of the proposed project. These areas are not connected to any municipal wastewater collection system and the residents and commercial facilities rely solely on septic systems. New development in these areas would require the installation of new OWTSs. Especially for development near Clear Lake, this is problematic, due to the potential for OTWSs to result in the discharge of nitrates and phosphates into the lake.

All future development within LACOSAN's service areas that consist of four or more single family dwelling unit equivalents would be required to follow LACOSAN's Wastewater Rules and Regulations that require all new development projects to prepare a capacity analysis and hydraulic modeling to ensure that the collection system and treatment system can accommodate the wastewater generated by the project and pay a sewer connection fee as well as monthly wastewater collection fees. These fees are used to maintain and upgrade the collection and treatment systems as needed. Clearlake Oaks County Water District and Hidden Valley Lake CSD also impose sewer connection fees and monthly wastewater collection fees in their service areas. Additionally, all future development would be required to comply with Lake County EHD's established rules and regulations for OWTSs.

The proposed General Plan 2050 contains policies and actions that require local planning and development decisions to consider impacts to utilities and service systems in the EIR Study Area. These would also minimize impacts to wastewater infrastructure. These are shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation USS. In particular, the following key policies and actions would serve to support wastewater infrastructure:

- Action WR-1.g* requires the County to c onduct a survey of the locations and densities of existing onsite wastewater treatment systems (OWTS) in the county and explore the need to establish a moratorium on new OWTSs in designated areas, especially in locations in close proximity to Clear Lake and other drinking water sources. Such a moratorium might allow for exceptions upon approval of Lake County Environmental Health Department.

- Action WR-1.h* requires, prior to the transfer of property on a site with an existing OWTS, a septic system inspection shall be required by a qualified professional to ensure that the OWTS is in good operating condition.
- Policies CM-LU-1.4, EL-LU-1.4, K-LU-1.4, L-LU-1.4, LL-LU-1.4, M-LU-1.4, NL-LU-1.4, and R-LU-1.4 ensure future amendments to the General Plan Land Use map only allow development where it has access to adequate water supply, wastewater treatment, and public roadways; avoids steep terrain, sensitive natural resources, and natural hazards; and provides appropriate buffers with agricultural land and other incompatible uses.
- Policies CM-LU-5.4, EL-LU-5.4, K-LU-5.4, L-LU-5.4, LL-LU-5.4, M-LU-5.4, NL-LU-5.4, and R-LU-5.4 encourage medium-density residential development that is compatible with the neighborhood character, is close to services, and where adequate infrastructure is available or can be made available.
- Policies CM-LU-7.3, EL-LU-7.3, K-LU-7.3, L-LU-7.3, LL-LU-7.3, M-LU-7.3, NL-LU-7.3, and R-LU-7.3 require new industrial or heavy commercial uses to be sited appropriately, on land with average slopes not exceeding 20 percent and outside of a hazard zone, preferably served by public sewer and water facilities and within a Community Growth Boundary.
- Policies CM-PF-1.1, EL-PF-1.1, K-PF-1.1, L-PF-1.1, LL-PF-1.1, M-PF-1.1, NL-PF-1.1, and R-PF-1.1 ensure that all neighborhoods have access to safe, well-maintained public facilities, utilities, and services that meet community needs now and as the community grows.
- Policies CM-PF-1.6*, EL-PF-1.8*, K-PF-1.8*, L-PF-1.8*, LL-PF-1.8*, M-PF-1.8*, NL-PF-1.8*, and R-PF-1.8* require new development projects to provide their own infrastructure, tie into existing infrastructure, or be required to provide infrastructure that will tie into future infrastructure, as determined by the County and other affected agencies.
- Policies EL-PF-1.9*, K-PF-1.9*, L-PF-1.9*, LL-PF-1.9*, M-PF-1.9*, NL-PF-1.9*, and R-PF-1.9* require, prior to project approval, that new development projects will not create significant adverse impacts on existing infrastructure by implementing County-approved mitigation measures to reduce the impact.
- Policies CM-PF-4.7, EL-PF-4.8, K-PF-4.9, L-PF-4.9, LL-PF-4.8, M-PF-4.8, NL-PF-4.8, and R-PF-4.8 promote the development of and connection to municipal wastewater systems where failing septic tanks, leach fields, and package systems constitute a threat to water quality and public health that cannot be remedied otherwise.
- Policies CM-PF-4.9, EL-PF-4.8, K-PF-4.9, L-PF-4.9, LL-PF-4.8, M-PF-4.8, NL-PF-4.8, and R-PF-4.8 require prior to the approval of a building permit with a proposed addition/modification to an existing structure that would impose an additional burden on an existing system by increasing the waste flow, the buyer or project applicant shall demonstrate to the Lake County Environmental Health Department that the onsite wastewater treatment system is operating properly.

- Actions CM-PF-4.c*, EL-PF-4.c*, K-PF-4.c*, L-PF-4.c*, LL-PF-4.c*, M-PF-4.c*, NL-PF-4.c*, and R-PF-4.c* require periodic review of standards for septic tanks to ensure they continue to protect water quality and public health, consistent with current best practices.
- Actions CM-PF-4.d, EL-PF-4.d, K-PF-4.d, L-PF-4.d, LL-PF-4.d, M-PF-4.d, NL-PF-4.d, and R-PF-4.d require exploration of rural wastewater systems that can serve as alternatives to conventional systems and development of standards and guidelines for their use in new development, as appropriate.
- Actions CM-PF-4.e, EL-PF-4.e, L-PF-4.e, LL-PF-4.e, M-PF-4.f, NL-PF-4.g, and R-PF-4.e require development of a program to periodically test waterways, groundwater, and/or select private wells, as applicable, for contamination in areas where on-site septic system densities are greater than one dwelling unit per acre.
- Action K-PF-4.e requires the County to conduct water pollution investigations in areas suspected of having a significant number of failing on-site sewage disposal systems.
- Actions CM-PF-4.h*, EL-PF-4.j*, K-PF-4.h*, L-PF-4.i*, LL-PF-4.i*, M-PF-4.j*, NL-PF-4.k*, and R-PF-4.i* require new development projects to obtain a will-serve letter from the wastewater agency within the project's service area prior to project approval to ensure that the agency has the capacity to accept wastewater from the project and provide water for interior sprinkler systems.

However, the buildout expected under the proposed General Plan 2050 would generate additional wastewater of approximately 0.9 MGD and the current WWTPs are at or near capacity. Also, some new development under the proposed project would require the installation of OTWSs. Thus, this impact is **potentially significant**.

Impact UTIL-2: Impacts from potential future development under the proposed General Plan 2050 could create a significant impact on wastewater infrastructure.

Significance with Mitigation: Implementation of the proposed General Plan 2050 policies and actions as well as compliance with local regulations related to wastewater would reduce potential impacts to wastewater infrastructure. Specifically, proposed Action WR-1-g* requires a survey of OWTS that may lead to a moratorium or require approval by EHD; Action WR-1.h* requires septic system inspection prior to the transfer of a property with an existing OWTS to ensure the OWTS is in good operating condition; and Actions CM-PF-4.h*, EL-PF-4.j*, K-PF-4.h*, L-PF-4.i*, LL-PF-4.i*, M-PF-4.j*, NL-PF-4.k*, and R-PF-4.i* require project applicants to obtain will-serve letters from wastewater agencies to ensure the wastewater agencies have capacity for additional development. However, the WWTPs that would serve new development in Lake County are at or near capacity. Also, septic systems in areas near Clear Lake have the potential to discharge nutrients (phosphates and nitrates) into Clear Lake, even when functioning properly. Although the proposed General Plan 2050 actions would help in reducing potential impacts to wastewater infrastructure on a project level, cumulative development in the EIR Study Area would result in wastewater that exceeds existing capacity. Therefore, impacts are

significant and unavoidable at the program level. The identification of this program-level impact does not preclude the finding of less-than-significant impacts for subsequent individual projects that meet applicable thresholds of significance.

Stormwater Infrastructure

Lake County's storm drain system consists of streams, creeks, open ditches, culverts, and some flood control facilities that collect stormwater throughout the County and discharge into streams and creeks, with eventual discharge to the Eel River, Clear Lake, and Lake Berryessa. Localized stormwater flooding occurs throughout the County during the rainy season from November through April (Lake County OES 2023). New development due to implementation of the proposed project would lead to an increase in impervious surfaces which can exacerbate stormwater runoff from watersheds and streams, resulting in flooding in areas without adequate drainage facilities.

The cities of Lakeport, Clearlake, and community of Hidden Valley have developed drainage master plans to assist in controlling excess runoff into the storm drainage system. However, there is no drainage master plan for the other unincorporated areas of Lake County. The Lake County Stormwater Resources Plan was recently prepared to manage and reduce stormwater pollution with the goal of protecting the water quality of Clear Lake. The study recommends the implementation of detention structures, flood modeling, stream restoration projects, and drainage improvement studies. This is the first step in identifying projects that are eligible to receive grant funding for stormwater and dry weather runoff capture projects under California's Stormwater Grant Program (Lake County WPD 2025b). However, to date, no funds for these projects have been granted.

All new development and redevelopment projects due to implementation of the proposed project that create and/or replace 5,000 square feet or more of impervious surface would be required to comply with the Phase II MS4 permit and implement source control, site design, and stormwater treatment measures to reduce impacts from increase in stormwater runoff. This goal is accomplished primarily through the implementation of low impact development techniques. In addition, projects that create and/or replace greater than 22,000 square feet of impervious surface must implement peak flow controls to match pre-development peak flows from the 2-year, 24-hour rain event. Although implementation of these requirements would minimize site stormwater runoff from new development, proposed buildout of the proposed project would still contribute to an increase in runoff and potentially exacerbate existing stormwater conditions. Additionally, future development under the proposed project would be required to comply with Lake County Hydrology Design Standards, which provide design criteria and the methodology used to estimate peak flows for drainages within Lake County.

The proposed General Plan 2050 contains policies and actions that require local planning and development decisions to consider impacts to utilities and service systems in the EIR Study Area and that would also minimize impacts to stormwater infrastructure. These are shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation USS. In particular, the following key policies and actions would support stormwater infrastructure:

- Action WR-1.i* requires development of a Master Drainage Plan detailing existing systems, identifying deficiencies, and outlining future infrastructure needed to control stormwater runoff, water quality, and potential flooding.
- Action WR-1.j* requires evaluation of the assessment of storm drain impact fees for new development to fund capital improvements to the storm drain system.
- Action WR-1.k* requires, in areas where the existing storm drain infrastructure is inadequate and prone to cause flooding, new development to demonstrate that the project would not result in a net increase in stormwater runoff from the site (i.e., post-construction runoff rates are equal to or less than pre-development runoff rates).
- Policies CM-LU-5.4, EL-LU-5.4, K-LU-5.4, L-LU-5.4, LL-LU-5.4, M-LU-5.4, NL-LU-5.4, and R-LU-5.4 encourage medium-density residential development that is compatible with the neighborhood character, is close to services, and where adequate infrastructure is available or can be made available.
- Policies CM-PF-1.1, EL-PF-1.1, K-PF-1.1, L-PF-1.1, LL-PF-1.1, M-PF-1.1, NL-PF-1.1, and R-PF-1.1 ensure that all neighborhoods have access to safe, well-maintained public facilities, utilities, and services that meet community needs now and as the community grows.
- Policies CM-PF-1.6*, EL-PF-1.8*, K-PF-1.8*, L-PF-1.8*, LL-PF-1.8*, M-PF-1.8*, NL-PF-1.8*, and R-PF-1.8* require new development projects to provide their own infrastructure, tie into existing infrastructure, or be required to provide infrastructure that will tie into future infrastructure, as determined by the County and other affected agencies.
- Policies CM-PF-5.1, EL-PF-5.1, K-PF-5.1, L-PF-5.1, LL-PF-5.1, M-PF-5.1, NL-PF-5.1, and R-PF-5.1 require the County to ensure stormwater collection and drainage facilities are properly designed and sited to protect people and property while conserving water resources and protecting water quality.
- Policies EL-PF-1.9*, K-PF-1.9*, L-PF-1.9*, LL-PF-1.9*, M-PF-1.9*, NL-PF-1.9*, and R-PF-1.9* require, prior to project approval, that new development projects will not create significant adverse impacts on existing infrastructure by implementing County-approved mitigation measures to reduce the impact.
- Policies CM-PF-5.2, EL-PF-5.2, K-PF-5.2, L-PF-5.2, LL-PF-5.2, M-PF-5.2, NL-PF-5.2, and R-PF-5.2 require curbs and gutters for new development in established urban areas to direct storm drainage in a way that is consistent with the overall drainage system.

- Policies CM-PF-5.3, EL-PF-5.3, K-PF-5.3, L-PF-5.3, LL-PF-5.3, M-PF-5.3, NL-PF-5.3, and R-PF-5.3 require development projects to use green infrastructure and low-impact development designs to prevent off-site drainage impacts and support groundwater recharge.
- Policies CM-PF-5.4, EL-PF-5.4, K-PF-5.4, L-PF-5.4, LL-PF-5.4, M-PF-5.4, NL-PF-5.4, and R-PF-5.4 require on-site stormwater detention facilities and velocity reducers when necessary to maintain existing storm flows and velocities in natural drainage systems.
- Policies CM-PF-5.5, EL-PF-5.5, K-PF-5.5, L-PF-5.5, LL-PF-5.5, M-PF-5.5, NL-PF-5.5, and R-PF-5.5 encourage project designs that minimize drainage concentrations and impervious coverage, complement groundwater recharge, and where feasible, provide a natural watercourse appearance and maintain natural watershed functions.
- Policies CM-PF-5.6, EL-PF-5.6, K-PF-5.6, L-PF-5.6, LL-PF-5.6, M-PF-5.6, NL-PF-5.6, and R-PF-5.6 require integration of green infrastructure, such as permeable paving surfaces, bioswales, and rain gardens, into County infrastructure projects, including road improvements and parks.
- Actions CM-PF-5.a, EL-PF-5.a, K-PF-5.a, L-PF-5.a, LL-PF-5.a, M-PF-5.a, NL-PF-5.a, and R-PF-5.a require identification of damaged and/or deficient storm drainage facilities and acquisition of funding to restore or upgrade the facilities.
- Actions CM-PF-5.b, EL-PF-5.c, K-PF-5.b, L-PF-5.b, LL-PF-5.b, M-PF-5.b, NL-PF-5.b, and R-PF-5.b require work with appropriate agencies to develop stormwater retention/detention and recharge facilities to enhance flood protection and improve groundwater recharge.
- Actions CM-PF-5.c, EL-PF-5.d, K-PF-5.c, L-PF-5.c, LL-PF-5.c, M-PF-5.c, NL-PF-5.c, and R-PF-5.c require work with appropriate agencies to develop stormwater facility maintenance programs establishing timelines for regularly cleaning and maintaining storm drain systems.

Currently, new development projects within the County are not subject to storm drainage impact fees. This makes it difficult for the County to have funds to expand the capacity of the storm drain infrastructure and sustain the existing storm drain system beyond routine maintenance. Because future development from implementation of the proposed project would exacerbate current stormwater infrastructure conditions, the impact is **potentially significant.**

Impact UTIL-3: Impacts from potential future development under the proposed General Plan 2050 could create a significant impact on stormwater infrastructure.

Significance with Mitigation: The impact of impervious surfaces would be reduced by implementation of the stormwater control measures required in the Phase II MS4 permit and implementation of proposed General Plan 2050 policies and actions. Specifically, proposed Action WR-1.i* requires the County to develop a Master Drainage Plan detailing existing systems, identifying deficiencies, and outlining future infrastructure needed to control stormwater runoff, water quality, and potential flooding, Action WR-1.j* requires the County to evaluate the assessment of storm drain impact fees for new development to fund capital improvements to the storm drain system, and Action WR-1.k* requires the County to require

new development in areas where the existing storm drain infrastructure is inadequate and prone to cause flooding to demonstrate that the project would not result in a net increase in stormwater runoff from the site (i.e., post-construction runoff rates are equal to or less than pre-development runoff rates). However, future development due to implementation of the proposed project would still result in an increase in stormwater runoff on streets that are currently at capacity during storm events. Additional development would also increase the extent of impervious surfaces in the County that would contribute to increases in stormwater runoff that enters the County's storm drainage system. Since there is no current funding mechanism for storm drainage improvements, this is considered a **significant and unavoidable** impact. The identification of this program-level impact does not preclude the finding of less-than-significant impacts for subsequent individual projects that meet applicable thresholds of significance.

Energy Infrastructure

Electrical

Electrical service to future individual development projects in the County would be provided by PG&E through connections to existing off-site electrical lines and new on-site infrastructure.

As shown in Table 3.6-3, *Year 2050 Forecast Electricity Consumption*, in Section 3.6, *Energy*, of this Draft EIR, electricity use in the EIR Study Area would increase by 54,738,026 kWh per year and the per-person electricity use would increase by approximately 2 kWh per year due to the proposed project. These energy consumption increases are modest when considered in the context of PG&E's service territories, as PG&E's planning area is forecasted to experience an estimated 166,709 GWh of annual electricity demand in 2040 (CEC 2025b). In comparison the forecasted electricity usage for the EIR Study Area would be approximately less than 0.5 percent of PG&E's projected electricity supply.

Propane

As shown in Table 3.6-5, *Year 2050 Forecast Propane Consumption*, in Section 3.6, *Energy*, of this Draft EIR, propane use would increase in the EIR Study Area by 509,071 MMBTU annually, or approximately 23 percent, from existing conditions due to the proposed project. The per service population propane consumption is estimated to slightly increase from 35.66 MMBTU per person per year in existing conditions to 35.79 MMBTU per year in 2050. Propane is estimated to remain relatively constant between 2020 and 2050 with increasing by approximately 0.13 MMBTU per person per year. Like electricity consumption, all new development facilitated by the proposed project would be required to demonstrate compliance with the current California Building Standards Code and CALGreen and would result in reductions in heating fuel (i.e., natural gas or propane) consumption on a per dwelling unit and per square foot basis when compared to existing development in the City.

In addition, future development under the proposed project would be required to comply with the current and future updates to the CEC and the latest CALGreen standards, which would contribute to reducing energy demand. New buildings would also use new energy-efficient appliances and equipment, pursuant to the Appliance Efficiency Regulations, which would promote the efficient use of electricity and propane consumption. New and replacement buildings in compliance with these standards would generally have greater energy efficiency than existing buildings.

Moreover, the proposed General Plan 2050 contains policies and actions that require local planning and development decisions to consider impacts related to energy infrastructure and will help improve energy efficiency and reduce pressure on the grid, as described in Section 3.6, *Energy,* of this Draft EIR. The policies and actions are shown in Appendix F, P*roposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation ENE. In particular, the following key policies and actions would support energy infrastructure:

- Policy GR-1.1 supports the use of new technological and operational measures that better conserve geothermal resources, increase efficiencies in power generation, and/or otherwise expand geothermal energy development potential.
- Policy GR-1.2 encourages development and testing of new technologies to reduce environmental impacts of geothermal activities.
- Policy GR-2.4 encourages the cooperative exploration of opportunities for providing wholesale power to local agencies from transmission lines constructed in their vicinity, as well as local geothermal energy distribution in the county.
- Policy GR-3.1 supports the development and use of geothermal battery energy storage projects in Lake County.
- Policy GR-3.2 requires new geothermal power plant applicants to demonstrate sufficient geothermal resources to support existing and proposed power generation.
- Policies CM-LU-5.4, EL-LU-5.4, K-LU-5.4, L-LU-5.4, LL-LU-5.4, M-LU-5.4, NL-LU-5.4, and R-LU-5.4 encourage medium-density residential development that is compatible with the neighborhood character, is close to services, and where adequate infrastructure is available or can be made available.
- Policies CM-PF-1.1, EL-PF-1.1, K-PF-1.1, L-PF-1.1, LL-PF-1.1, M-PF-1.1, NL-PF-1.1, and R-PF-1.1 ensure that all neighborhoods have access to safe, well-maintained public facilities, utilities, and services that meet community needs now and as the community grows.
- Policies CM-PF-1.6*, EL-PF-1.8*, K-PF-1.8*, L-PF-1.8*, LL-PF-1.8*, M-PF-1.8*, NL-PF-1.8*, and R-PF-1.8* require new development projects to provide their own infrastructure, tie into existing infrastructure, or be required to provide infrastructure that will tie into future infrastructure, as determined by the County and other affected agencies.
- Policies EL-PF-1.9*, K-PF-1.9*, L-PF-1.9*, LL-PF-1.9*, M-PF-1.9*, NL-PF-1.9*, and R-PF-1.9* require, prior to project approval, that new development projects will not create significant

adverse impacts on existing infrastructure by implementing County-approved mitigation measures to reduce the impact.

Compliance with federal, State, and local regulations (e.g., Building Energy Efficiency Standards, CALGreen, and Renewables Portfolio Standards) would increase building energy efficiency and reduce building energy demands. Additionally, the proposed General Plan 2050 policies and actions would contribute to minimizing building-related energy demands and demands on nonrenewable sources of energy. Implementation of the proposed General Plan 2050 policies and actions in conjunction with and complementary to regulatory requirements, would ensure that energy demand associated with growth under the proposed project would not be inefficient, wasteful, or unnecessary, thereby avoiding the need for new or expanded electric power and propane facilities. Therefore, this impact is **less than significant**.

Significance without Mitigation: Less than significant.

Other Utilities

Telecommunications services in Lake County include wireless internet, cellular and landline telephone, cable television, and satellite television. Major providers include AT&T, Verizon, T-Mobile, U.S. Cellular, Dish, DirecTV, Mediacom, HughesNet, Viasat, DigitalPath, and Lake County Broadband Solutions. High-speed internet is available from multiple providers, with cable and fixed wireless services providing the highest speeds and broadest coverage, and DSL and satellite services supplementing service in rural and remote areas.

Existing telecommunications infrastructure is designed to accommodate increases in population and development. Most new connections would utilize existing networks, and projected additional demand under the General Plan 2050 represents a small fraction of the overall system capacity. The presence of multiple providers and service technologies allows for distributed demand and network redundancy. As a result, implementation of the General Plan 2050 would not require the construction or expansion of major telecommunications facilities and. Therefore, this impact is **less than significant**.

Significance without Mitigation: Less than significant.

b) Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?

As stated in impact discussion (a), the proposed General Plan 2050 buildout estimate would add approximately 3,830 dwelling units and 1,379,720 square feet of nonresidential development by 2050 to Lake County. The proposed increase in water demand is provided in Table 3.19-12, *Increase in Water Demand with Proposed General Plan 2050 Buildout*. The proposed new development would occur within the service areas of eleven water purveyors, which have the

capacity to serve the increased demand, as discussed in impact discussion (a). In addition, the buildout would occur gradually between now and 2050 and the growth would be dispersed among the various water purveyors' service areas so that impacts to each water purveyor's water supplies would be minor.

None of the water purveyors within Lake County are large enough to meet the SWRCB's requirement to prepare Urban Water Management Plans, which provide an analysis of water availability during normal, dry, and multiple dry years. The five water purveyors that use groundwater as their water supply source have no constraints on water supplies during normal, dry, or multiple dry years. However, the five water purveyors who obtain water from Clear Lake are constrained by agreements with YCFWCD in the amount of water that can be pumped from the lake. Low lake water levels would impact water withdrawal rates during drought conditions pursuant to the Solano Decree.

Future development pursuant to the General Plan 2050 would be required to implement the water-efficient requirements specified in the CALGreen and CPC as well as the MWELO requirements for water efficient landscaping, as well as the proposed General Plan 2050 policies and actions that would support water supply through 2050. These are shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation USS. Key policies and actions are provided under "Water" in impact discussion (a). Future projects that meet the criteria under CWC Section 10912 would be required to prepare a WSA that demonstrates that project water demands would not exceed water supplies. In addition, residential, commercial, and industrial per-capita water usage can be expected to decrease in the future with the implementation of water conservation practices. In the case of a water shortage, each water purveyor would implement their water conservation and drought measures. Also, proposed General Plan 2050 Policy WR-4.7* requires that new development projects demonstrate there is sufficient water supply to meet the additional demand associated with the proposed project prior to project approval and where there is not sufficient water, ensure potential impacts on water supply are mitigated.

In summary, the water purveyors that rely on groundwater as their water supply source would be able to accommodate the proposed future development associated with the proposed General Plan 2050. However, the water purveyors that use Clear Lake as their water supply source are constrained in the amount of water they can withdraw, based on drought conditions and reductions in the lake level, agreements with YCFCWD, and adverse water quality conditions during algal blooms that can overload the water treatment plants and impacts are **potentially significant**.

Impact UTIL-4: Impacts from potential future development under the proposed General Plan 2050 could create a significant impact on water supply.

Significance with Mitigation: As described in Impact UTIL-1, implementation of the proposed General Plan 2050 policies and actions as well as compliance with CALGreen building standards that reduce water usage for new construction, would reduce potential impacts to water demand. Specifically, proposed Policy WR-4.8* and Actions CM-PF-4.f*, L-PF-4.h*, K-PF-4.f*, L-PF-4.g*, LL-PF-4.g*, M-PF-4.h*, NL-PF-4.i*, and R-PF-4.g* ensures that new development projects demonstrate there is sufficient water supply to meet the additional demand associated with the project or how the development would development to offset demand. However, issues remain regarding the availability of water from Clear Lake during drought conditions. Also, toxic algae blooms, which typically occur twice a year, present problems that require additional treatment for the water purveyors that use Clear Lake as a water supply source. Although the proposed General Plan 2050 policy and actions would reduce project level impacts related to water availability and supply, it still would not be sufficient to reduce overall impacts and impacts would be **significant and unavoidable.** The identification of this program-level impact does not preclude the finding of less-than-significant impacts for subsequent individual projects that meet applicable thresholds of significance.

Significance with Mitigation: Significant and Unavoidable.

c) Would the project 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?

As described in impact discussion (a) and shown in Table 3.19-14, *Wastewater Demand and Treatment Capacity*, the wastewater treatment systems within the EIR Study Area are currently at or near capacity. Buildout of the proposed General Plan 2050 would result in an increase of almost one MGD among the five WWTPs. Also, the wastewater collection systems are old and subject to inflow/infiltration issues that can lead to sanitary sewer overflows (SSOs) during periods of heavy rainfall. Additionally, Cobb Mountain and Rivieras Planning Areas do not have access to a sewer collection system and new development would require the installation of OWTSs. This is problematic in areas along the shores of Clear Lake, due to the potential to add to the existing nutrient loads (phosphates and nitrates) and further degrading Clear Lake's water quality.

Future development within the LACOSAN service areas would be required to follow LACOSAN's Wastewater Rules and Regulations, as described under impact discussion (a). Additionally, all future development would be required to pay sewer connection fees prior to the issuance of building permits as well as monthly wastewater collection fees, which are used to upgrade components of the wastewater collection and treatment systems. The proposed General Plan 2050 also includes policies and actions that would support wastewater infrastructure. These are

shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation USS. Key policies and action are provided under "Wastewater" in impact discussion (a). However, as described under impact discussion (a) and concluded under Impact UTIL-2, since there currently are no funds available for significant upgrades to the WWTPs that would be needed due to implementation of the proposed project, this impact is **potentially significant.**

Impact UTIL-2: Impacts from potential future development under the proposed General Plan 2050 could create a significant impact on wastewater infrastructure.

Significance with Mitigation: Significant and Unavoidable. See discussion under impact discussion (a) under "wastewater."

d) Would the project generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

With implementation of the proposed General Plan 2050, the population is anticipated to increase by approximately 9,170 residents. Assuming the amount of waste generated per person is 5.2 pounds/day, this would result in an increase in solid waste of approximately 24 tons/day. These numbers represent a conservative estimate because as recycling and waste reduction programs continue to be implemented by the County, the waste generation rates would be reduced over time. As shown in Table 3.19-15, *Solid Waste Disposal Rates at Buildout*, this would result in a total solid waste generation rate of approximately 211 tons/day that would be sent to Eastlake Landfill.

Table 3.19-15 Solid Waste Disposal Rates at Buildout

Landfill	Current Disposal Rate (tons/day)	Increase in Disposal Rate (tons/day)	Total Daily Disposal Rate (tons/day)	Maximum Permitted Disposal Rate (tons/day)	Exceeds Permit Limit
Eastlake Landfill	187	24	211	200	Yes

Source: CalRecycle, 2025; PlaceWorks, 2025

Eastlake Landfill currently is in the process of expanding the landfill disposal area and has received a new WDR permit from the Central Valley RWQCB. Therefore, the landfill may have the capacity to accept an increase in solid waste, however it has an estimated 18-year capacity with a closure date of 2043. As shown in Table 3.19-15, *Solid Waste Disposal Rates at Buildout*, the increase in population associated with implementation of the proposed General Plan 2050 would exceed the current maximum permitted disposal rate of 200 tons/day. However, with

continued implementation of the County's recycling program, the amount of solid waste generated by residents in Lake County is expected to decrease over time. Also, all new development from implementation of the proposed General Plan 2050 would be required to comply with Division 4.4 of the CALGreen, which currently requires that at least 65 percent of nonhazardous construction and demolition waste from residential and nonresidential construction operations be recycled and/or salvaged for reuse. New development and redevelopment would also need to comply with the requirements of AB 341 that mandates recycling for commercial and multi-family residential land uses.

The proposed General Plan 2050 contains policies and actions that require local planning and development decisions to consider impacts related to utilities and service systems and to minimize potential impacts regarding solid waste generation and adequate landfill capacity. These are shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation USS. In particular, the following key policies and action would support solid waste infrastructure:

- Action HS-10.a requires a study to determine the needs for hazardous waste disposal sites and update the County's solid waste management plan.
- Policies CM-PF-6.1, EL-PF-6.1, K-PF-6.1, L-PF-6.1, LL-PF-6.1, M-PF-6.1, NL-PF-6.1, and R-PF-6.1 ensure efficient and affordable solid waste disposal options are available for all, including unhoused populations, low-income households, and other Equity Priority Populations.
- Policies CM-PF-6.2*, EL-PF-6.2*, K-PF-6.2*, L-PF-6.2*, LL-PF-6.2*, M-PF-6.2*, NL-PF-6.2*, and R-PF-6.2* require, prior to project approval, development proposals to demonstrate capacity within the solid waste system for the processing, recycling, transmission, and disposal of solid waste, and ensure that the development provides adequate solid waste storage, handling, and collection accommodations.
- Policies CM-PF-6.5, EL-PF-6.5, K-PF-6.5, L-PF-6.5, LL-PF-6.5, M-PF-6.5, NL-PF-6.5, and R-PF-6.5 promote the maximum feasible solid waste reduction and diversion through recycling and composting. Strive to continually reduce commercial and industrial waste on an annual basis and pursuing a financing mechanism for solid waste reduction programs to meet reduction and diversion goals.

However, the daily maximum permitted disposal limit of 200 tons/day would still be exceeded with under the proposed General Plan 2050. Although the Eastlake Landfill may have the capacity to accept additional solid waste with its current expansion, this could result in a **potentially significant** impact.

Impact UTIL-5: Impacts from potential future development under the proposed General Plan 2050 could create a solid waste in excess of the capacity of local infrastructure.

Significance with Mitigation: While the County will need to renew the Eastlake Landfill permit, which expires in December 2026, and coordinate with CalRecycle and the Lake County Environmental Health Department to increase the maximum permitted daily tonnage at the landfill, with implementation of General Plan 2050 policies and actions as well as compliance with State regulations that require reducing solid waste in landfills, would ensure there is adequate landfill capacity for future buildout under the proposed project. Specifically, implementation of General Plan Policy CM-PF-6.2*, EL-PF-6.2*, K-PF-6.2*, L-PF-6.2*, LL-PF-6.2*, M-PF-6.2*, NL-PF-6.2*, and R-PF-6.2*requires the County to require development proposals to demonstrate capacity within the solid waste system for the processing, recycling, transmission, and disposal of solid waste, and ensure that the development provides adequate solid waste storage, handling, and collection accommodations prior to project approval. Therefore, impacts would be **less than significant**.

e) Would the project comply with federal, state, and local statutes and regulations related to solid waste?

All the solid waste collection and transfer franchises within Lake County comply with all state requirements to reduce the volume of solid waste through recycling. Starting in November 2025, Lake County now allows residents in unincorporated areas to put food scraps in their green waste bins for composting in support of California's SB 1383 goals for organic recycling. In addition, all potential future development under the proposed General Plan 2050 would comply with Division 4.4, *Material Conservation and Resource Efficiency,* of the CALGreen, which requires that at least 65 percent of nonhazardous construction and demolition waste from nonresidential construction operations be recycled and/or salvaged for reuse, as well as AB 341, which mandates recycling for commercial and multifamily residential land uses as well as schools and school districts. Therefore, the County and its solid waste collection providers would comply with all applicable federal, state, and local solid waste regulations, and impacts would be **less than significant.**

Significance without Mitigation: Less than significant.

3.19.5 Cumulative Impact Discussion

The area considered for cumulative impacts is the service areas of each utility provided in Lake County.

Would the project have a cumulative effect related to utilities and service systems?

Water

Future development due to implementation of the proposed project would result in increases in water demand. However, the analyses provided in impact discussions (a) and (b) and summarized in Tables 3.19-12, *Increase in Water Demand with Proposed General Plan 2050 Buildout*, and 3.19-13, *Water Demand and Water Treatment Capacity,* indicate that the water purveyors have the capability to serve all of their residents and businesses through 2050 with the projected growth under the proposed General Plan 2050. However, there are constraints beyond their control, including the amount of water they can withdraw from Clear Lake, based on drought conditions and reductions in the lake level, agreements with YCFCWCD, and adverse water quality conditions during algal blooms that can overload the water treatment plants. The water purveyors that use groundwater as their water supply source are not constrained and the increases in water demand with buildout of the proposed General Plan 2050 would not affect groundwater sustainability goals.

Projects that meet the SB 610 criteria, such as residential projects with more than 500 dwelling units, would be required to prepare WSAs. All new development under the proposed General Plan 2050 would be required to conserve water and implement water efficiency measures, as per the CALGreen and the MWELO irrigation requirements. Water supply deficits in dry years would be met by implementing water conservation and drought management measures for all the water purveyors. Existing regulations would result in a reduction in per capita water use over time.

However, depending on the location of new development, adequate water supplies may not be available to meet future water demands, especially for the water purveyors that use Clear Lake as a water supply source. This would result in a potentially significant impact. Implementation of the proposed General Plan 2050 policies and actions described under Impact UTIL-1 would improve water supply management in the county and would require new development to demonstrate an adequate long-term supply of water. Because it is not possible to conclude that adequate water supplies would be available to meet future demand in all locations of the county for all potential project types through 2050, this impact would remain **significant and unavoidable.**

Significance with Mitigation: Significant and unavoidable.

Wastewater

As described in impact discussions (a) and (c), the WWTPs in Lake County are at or near capacity. The sewer collection systems are aging and prone to inflow/infiltration issues during heavy rainfall events, which can lead to sanitary sewer overflows and increased wastewater flows to the WWTPs. New development under the proposed General Plan 2050 would result in

an increase in wastewater flows of approximately 0.9 MGD during dry weather conditions, which could exceed the capacity of the existing infrastructure. LACOSAN regulations in conjunction with the proposed General Plan 2050 policies and actions described under Impact UTIL-2 would reduce potential impacts at a project level. However, the cumulative impact of increased growth and increased wastewater flows within Lake County would likely exceed the capacity of the existing infrastructure, even with planned upgrades. Therefore, this impact is **significant and unavoidable.**

Significance with Mitigation: Significant and unavoidable.

Stormwater Infrastructure

As described in impact discussion (a), future development under the proposed General Plan 2050 would increase the extent of impervious surfaces and contribute to increase stormwater runoff that enters the County's storm drainage system. The impact of impervious surfaces would be reduced by implementation of the stormwater control measures required in the Phase II MS4 permit, and the proposed General Plan 2050 policies and actions described in Impact UTIL-3; however, there would still be an increase in stormwater runoff to infrastructure that is already at capacity during storm events. Thus, this impact is **significant and unavoidable**.

Significance with Mitigation: Significant and unavoidable.

Energy Infrastructure

The energy service providers serving the EIR Study Area have sufficient capacity to accommodate future population growth without substantial infrastructure upgrades. Under cumulative conditions, regional growth in and around Lake County would increase electricity and heating fuel demand; however, these increases would occur within the planning horizons of PG&E and local propane suppliers, which regularly expand and upgrade infrastructure to meet projected needs. The proposed General Plan 2050 includes policies and actions promoting energy efficiency, renewable energy, and compliance with State energy standards, which would reduce cumulative energy demand compared to existing conditions. Because the proposed General Plan 2050 provides a coordinated framework for countywide growth, it would not result in or contribute to a cumulatively considerable impact on electric power, propane, or natural gas facilities. Therefore, this impact is **less than significant**.

Significance without Mitigation: Less than significant.

Solid Waste

Growth within Lake County would contribute to an increase in the need for solid waste disposal. As described in impact discussion (d), the current Eastlake Landfill permit with Lake County would not be able to accept all anticipated solid waste with implementation of the proposed project and the County is required to update the permitted limits. Some of the waste generated

by the County may be transported to other landfills and there will likely be a reduction in landfilled waste in the future as recycling and organic waste diversion rates increase. Also, implementation of the proposed General Plan 2050 policies and actions regarding solid waste and recycling would reduce future solid waste generation rates. Specifically, General Plan Policies CM-PF-6.2*, EL-PF-6.2*, K-PF-6.2*, L-PF-6.2*, LL-PF-6.2*, M-PF-6.2*, NL-PF-6.2*, and R-PF-6.2*requires development proposals to demonstrate capacity within the solid waste system for the processing, recycling, transmission, and disposal of solid waste. Continued compliance with the applicable regulations and an increase in recycling and landfill diversion rates would ensure that solid waste cumulative impacts would be less than significant. Implementation of this policy would limit development until the County renews its capacity limits with the Eastlake Landfill permit and ensuring no landfill capacity limits would be exceeded.

Significance with Mitigation: Less than significant.

Other Utilities

The telecommunications service providers that serve the EIR Study Area indicate that they have the capacity to accommodate future increases in population within their existing service areas without requiring significant changes to current infrastructure. Therefore, the proposed project would not result in a cumulatively considerable impact on telecommunication facilities, and cumulative impacts would be less than significant. Therefore, this impact is **less than significant**.

Significance without Mitigation: Less than significant.

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3.20 WILDFIRE

This section of the Draft EIR describes the potential wildfire impacts associated with the adoption and implementation of the proposed project. This section describes the regulatory framework and existing conditions, identifies criteria used to determine impact significance, and provides an analysis of the potential wildfire impact. The proposed General Plan 2050 policies and actions that would minimize any potentially significant impacts are shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, and denoted with the abbreviation WIL. Where policies and actions are required for mitigation, those policies and actions are described in this section and denoted with an asterisk (*).

3.20.1 Regulatory Framework

FEDERAL

National Cohesive Wildfire Management Strategy

In the Federal Land Assistance, Management, and Enhancement Act of 2009, Congress mandated the development of a National Cohesive Wildland Fire Management Strategy for all lands in the United States. Wildfire management on federal lands is guided by the National Cohesive Wildland Fire Management Strategy, which has three goals—resilient landscapes, fire adapted communities, and safe and effective wildfire response (USDI and USDA 2014). These goals enable 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.

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 recommended (advisory) guidelines for fire protection that are referenced in the California Fire Code (CFC). 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

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 land in State Responsibility Areas (SRA), 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. CAL FIRE staff, or a designee, also reviews building permit applications, parcel maps, and use permits for construction or development in SRAs and Local Responsibility Areas (LRA).

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, determining the guidance policies of CAL FIRE, and representing the State's interest in federal forestland in California. The Board of Forestry and Fire Protection also provides 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 that 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 in SRAs or very high fire hazard severity zones (FHSZ), 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). The Office of State Fire Marshal also reviews subdivisions of more than 30 dwelling units in SRAs or very high FHSZs without secondary means on egress that are at significant fire risk, and provides recommendations to improve subdivision fire safety.

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.

Fire Hazard Severity Zones and Responsibility Areas

CAL FIRE designates FHSZs as authorized under California Government Code Sections 51175 et seq. FHSZs are designated as Very High, High, or Moderate. CAL FIRE considers many factors when designating FHSZs, including fire history, existing and potential vegetation fuel, flame

length, blowing embers, terrain, and weather patterns for the area. CAL FIRE designates FHSZs in two types of areas depending on which level of government is financially responsible for fire protection.

- **Local Responsibility Area (LRA).** Incorporated communities or special districts are financially responsible for wildfire protection.
- **State Responsibility Area (SRA).** CAL FIRE and contracted counties are financially responsible for wildfire protection.

CAL FIRE Strategic Fire Plan

The 2024 *CAL FIRE Strategic Plan* contains goals and objectives to prepare for and mitigate the effects of fire on California's natural and built environments (CAL FIRE 2024a). The 2024 Strategic Plan focuses on strengthening the department's capabilities to provide effective fire prevention and suppression activities statewide to protect lives, property, and ecosystems. A key component of the 2024 Strategic Plan is the collaboration within the department to ensure fire suppression and natural resource management is successful (CAL FIRE 2024a).

California's Wildfire and Forest Resilience Action Plan

The Governor's Forest Management Task Force developed 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. The Wildfire and Forest Resilience Action 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 United States Forest Service, 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/Very High FHSZ Fire Safe Regulations*, establishes minimum wildfire protection standards for construction and development in the SRA and Very High FHSZ and requires CAL FIRE to review development proposals and enact recommendations that serve as conditions of approval in these zones. 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 in the SRA and Very High FHSZs in the LRA, the siting of new mobile homes, all tentative and parcel maps, and applications for building permits approved before 1991 when 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:

- Parcels zoned for less than one acre: 800 feet
- Parcels zoned for 1 acre to 4.99 acres: 1,320 feet
- Parcels zoned for 5 acres 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 must be removed, as must any flammable vegetation that could catch fire. In Zone 2, horizontal and vertical spacing among shrubs and trees must be created and maintained.

California Code of Regulations

Section 1299.02

California Code of Regulations (CCR) Section 1299.02 defines defensible space as the buffer landowners are required to create on their property between a "Building or Structure" and the plants, brush, and trees or other items surrounding the "Building or Structure" that could ignite in the event of a fire. A building or structure are defined as anything constructed that is designed or intended for support, enclosure, shelter, or protection of persons, animals, or property, having a permanent roof that is supported by walls or posts that connect to, or rest on the ground.

Title 19

Title 19 of the CCR establishes regulations related to fire prevention and engineering measures for new construction.

Public Resources Code Section 4291

Public Resources Code Section 4291, *Mountainous, Forest-, Brush- and Grass-Covered Lands*, is intended for any person who owns, lease, 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 in an SRA or Very High FHSZ. This section requires defensible space to be maintained within 100 feet from each side of a structure. An ember-resistant zone is required within 5 feet of a structure and more intense fuel reduction between 5 and 30 feet of a structure.

California Government Code Section 51182

California Government Code Section 51182 works with Public Resources Code 4291, requiring a person who owns, leases, controls, operates, or maintains an occupied dwelling or occupied structure in, upon, or adjoining a mountainous area, forest-covered land, shrub-covered land, grass-covered land, or land that is covered with flammable material, within a Very High FHSZ or SRA to, at all times, maintain defensible space of 100 feet.

California Building Code

The California Buildings Standards Code (CCR 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 January 1, 2023. Lake County regularly adopts the most recent version of the California Building Standards Code, with modifications, into the Lake County Code of Ordinances (LCCO), Chapter 5, *Building Regulations.*

Building Design Standards

The California Building Code (CBC), Part 2 of Title 24 of the 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 Very High FHSZs; 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 FHSZ 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 the CFC Section 4906 and Public Resources Code 4291.

California Fire Code

The CFC 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, it is revised and published every three years by the California Building Standards Commission. Also

like the CBC, the CFC is effective statewide, but a local jurisdiction may adopt more restrictive standards based on local conditions. The CFC 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 high-rise 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.

Fire Safety During Construction and Demolition

Chapter 33 of the CFC, *Fire Safety During Construction and Demolition*, provides requirements for fire safety precautions during construction and demolition of a development project. The purpose of this chapter is to provide reasonable safety to life and property from fire during construction and demolition operations, including those in underground locations. Specific requirements include prohibiting smoking on-site, except for in approved areas; management of combustible materials and debris; cutting and welding; electrical wiring; and cooking. Additional requirements include the preparation of site safety plans prior to building permit issuance, providing fire watch during nonworking hours, and maintaining water supply for fire protection as soon as combustible materials arrive on a project site.

Wildland-Urban Interface Areas

Chapter 49 of the CFC, *Requirements for Wildland Urban Interface Fire Areas*, applies to any geographical area identified as a FHSZ by CAL FIRE. It defines FHSZs, connects to the SRA/Very High FHSZ Fire Safe Regulation requirements for defensible space, and 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. Chapter 49 of the 2022 CFC includes a definition for the wildland-urban interface (WUI) and provides requirements for fire protection plans, landslide plans, long-term vegetation management, and creation and maintenance of defensible space for all new development within the WUI.

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 due to 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, which 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 2025).

Fire regulations require electric utilities to:

- Prioritize the correction of safety hazards.
- Correct nonimmediate fire risks in "Tier 2" (elevated fire threat) areas on 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 within 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. (CPUC 2017)

California Government Code

California Government Code Section 65302(g) and Section 65302.15 require that safety elements be reviewed and revised as needed with the revision of a housing element or local hazard mitigation plan, 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 local hazard mitigation plan updates after January 1, 2022, must also ensure their safety elements or local hazard mitigation plans include an assessment of evacuation routes and their capacity, safety, and viability as well as evacuation locations under a range of emergency scenarios. For wildfire and evacuation purposes, a safety element must:

- Identify wildfire hazards with the latest fire severity zone maps from the Board of Forestry and Fire Protection, United States Geological Survey, and other sources.
- Consider guidance given by the Governor's Office of Land Use and Climate Innovation's 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 a set of comprehensive goals, policies, and feasible implementation measures for protection of the community from unreasonable risks of wildfire.
- Identify evacuation-constrained residential parcels in hazard-prone areas.

Fire Hazard Technical Advisory

The Governor's Office Land Use and Climate Innovation published the Fire Hazard Technical Advisory in 2015 and revised it in 2022 as a planning guide for addressing fire hazards, reducing risk, and increasing resilience across California's diverse communities and landscapes. The Fire Hazard Technical Advisory provides a range of goals, policies, and programs for fire hazard prevention and mitigation, disaster preparedness, and emergency response and recovery. The 2022 update includes specific land use strategies to reduce fire risk to buildings, infrastructure, and communities.

California Environmental Quality Act

In November 2022 the California Attorney General issued the *Best Practices for Analyzing and Mitigating Wildfire Impacts of Development Projects Under the California Environmental Quality Act.* This guidance document was designed to help lead agencies comply with the California Environmental Quality Act (CEQA; Public Resources Code Section 21000 et seq.) when considering whether to approve projects in wildfire-prone areas. This guidance provides suggestions for how best to comply with CEQA when analyzing and mitigating a proposed project's impacts on wildfire ignition risk, emergency access, and evacuation. The guidance is aimed at proposed development projects, such as residential, recreational, or commercial developments. The extent to which it applies will vary by project based on project design and location. It does not impose additional requirements on local governments or alter any applicable laws or regulations but is intended to provide guidance on some of the issues, alternatives, and mitigation measures that should be considered during the environmental review process.

LOCAL

Code of Ordinances

The LCCO includes various directives pertaining to wildfire. The LCCO is organized by chapter, article, and section. Most provisions related to wildfire are included in Chapter 5, *Building Regulations*, Chapter 17, *Subdivision Regulation,* Chapter 21, *Zoning Ordinance*, and Chapter 27, *Mitigation Fees,* as follows:

- **Chapter 5, Section 5-4, *Adoption of Codes,*** describes that the County adopts and enforces the California Building Code and the California Fire Code.
- **Chapter 17, Article 11, *Fire Protection Standards,*** set forth the fire protection standards for any mobile home park, or for any other development of land where a subdivision map or parcel map is required. The standards outline developments must provide a minimum of two different ingress and egress routes to each homesite. The routes must be constructed in such a manner, and to sufficient standards, to provide year-round access for firefighting equipment and to meet the requirements of the Director of Public Works. It also describes

the standards for fire hydrants, water distribution systems, and vegetation clearance around buildings.

- **Chapter 20, *Underground Utility Districts*,** allows the Board of Supervisors to establish districts that require the removal of poles, overhead wires and associated overhead structures. This chapter also prohibits the installation of any overhead utility structures.
- **Chapter 21, *Zoning Ordinance.***
  - **Article 35, *Floodway or "FW" Combining District,*** provides land use regulations for properties situated in floodways, and along creeks and streams to ensure for an adequate open corridor to safeguard against the effects of bank erosion, channel shifts, increased runoff or other threats to life and property; and to prevent property damage and safeguard the health, safety and general welfare of the people by allowing the passage of the one hundred (100) year flood.
- **Article 36, *Floodway Fringe or "FF" Combining District*** provides land use regulations for properties and their improvements situated in the floodplain to ensure protection from hazards and damage which may result from flood waters.
- **Chapter 22, *Burning Regulations*,** is intended to provide for coordination of the Air Quality Management District and affected Fire Protection Agencies for fire hazard protection projects. This chapter prohibits the burn materials between the first of May and the date that CAL FIRE declares that hazardous conditions for the year have ended. Additional regulations in this chapter include hours for burning, control of fires, suspension of burning, and use of incinerators.
- **Chapter 25, *Floodplain Management*,** promotes public health, safety, and general welfare, and minimizes public and private losses due to flood conditions in flood prone areas of the county. This chapter prohibits the construction of development in special flood hazard areas without compliance with this chapter.
- **Chapter 30, *Grading Ordinance*,** regulated grading on public and private lands within the unincorporated areas of Lake County to minimize hazards to life and property; maintain slope stability; protect drainage courses; and protect against the destruction of cultural resources and human burials.

Community Wildfire Protection Plan

The Lake County Community Wildfire Protection Plan (CWPP), adopted in 2023, is a product of Lake County, Lake County Fire Chiefs' Association, Lake County Fire Safe Council, and Lake County Resource Conservation District. The CWPP reflects community input on actions and projects that will assist residents and first responders in their efforts to protect lives, property, and the environment. The CWPP outlines the updated guidelines developed by the California Fire Safe Council, provides fire safety information to residents, recommends fuel reduction projects throughout the county, and promotes comprehensive and community-based adaptation to living in a fire adapted ecosystem. Recommended fuel reduction projects

throughout the county include ongoing fuel break maintenance and prescribed burning, fire protection equipment maintenance, creating Firewise and Fire-Adapted Communities, and shaded fuel breaks.

Emergency Operations Plan

Lake County Office of Emergency Services updated the Lake County Emergency Operations Plan (EOP) in April 2025. The EOP addresses the County's planned response to extraordinary emergency situations associated with natural disasters, technological incidents, and national security emergencies. The EOP establishes the emergency management organization necessary for response to any significant event affecting the Lake County Operational Area, establishes the operational concepts, procedures and responsibilities required to protect the health and safety of Lake County residents and tourists, public and private property, and the environment from the effects of significant hazardous events, and provides a flexible platform for planning and response to all hazards and emergencies that are likely to occur in Lake County. The EOP is adaptable for disasters such as earthquakes, wildfire, floods, landslides, health emergencies, and other situations.

The entire EOP is reviewed not less than every two years (EOP 2025). Changes occurring within the two-year cycle of review are acted upon independently and brought to the Board of Supervisors as necessary to maintain functionality and to meet State and federal requirements. The EOP may also be modified because of post-incident analyses and/or after-action reports.

Multi-Jurisdictional Hazard Mitigation Plan

The Lake County Multi-Jurisdictional Hazard Mitigation Plan (MJHMP), mostly recently updated in 2025 in accordance with the federal Disaster Mitigation Action of 2000 (DMA 2000), provides an assessment of natural hazards in the unincorporated 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 MJHMP, mitigation is an action that reduces or eliminates long-term risk to people and property from hazards, including wildfire. Mitigation actions related to wildfire include enhancing local fuels reduction crews, additional water sources in Spring Valley and North Lakeport, fire suppression using purple pipe non-potable water, fire suppression using the Geyser Pipeline, Elk Mountain Road improvements to Lake Pilsbury, open space and regional park wildfire education programs, and implementing CWPP projects.

The MJHMP 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 HMPs 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 HMP in its entirety, will be adopted into the updated Health and Safety Element by reference.

Wildfire Evacuation and Preparedness Plan

The Lake County Wildfire Evacuation and Preparedness Plan, developed by the Lake Area Planning Council and adopted in 2025, provides operational tools for evacuation coordination and communication across jurisdictions and communities throughout Lake County. This Plan outlines the framework for facilitating safe, efficient, and coordinated evacuations during wildfire emergencies, including evacuation strategies, recommended agency roles and responsibilities, and key considerations for relocating individuals from hazardous areas to designated safe zones. The Plan is intended to support existing protocols established in the Lake County EOP and aligns with the California Mutual Aid Agreement and State of California Emergency Plan.

3.20.2 Existing Conditions

This section describes the background of wildfire in the region, wildfire in the EIR Study Area, fire protection resources, and evacuation and access in the EIR Study Area.

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 steep or heavily vegetated areas, away from developed areas. More recently, wildfires have been encroaching into more urban areas, or the wildland-urban interface, threatening homes, businesses, and essential infrastructure. Though wildfires play an important role in the ecology of many natural habitats, risks to human safety and property increase as urban development moves into areas susceptible to wildfire hazards.

Lake County contains a variety of land use patterns, but approximately 45 percent of the land is owned and managed by the federal government through the United States Department of Agriculture U.S. Forest Service and the Bureau of Land Management. Of all land within Lake County, approximately 70 percent of the land mass has been burned by catastrophic wildfires since 2015 (Lake County OES 2025). Remaining land uses consist of urban development, agriculture, open space, parks, creeks, and open water. As a result, the wildfire and evacuation setting differ throughout the EIR Study Area and by local area.

Types of Wildfires

There are three basic types of wildland fires:

- **Crown fires** burn trees to their tops; these are the most intense and dangerous wildland fires.
- **Surface fires** burn surface litter and duff. These are the easiest fires to extinguish and cause the least damage to the forest. Brush and small trees enable surface fires to reach treetops and are thus referred to as *ladder fuels*. (NRC 2021)

- **Underground fires** occur underground in deep accumulations of dead vegetation. These fires move very slowly but can be difficult to extinguish.

Wildfires burn in many types of vegetation—forest, woodland, scrub (including chaparral and sage scrub), and grassland. Many species of native California plants are adapted to fire and habitats such as woodlands, chaparral, and grasslands can recover from fire. Between 2020 and 2025 an average of 856,923 acres burned per year throughout California (CAL FIRE 2025). Wildfires have been observed to be more frequent and growing in intensity over the past several years, with 4,304,379 acres and 2,569,386 acres burning in 2020 and 2021 across the State, respectively (CAL FIRE 2024b).

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 causes of human-caused wildfires are debris burning (logging slash, farm fields, trash, etc.); arson; and equipment use (Pacific Biodiversity Institute 2007).[1] Lightning is the major natural cause of wildfire in the United States, with more than 40 percent of wildfires in the western United States caused by lightning between 1992 and 2015 (Balch et al. 2017; Cart 2023). Power lines can ignite wildfires several ways, including:

- **Downed lines.** Downed power lines can produce arcing that can cause the powerlines to spark and ignite vegetation.
- **Vegetation contact.** A branch contacting two conductors for a sufficient duration may ignite the branch; a tree falling on a line can cause a downed line.
- **High winds and severe weather.** Conductors can slap together during high winds and severe weather, creating arcing of the powerlines and ejecting hot metal particles that can ignite flammable matter on the ground.
- **Equipment failures.** As circuit components deteriorate, they can arc and spark and thus ignite nearby flammable matter. (Texas Wildfire Mitigation Project 2014)

An analysis of US Forest Service wildfire data from 1986 to 1996 determined that 95 percent of human-caused wildfires, and 90 percent of all wildfires, occurred 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 (Pacific Biodiversity Institute 2007). The study concluded that the increase in human-caused ignition from new roads greatly outweighs the benefits of increased access for firefighters.

[1] Miscellaneous human activities (unspecified) are ranked above equipment use in percentage of wildfires caused.

Wildfires ignite structures in three ways: embers landing on the structure or flammable material next to the structure, direct flame contact, and radiant heat from fire close to the structure. Embers are the most common cause of home ignition. Embers ignite structures by entering through attic vents, igniting flammable materials around the home (litter in the roof gutter; wood stacks; or wood fencing), or finding their way under roofing materials (California Chaparral Institute 2024).

CAL FIRE estimated in 2017 that there were about three million housing units in California in FHSZs and potentially at risk from wildland fire, that is, just over 20 percent of the total housing units in the state (CAL FIRE 2018). A study conducted by the Los Angeles Times indicates that an additional 2.8 million Californian's were added to the FHSZs due to the recent updates of the FHSZ maps in both the SRA and LRA (Los Angeles Times 2025). According to CAL FIRE data, approximately 95 percent of structures seriously damaged in California wildfires from 2013 to 2020 took place in FHSZs in the SRA or LRA or on federal lands (CapRadio 2021).

Wildland-Urban Interface

The Wildland-Urban Interface (WUI) is any area where structures and other human developments meet or intermingle with wildland vegetative fuels—shrubs, trees, and grasses. Developments in the WUI exacerbate fire occurrence and fire spread in several ways:

- Increased numbers of people near and in wildland areas, creating more frequent human-caused wildfires.
- Wildfires become harder to fight due to simultaneous evacuation and firefighting resources diverted from containing the wildfire to protecting lives and homes.
- Letting natural fires burn becomes impossible, leading to buildup of fuel in brush and forested areas and overgrowth of grasslands, increasing wildfire hazard further (Radeloff et al. 2018).

Secondary Effects of Wildfire

Secondary effects of wildfire include additional hazards such as landslides, poor air quality, and power outages. This section describes potential secondary hazards.

Post-Fire Debris Flows

Post-fire landslide hazards include fast-moving, highly destructive debris flows that can occur in the years immediately after wildfires in response to high-intensity rainfall events. Post-fire debris flows are particularly hazardous because they can occur with little warning, exert great impulsive loads on objects in their paths, strip vegetation, block drainage ways, damage structures, and endanger human life. Debris flows differ from mudflows in that debris flows are composed of larger particles.

Fires increase the potential for debris flows in two ways:

- Fires may bake soil into a hard crust that repels water.
- Fires destroy vegetation that would slow and absorb rainfall, and whose roots would help stabilize soil. (Oregon Water Science Center 2018)

Post-fire debris flows are most common in the two years after a fire and are usually triggered by heavy rainfall. It takes much less rainfall to trigger debris flows from burned basins than from unburned areas. In southern California, as little as 0.3 inches of rainfall in 30 minutes has triggered debris flows, and any storm that has intensities greater than about 0.4 inches per hour can produce debris flows (California Water Science Center 2018). As described in the Lake County MJHMP, post-wildfire mapping was conducted after the 2015 Valley Fire and 2017 Sulphur Fire, determining that the burn scars have a moderate to high risk of debris flow during a 100-year storm (Lake County OES 2025). The burning of vegetation and soil on slopes more than doubles the rate that water will run off into watercourses. As discussed in Section 3.7.2, *Existing Conditions*, in Section 3.7, *Geology and Soils,* landslides and debris flows have the potential to occur in the EIR Study Area, most notably on steeper slopes in the mountainous regions of the county. In these areas, landslides are commonly associated with slopes underlain with Franciscan formations (Lake County OES 2025).

Air Quality

Regionally, smoke from wildfires creates poor air quality that can last for days or weeks, depending on the scale of the wildfire and wind patterns. Smoke itself is made up of a complex mixture of gases and fine particles produced when wood and other organic materials burn. Health risks from smoke inhalation are largely from microscopic particles ($PM_{2.5}$) that can penetrate the lungs and cause a range of health problems, including chronic heart and lung diseases. Exposure to particulate pollution is even linked to premature death. There are some populations that are more sensitive than others to smoke—for instance, people with heart or lung diseases, older adults, children, people with diabetes, people with compromised immune systems, and pregnant women (USEPA 2025). Through observations of wildfires, experts have determined that the large plumes of smoke from large wildfires can result in that smoke and ash being carried thousands of miles from the burn area of the wildfire.

Other Secondary Affects

In addition to damaging natural environments, wildfires also deplete water reserves, down power lines, disrupt communication services, and block evacuation routes, which can isolate neighborhoods. In some cases, electric power companies shut off power lines to prevent wildfires, also known as public safety power shutoffs, causing outages that can last for hour or days depending on the weather severity. Wildfires can indirectly cause flooding if flood control facilities become inadequate to handle increases in stormwater runoff, sediment, and debris that are likely to be generated from burn scars.

COUNTYWIDE AREA

Wildfire in Lake County

The geography, weather patterns, and vegetation in Lake County provide ideal conditions for recurring wildfires. As recent wildfire activity reveals, the majority of Lake County faces some level of threat from wildland fire. As shown on Figure 3.20-1, *Fire Hazard Severity Zones,* nearly all land within the EIR Study Area is within a Very High FHSZ with pockets of areas in high or moderate FHSZs near North Lakeport, Upper Lake, Lower Lake, and Kelseyville. The unincorporated areas of the county are designated as either SRA or LRA. LRA designations are near Upper Lake, Bachelor Valley, Nice, Lucerne, Clearlake Oaks, Lower Lake, Kelseyville, Finley, and North Lakeport, primarily surrounding Clear Lake. SRA designations are in the remainder of the unincorporated county-managed lands. Developed and undeveloped properties throughout the county are vulnerable to wildfire risks due to their proximity to surrounding forested lands, steep slopes, and remote location. These factors also create barriers for emergency access and response because much of the land is mountainous terrain or disconnected due to Clear Lake's location in the center of the county.

Figure 3.20-2, *Wildland-Urban Interface,* shows the WUI areas defined by the Lake County CWPP in the EIR Study Area. WUI areas occur when urban development is intermixed with wildland vegetation, or when pockets of wildland vegetation occur inside developed areas. The WUI is subdivided into the intermix zone (i.e., where houses and wildland vegetation directly mingle) and the interface zone (i.e., housing adjacent to wildland vegetation, but not mingled with it). The interface and intermix zones are the areas of highest risk for wildfires affecting developed 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 the EIR Study Area have few access roads, which poses challenges for evacuation and for emergency responders to fight fires and help residents in these areas.

Wildfire History

CAL FIRE maintains a list of historic fires throughout the state. According to CAL FIRE, Lake County has experienced several large wildfires throughout the county. Table 3.20-1, *Historic Wildfire Perimeters in Lake County Greater than 10,000 Acres,* lists historic wildfire incidents greater than 10,000 acres that have occurred within the county over the past century. Figure 3.20-3, *Historic Wildfire Perimeters,* shows the historic wildfire perimeters for all fires that have burned in Lake County between 1880 and 2024. Since 2015, Lake County has experienced seven major wildfires that have burned over 70 percent of the landmass (Lake County OES 2025). As shown in Table 3.20-1, *Historic Wildfire Perimeters in Lake County Greater Than 10,000 Acres,* these fires burned over 600,000 acres, destroyed neatly 2,000 homes, and as shown on Figure 3.20-3, *Historic Wildfire Perimeters,* affected most communities in the EIR Study Area.

Table 3.20-1 Historic Wildfire Perimeters in Lake County Greater Than 10,000 Acres

Year	Fire Name	Size (Acres)
1923	Streeter Ridge	14,996
1944	Jordan Flat	11,797
1944	Boardman	19,510
1950	Little Stoney Fire	17,367
1959	Roadside #26	11,150
1962	Widow Creek	10,327
1966	Round	20,864
1973	Barkerville	26,428
1981	Cow Mountain	25,664
1981	Langes Peak	14,448
1987	Mendenhall	65,468
1987	Fouts	16,633
1996	Fork	83,067
2001	Trough	24,927
2008	Walker	11,173
2015	Jerusalem	25,118
2015	Rocky	69,438
2015	Valley	76,085
2018	Pawnee	16,197
2018	River	48,920
2018	Ranch	410,202
2020	August Complex	1,032,699
2020	LNU Lightning Complex	363,220

Sources: Lake County OES 2025

Factors Influencing Wildfire

Several factors influence wildfire conditions and facilitate the spread of wildfires, including weather conditions, fuels, topography, 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 Lake County.

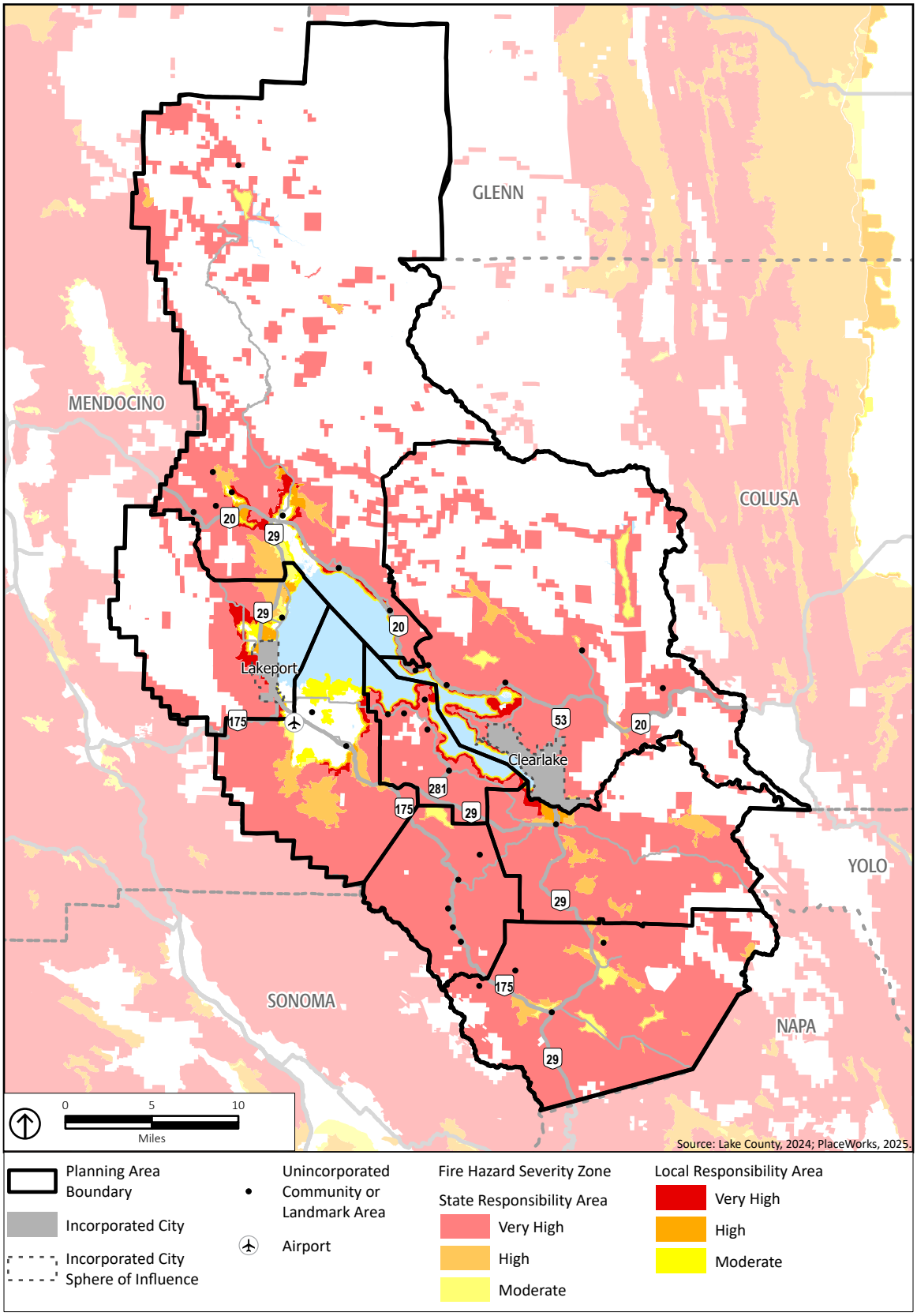

Figure 3.20-1
Fire Hazard Severity Zones

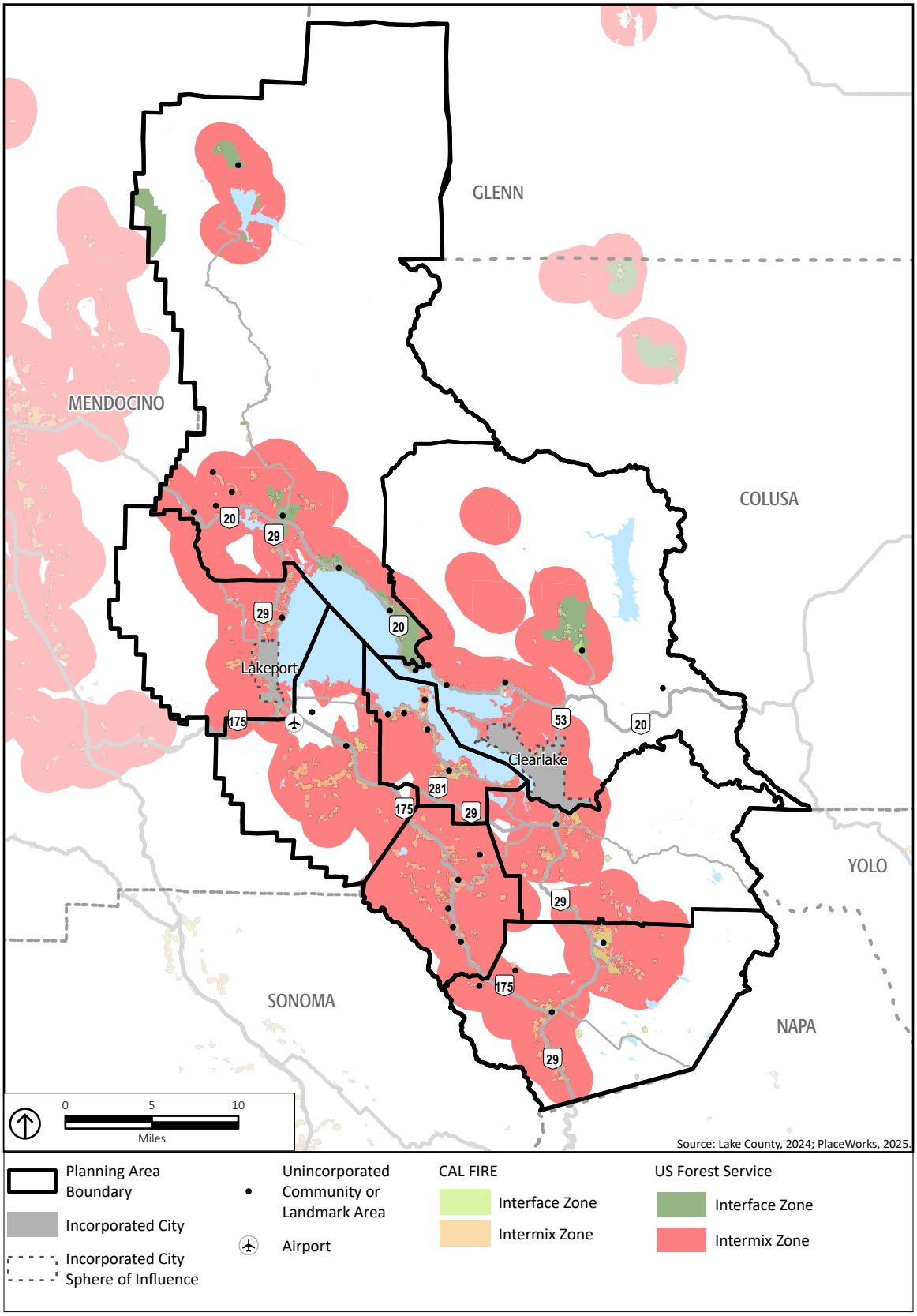

Figure 3.20-2
Wildland-Urban Interface

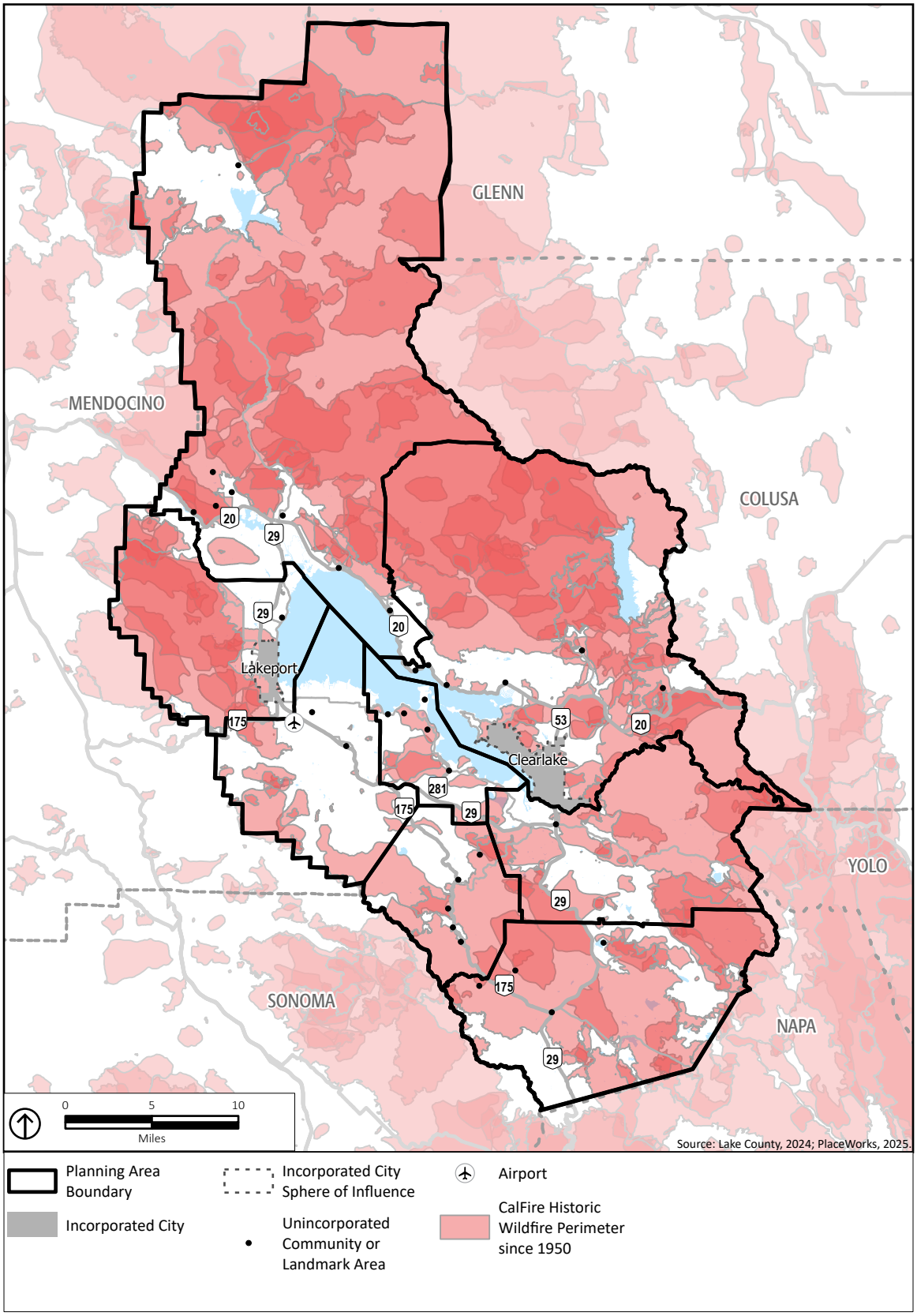

Figure 3.20-3
Historic Wildfire Perimeters

Weather

The climate in Lake 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. Due to the varied topography, the climate in Lake County varies widely. The Clear Lake basin, where Lake County resides, has an annual average high temperature of 71 degrees Fahrenheit (°F) and an annual average low temperature of 43°F (Lake County OES 2025). Temperatures typically range from a low in the 30s in the winter to a high in the 90s in the summer (Lake County OES 2025). 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. Historic rainfall records show an annual normal rainfall for Clear Lake is 29.86 inches, Middletown is 42.60 inches, and 39.59 inches at Upper Lake (Lake County OES 2025). Snowfall occurs infrequently, and when it does fall, it’s limited to high elevations and usually dissipates by midday. Wind is a primary weather factor in wildfire behavior. As wind speeds increase, the rate of fire spread, intensity, and ember spread potential also increases. Gusty and erratic wind conditions can cause wildfires to spread irregularly, making it difficult to predict its path and effectively deploy fire suppression forces. Wind shifts can also occur suddenly due to temperature changes and interactions with steep slopes or hillsides, causing fires to spread unpredictably. The "Konocti Wind" travels from Cow Mountain between Lakeport and Ukiah, coming from the coast (Lake County OES 2025). It then travels into Kelseyville's Big Valley and the north end of Clear Lake's water surface area before picking up speed creating white caps on the lake. The Konocti Winds stay low and go around each side of Mt. Konocti increasing in speed as the pressure gradients are squeezed by the geographical features of the terrain.

Fuel

Most of Lake County is covered by natural vegetation, which provides fuels such as grass, brush, and forests for wildfires. Each vegetation type 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 (Lake County OES 2025). As discussed in Existing Conditions of Section 3.4, *Biological Resources,* the majority of the county is covered in woodland habitats, including conifer forests, deciduous forests, northern oak woodland, montane woodland, and mixed chaparral woodland. Woodlands are likely to burn in later summer fires due to low fuel moisture. These fires can be difficult to control, especially on steep slopes and during high wind events. Areas not covered by woodlands contains brush, grasslands, agricultural land, and urban areas. Grassland and brush habitats react quickly to changes in weather such as low humidity or high wind speeds.

Topography

Slope is a measure of land steepness; wildfire intensity and rate of spread increase as slope increases due to the tendency of heat from a fire to rise via convection. For example, as slope increases from 20 to 40 percent, flame heights can double, and rates of fire spread can increase fourfold; from 40 to 60 percent, flame can become three times higher, and rates of spread can increase eightfold. Elevation within the county ranges from 1,500 feet near Clear Lake to nearly 7,000 feet in the Mendocino National Forest. The mountain ranges throughout the county run north to south, splitting around Clear Lake (Lake County OES 2025).

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 careless disposal of cigarettes, mowing of dead grass, electrical equipment malfunction, use of equipment, or burning of debris. Recreation areas with increased human activity in fire-prone areas also increase the potential for wildfires.

Climate Change

Climate change is likely to increase annual average temperatures in Lake County from a historical 67.7 degrees Fahrenheit (°F), to 72.4 °F by 2050 and 75.8°F by 2100 (Cal-Adapt 2024). This will likely create warmer temperatures earlier and later in the year. Precipitation levels are projected to increase over the course of the century, changing from a historical annual average of 42 inches per year, to an annual average of 47 inches by 2050 and an annual average of 51 inches by 2099 (Cal-Adapt 2024). 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 hillsides and absorb water, more areas burned by fire may also lead to an increase in landslides and floods. Historically, an average of 7,849 acres has burned annually in the EIR Study Area. Wildfires are projected to increase by 35 percent to 10,632 acres by midcentury (2035 to 2064) and by 50 percent to 11,912 acres compared to historic levels by late century (2070 to 2099) (Cal-Adapt 2024).

Fire Protection Resources

The responsibility for the prevention and management of wildfires in Lake County belongs to six different local agencies, along with CAL FIRE for lands within the SRA and U.S. Forest Service for federal lands. The following sections describe each of the fire agencies providing services to the EIR Study Area, the area covered by each agency, and the available resources. Each fire department and agency has mutual aid agreements with one another, ensuring that all calls are

answered in a timely manner. Additional details regarding fire protection resources and services can be found in Section 3.15, *Public Services*.

Kelseyville Fire Protection District

The Kelseyville Fire Protection District is a full-service fire district, providing emergency medical, fire suppression, rescue, fire prevention code enforcement, public education, and community services covering an area of approximately 100 square miles and a population of approximately 11,000 residents. The service area includes the communities of Soda Bay, Buckingham Park, Kelseyville, Riviera West, Riviera Estates, and Clearlake Riviera. The Kelseyville Fire Protection District has two stations (Station 55 and 56) located in Kelseyville, staffed by 15 paid staff.

Lake County Fire Protection District

The Lake County Fire Protection District provides fire, rescue, hazardous materials, and emergency medical services to approximately 165 square miles of Lake County, including the City of Clearlake and unincorporated communities of Lower Lake and Twin Lakes. The district has five fire stations, with full-time staffing at Station 70 in Clearlake and Station 65 in Lower Lake (LCFPD 2025). The Lake County Fire Protection District responded to 6,177 calls for service in 2024, with 1,824 of those calls for fire and 4,353 of those calls for emergency medical or other services. There are automatic mutual aid agreements between Southlake County Fire Protection District, Northshore Fire Protection District, Kelseyville Fire Protection District, and Lakeport Fire Protection District, ensuring that when resources are committed to an incident, the next closest fire district with an available unit would be dispatched (LCFPD 2025).

Lakeport Fire Protection District

The Lakeport Fire Protection District was founded in 1894 to provide fire services to the City of Lakeport. Since then, the district boundaries have expanded to provide fire protection and emergency medical services to the unincorporated areas outside of Lakeport, including the communities of North Lakeport, Scotts Valley, and Finley. Staffing for Lakeport Fire Protection District includes 15 paid staff consisting of the chief, three captains, nine firefighters, an administrative assistant, and an office assistant, in addition to 19 volunteer firefighters (Lakeport FPD n.d.). The Lakeport Fire Protection District has a Main Station in the City of Lakeport and responds to over 2,600 calls per year, including structural and wildland fires, vehicle accidents, technical rescue, hazardous materials, and emergency medical services.

Lake Pillsbury Fire District

The Lake Pillsbury Fire Protection District (LPFPD) covers the unincorporated area around Lake Pillsbury in northern Lake County, in addition to Hull Mountain, Sandhedrin Mountain, the County Road to the Mendocino County line, and Elk Mountain Road up to Penny Pines area. The LPFPD Station #1 is at Lake Pillsbury Ranch and Station #2 is at the south end of Lake Pillsbury.

LPFDP consists of 13 volunteer firefighters and has two engines, two rescue vehicles, two fire attack vehicles, an officer truck, fire boat, and quick attack vehicle (LPFPD 2025). The priorities of the LPFPD are to provide fire and medical services to residents and visitors of Lake Pillsbury and the surrounding Mendocino National Forest.

Northshore Fire Protection District

The Northshore Fire Department provides services to approximately 13,000 residents and 350 square miles of Lake County, including the unincorporated communities of Blue Lakes, Upper Lake, Nice, Lucerne, Paradise Valley, Kono Tayee, Glenhaven, Clearlake Oaks, Spring Valley, and Double Eagle. Northshore Fire Department staffs 19 permanent full-time fire and emergency medical service personnel and three full-time administrative employees and responds to approximately 3,500 service calls per year (Northshore FPD 2025). The district has four active fire stations, consisting of Station 75 in Clearlake Oaks, Station 80 in Lucerne, Station 85 in Nice, and Station 90 in Upper Lake.

South Lake County Fire Protection District

The South Lake County Fire Protection District provides first-response fire and medical service to approximately 16,000 residents year-round (up to 30,000 in summer), throughout its 293-square-mile district. The district covers the unincorporated communities of Loch Lomond, Adams Springs, Hobergs, Whispering Pines, Cobb, Anderson Springs, Middletown, Middletown Rancheria, Hidden Valley, Coyote Valley, Jerusalem Valley, Jericho Valley, Paradise Valley, and The Geysers. South Lake County Fire Protection District is staffed by CAL FIRE personnel, in addition to 22 part-time employees. The district has four active stations, consisting of Main Station 60 in Middletown, Station 63 in Hidden Valley, Station 62 in Cobb, and Station 64 in Loch Lomond. Equipment in this district includes seven fire engines, two water tenders, a rescue vehicle, four ambulances, five utility vehicles, and a mass casualty incident trailer (South Lake County Fire Protection District 2025).

Evacuation and Access

According to the Lake County Evacuation Study prepared as part of the Lake County 2050, an evacuation route is defined as a designated path or way for evacuees to escape from dangerous areas during an emergency. These routes may include highways, major roads, secondary roads, and other transportation infrastructure that facilitate egress from hazard areas. Lake County's evacuation network relies primarily on the state highway system, with four main corridors serving as potential evacuation routes. As shown on Figure 3.20-4, *Potential Evacuation Routes*, primary evacuation routes in Lake County include the following:

- **State Route 20** traverses east-west through the county, connecting to Highway 101 in the west and State Route 16 and Interstate 5 to the east, and provides the main route along Clear Lake's northern shore between Colusa County and Mendocino County, traveling through Clearlake Oaks, Lucerne, Nice, and North Lake communities.
- **State Route 29** runs north-south through the county on the west side of Clear Lake, connecting southern communities like Hidden Valley Lake and Lower Lake to Kelseyville, Lakeport, and Upper Lake, where it merges with State Route 20.
- **State Route 53** connects Clearlake to Lower Lake and provides access to State Route 29 west and south and State Route 20 to the north.
- **State Route 175** connects Middletown to Cobb Mountain and north to Lakeport, then traverses west to Mendocino County, where it connects to Highway 101.
- **State Route 281** runs along Soda Bay Road from near the southern shore of Clear Lake to State Route 29 in Glenview.
- **Several county roads** serve as critical evacuation routes; Scotts Valley Road, Butts Canyon Road, Morgan Valley Road, Seigler Canyon Road, Soda Bay Road, and Spring Valley Road.

The county's geography creates natural constraints for evacuation; Clear Lake occupies the central portion of the county, limiting east-west travel to routes around its northern and southern shores. As shown on Figure 3.20-4, *Potential Evacuation Routes*, there are only four State Route access points connecting the county to the surrounding region—State Route 20 east to Colusa County, State Route 29 south to Napa County, and State Route 20 and State Route 175 west to Mendocino County. Additionally, the mountainous terrain throughout much of the county limits alternative routes in many areas.

Lake County uses the Genasys Protect platform (formerly Zonehaven) to manage evacuations during emergencies. The system divides the county into pre-established zones to enable targeted LakeCoAlerts and provide clear geographic boundaries for emergency communications. During an emergency, officials can issue LakeCoAlerts by zone, and residents can view real-time evacuation status information for their zone through the platform's public interface. As shown on Figure 3.20-5, *Genasys Protect Zones,* the Genasys Protect zones are based on a combination of factors, including geographic features, road networks, natural hazard risks, community layout, and population size, with the more populated areas of Lakeport and Clearlake having smaller zones than rural areas like Middletown, Lucerne, or North Lake communities.

Several communities and neighborhoods have evacuation constraints due to the rural and remote nature of the county. This includes neighborhoods with only one ingress and egress route, or neighborhoods more than one mile from an intersection with a potential evacuation route. Figure 3.20-6, *Evacuation-Constrained Residential Parcels*, shows identified evacuation-constrained residential areas throughout the county, many of which are in Fire Hazard Severity Zones pursuant to California Government Code Section 65302(g)(5).

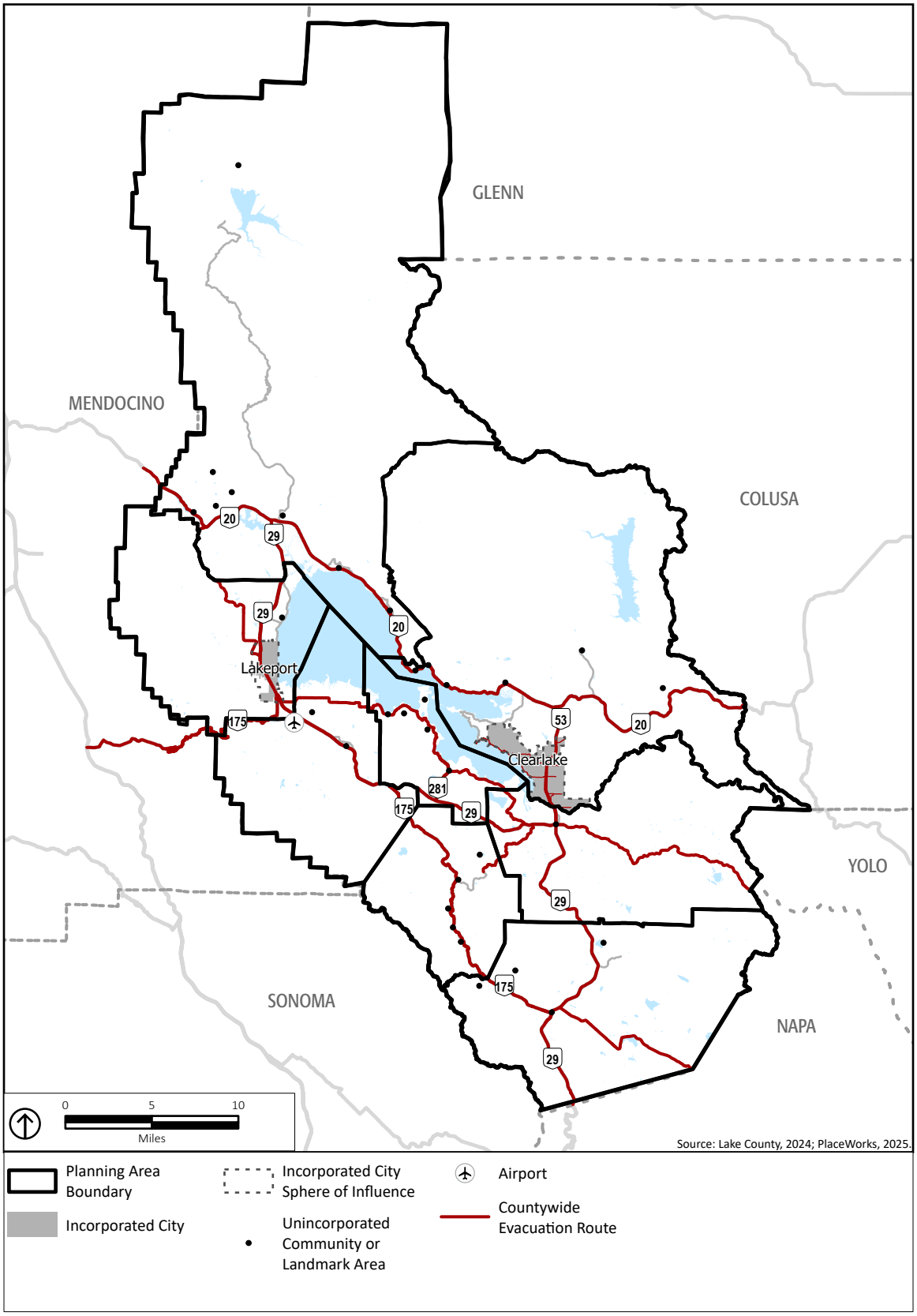

Figure 3.20-4
Evacuation Routes

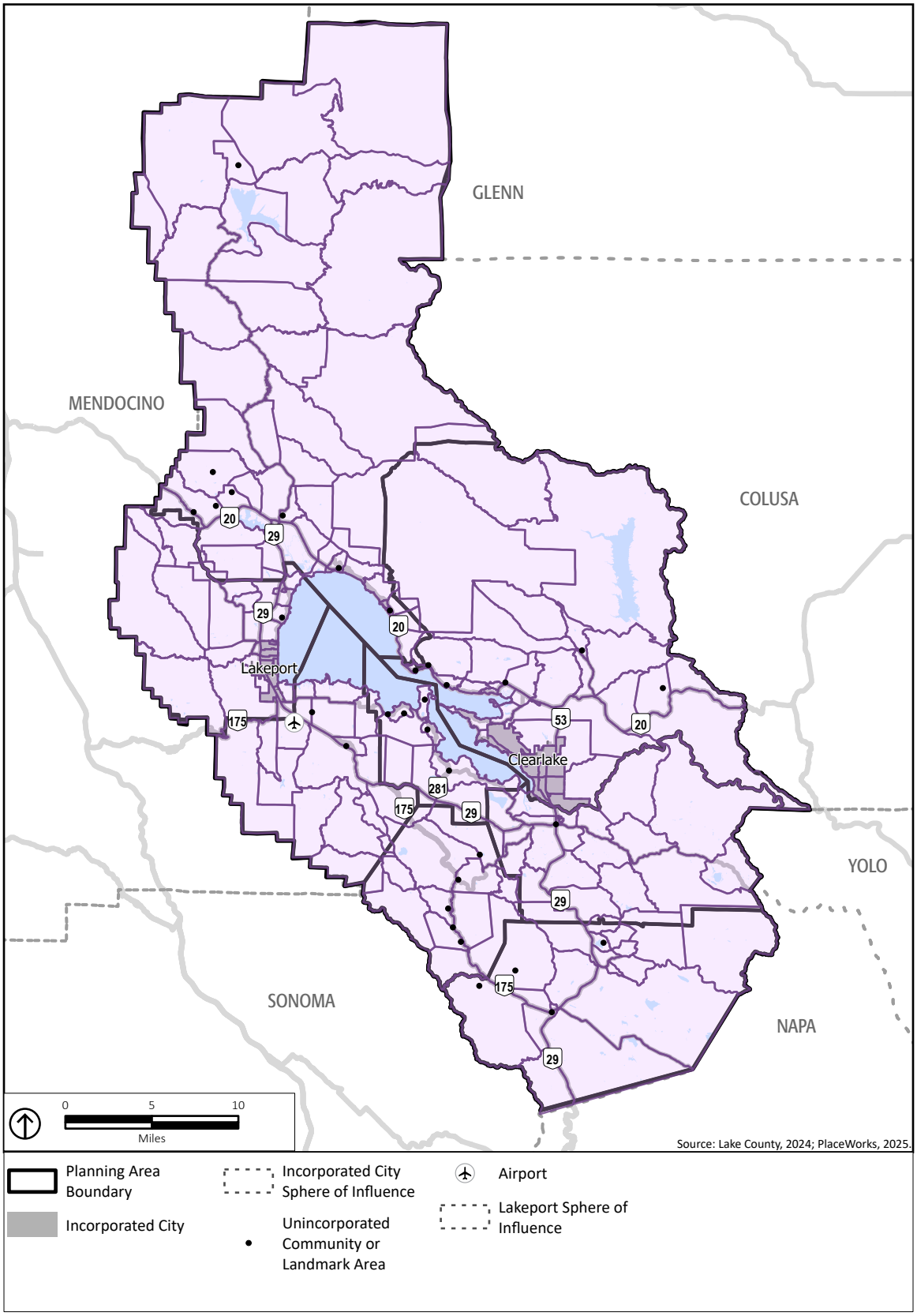

Figure 3.20-5
Genasys Protect Zones

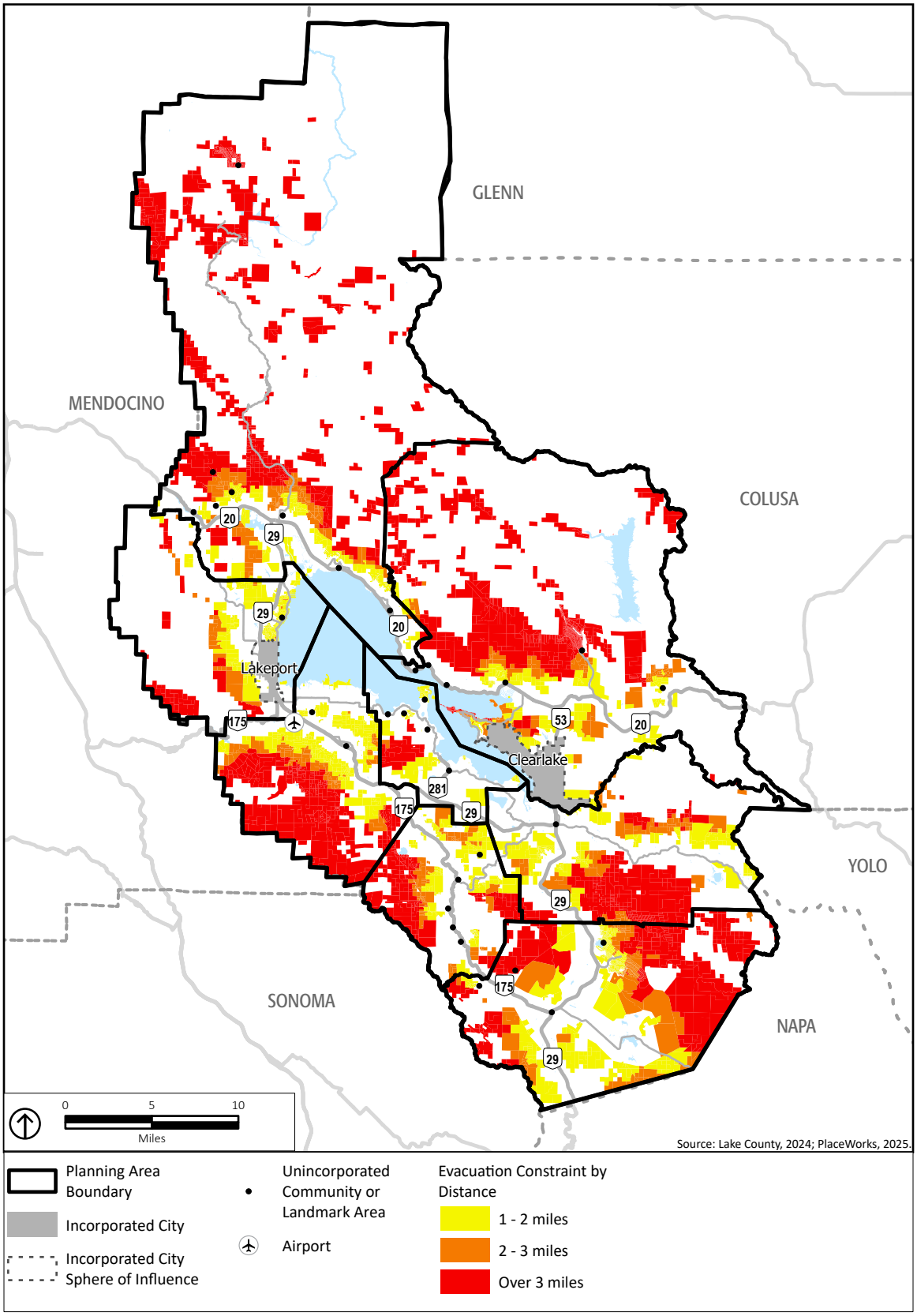

Figure 3.20-6
Evacuation-Constrained Residential Parcels

3.20.3 Standards for Analysis

Appendix G, *Environmental Checklist Form*, of the CEQA Guidelines states that the proposed project would result in a significant impact related to wildfire if it would:

a) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.

Or, if located in or near state responsibility areas or lands classified as very high fire hazard severity zones, it would:

b) Substantially impair an adopted emergency response plan or emergency evacuation plan.

c) 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.

d) 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.

e) 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.

3.20.4 Project Impact Discussion

a) Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

The proposed project would allow new development in High and Very High FHSZs that could expose new populations to loss, injury, or death due to wildfires.

However, the proposed General Plan 2050 includes several policies and actions that would reduce wildfire impacts as shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation WIL. In particular, the following key policies and actions would serve to minimize the exposure of people and structures to wildland fires:

- Policy HS-8.1 requires consulting with the appropriate fire service district or CAL FIRE in areas designated as High and Very High Fire Hazard Severity Zones for fire regulations and design requirements prior to issuance of a building permit or approval of subdivisions (refer to Figure HS-3).

- Policy HS-8.2 requires actively supporting fuel modification and reduction programs on public and private lands throughout the county.
- Policy HS-8.3 requires defensible space around all structures in accordance with California Public Resources Code Section 4291 and applicable regulations established by CAL FIRE, including requirements for Zone 0 (0 to 5 feet), Zone 1 (5 to 30 feet), and Zone 2 (30 to 100 feet) where applicable. In High or Very High Fire Hazard Severity Zones, the ember-resistant Zone 0 must be maintained free of combustible materials such as plants, mulch, wood piles, and flammable fencing.
- Policy HS-8.4 requires locating parks, golf courses, utility corridors, roads, and greenbelts so that they can serve a double function as fuel breaks.
- Policy HS-8.5 requires continuing to coordinate with CAL FIRE and fire districts to maintain existing fuel breaks and emergency access routes for effective fire suppression.
- Policy HS-8.6 requires that existing public and private roadways in High and Very High Fire Hazard Severity Zones or the wildland-urban interface be maintained to comply with street signage and vegetation management fire safety regulations, including vegetation management fuel reduction within 50 feet of roadways on either side.
- Policy HS-8.7 requires the use of fire-smart landscaping in public and private developments.
- Policy HS-8.8 requires coordination with local and regional agencies to conduct vegetation management and long-term maintenance of fire hazard reduction projects (including community fire breaks) on all private and public roads and properties in fire hazard severity zones and the wildland-urban interface, as shown on Figures HS-3 and HS-4.
- Policy HS-8.9 requires coordination with fire districts serving the unincorporated areas of the county to upgrade and retrofit existing development related to vegetation management around homes, adequacy of existing and future water supplies, fire flow tests, fire hydrants, routes or throughways for fire equipment access, clarity of addresses and street signs, and long-term maintenance in compliance with California Fire Safe Regulations, California Fire Code, and local ordinances for the populated areas of the county.
- Policy HS-8.10 requires that new structures within a High or Very High Fire Hazard Severity Zone or wildland-urban interface comply with California Building Code Chapter 7A, California Fire Code, and California Fire Safe Regulations, or equivalent standards, to ensure fire-resistant building materials and landscaping.
- Policy HS-8.11* limits new development in the High or Very High Fire Hazard Severity Zones or wildland urban interface identified by CAL FIRE (see Figure HS-3 and Figure HS-4). If development is proposed in these zones, it requires review by the Community Development Department and appropriate fire service district prior to the issuance of development permits for proposed development projects and conceptual landscaping plans. Plans for proposed development in such areas shall include, at a minimum:

  - Site plan, planting plan, planting palette, and irrigation plan to reduce the risk of fire hazards and with consideration to site conditions, including slope, structures, and adjacencies.
  - Development and maintenance of defensible space, including defensible space within 100 feet of all structures, stricter vegetation management within 0 to 30 feet of a structure, and an ember resistant zone within 5 feet of all structures, as defined by California Government Code, Sections 51181 to 51189, and California Code of Regulations, Title 14, Division 1.5, Chapter 7, Subchapter 3.
  - More than one point of ingress and egress to improve evacuation, emergency response, and fire equipment access, and adequate water infrastructure for water supply and fire flow that meets or exceeds the standards in the California State Minimum Fire Safe Regulations.
  - Class A roofing assembly materials for new and replacement roofs.
  - Location and source of anticipated water supply to ensure adequate water supply for firefighting purposes.
  - Require new construction to install alternative water storage for interior sprinkler systems if new construction is connected to a public water system.
- Policy HS-8.12 requires project applicants to prepare fire protection plans consistent with requirements in Chapter 49 of the California Fire Code, including a risk analysis, fire response capabilities, fire safety requirements, fire hazard mitigation measures, wildfire education maintenance and limitations, and evacuation plans for new development in High or Very High Fire Hazard Severity Zones or wildland urban interface designated by the County and CAL FIRE (see Figure HS-3 and Figure HS-4).
- Policy HS-8.13 requires working with fire protection districts and departments to minimize risks to existing development by identifying existing non-conforming development and assisting property owners to upgrade buildings and properties to current fire safe standards, in terms of road standards, vegetative hazards, and street and building signage, requiring all development to meet or exceed State Responsibility Area and Very High Fire Hazard Severity Zone Fire Safe Regulations.
- Policy HS-8.14 requires developing and updating programs as needed to ensure recovery and redevelopment after a large fire and that reduce future vulnerabilities to fire hazard risks through site preparation, redevelopment layout design, fire-resistant landscape planning, and home hardening building design and materials.
- Policy HS-8.19 requires new developments and major remodels or renovations to comply with the California Building Code, California Fire Code, and local adopted ordinances for construction and adequacy of water flow and pressure, ingress/egress, and other measures to ensure adequate fire protection.
- Action HS-8.c requires preparing and implementing plans to repair and maintain County-owned roadways as needed to meet current standards and encouraging private property

owners to do the same, to the extent feasible and given the absence of other site constraints. These standards include road standards for evacuation and emergency vehicle access, vegetation clearance, and other requirements of the California Fire Safe Regulations.

- Action HS-8.f considers the development of a countywide ridgetop fuel break program.

In addition to the proposed policies and actions other State and local policies and regulations would mitigate wildfire risk impacts, such as the SRA/VHFHSZ Fire Safe Regulations. The Lake County Community Wildfire Protection Plan outlines the updated guidelines developed by the Lake County Fire Safe Council, provides fire safety information to residents, recommends fuel reduction projects throughout the county, and promotes comprehensive and community-based adaptation to living in a fire adapted ecosystem.

All potential future development in unincorporated Lake County in Very High FHSZs would be required to comply with the California Building Standards Code, SRA and Very High FHSZ Fire Safe Regulations, Lake County Code of Ordinances Fire Protection Standards, and grading requirements, which include standards to minimize the spread of wildfire and soil instability due to slopes, and policies and actions in the proposed General Plan 2050. Specifically, the proposed Health and Safety Element includes HS-8.10, which requires new structures within a High or Very High FHSZ or WUI to comply with the California Building Code Chapter 7A, California Fire Code, and SRA and Very High FHSZ Fire Safe Standards requirements.

As described in Section 3.20.1, *Regulatory Framework*, the Lake County CWPP and Lake County MJHMP contain several vegetation management, fuel reduction and maintenance, and fuel break projects to reduce the uncontrolled spread of wildfire due to vegetation on both public and private land. Additionally, all potential future development in wildfire-prone areas in unincorporated Lake County would be required to comply with SRA and Very High FHSZ Fire Safe Regulations, Public Resources Code Section 4291, California Government Code Section 51182, the California Fire Code, and the Lake County Code of Ordinances. 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.

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 proposed General Plan 2050, and the potential for future development to be in wildfire-prone areas, impacts would still be **potentially significant**.

Impact WIL-1: Development under the proposed General Plan 2050 would increase population, buildings, and infrastructure in wildfire-prone areas and thereby could expose people of structure, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.

> **Significance with Mitigation:** Implementation of the proposed General Plan 2050 could increase population, buildings, and infrastructure in wildfire prone areas. Though the proposed General Plan 2050 policies and mandatory State and local wildfire hazard reduction measures, such as Policy HS-8.11* that limits new development in fire-prone areas and reduces risks in wildfire-prone areas, impacts related to the exposure of people or structures to significant risk of loss, injury, or death involving wildland fire would be reduced, but not to a less-than-significant level.
>
> The only way to fully avoid the wildfire impact is to not allow development in Very High FHSZs and the WUI. The majority of Lake County is in a Very High FHSZ and/or the WUI. Prohibiting new development in unincorporated Lake County is not feasible or practical because the County has a responsibility to meet other, conflicting obligations, including increasing the number and type of housing available. Therefore, this type of measure is considered and rejected. Due to potential unknown impacts from future development under the proposed General Plan 2050, impacts at the programmatic level would remain **significant and unavoidable**. This conclusion does not preclude a finding of less-than-significant impacts at the project level.

b) Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

Adopted emergency response and emergency evacuation plans include those discussed under Section 3.20.1, *Regulatory Framework*, such as the Lake County EOP and the Lake County Wildfire Evacuation and Preparedness Plan. The proposed project could result in a significant impact if it would substantially impair the implementation of the EOP or Wildfire Evacuation and Preparedness Plan.

Potential future development in the EIR Study Area would be required to integrate the EOP and Wildfire Evacuation and Preparedness Plan as necessary into development to continue its facilitation of evacuation for people living and working in wildfire-prone areas. The buildout under the proposed project would not result in substantial changes to the circulation patterns or emergency access routes in the county that would conflict with or require changes to the EOP or Wildfire Evacuation and Preparedness Plan. 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. Future development in the State Responsibility Area and Local Responsibility Area Very High Fire Hazard Severity Zone would be required to comply with the SRA and Very High

FHSZ Fire Safe Regulations, the California Building Standards Code, the Public Resources Code, the California Fire Code, and the Lake County Code of Ordinances, which have requirements for a minimum of two different ingress and egress route to each homesite, maximum lengths of single-access roads, minimum widths of roadways, year round access for firefighting equipment, and vegetation fuel management around roadways.

A temporary impact to emergency response and evacuation over the buildout horizon of the proposed project could occur from construction of future development projects if they were to result in temporary lane closures that would potentially alter evacuation routes. However, potential future development over the buildout horizon of the proposed project would be required to comply with applicable local and State regulations, and obtain approval from Caltrans or the County, which would prohibit the obstruction of the circulation network. Additionally, these activities would be limited to the duration of the construction period, and direct impacts of construction would be evaluated during the permit review process by the applicable fire district and/or CAL FIRE. Review and approval of temporary lane closures, if needed, for future development projects in the EIR Study Area would ensure that that no inconsistencies with emergency evacuation plans would occur.

The Health and Safety Element and the Local Area Plans of proposed General Plan 2050 contain policies and actions that require local planning and development decisions to consider impacts to emergency response and evacuation as shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation WIL. In particular, the following key policies and actions would serve to minimize impacts to emergency response and evacuation in the EIR Study Area:

- Policy HS-1.3 requires working with other federal, state, and local agencies to ensure the continued presence and operation of services essential to public health and safety during times of emergency, including maintaining emergency facilities and adequate response times.
- Policy HS-2.1 implements and maintains public education efforts to promote awareness of evacuation zones, alerts, and evacuation procedures, including designated evacuation routes and plans, using multiple formats and languages to the greatest extent practicable.
- Policy HS-2.2 requires new residential development of 10 units or more in High and Very High Fire Hazard Severity Zones identified on Figure HS-3 or in flood-prone areas identified on Figure HS-6 to have access to at least two points of ingress and egress.
- Policy HS-2.3 requires coordination with Caltrans, emergency responders, and surrounding jurisdictions to ensure roads serving as potential evacuation routes are properly designed, maintained, and remain accessible and safe during emergency evacuations.

- Policy HS-2.5 requires identifying opportunities to improve evacuation in mapped hazard-prone areas where development is served by roads that do not meet minimum road standards for emergency equipment, or where it does not have at least two ingress/egress routes (refer to Figure HS-2), such as:
  - Additional vehicle pullouts at key hillside locations.
  - Limiting or restricting on-street parking at key locations.
  - Leveraging existing alternative or secondary routes, including fire roads, trails, and easements.
- Policy HS-2.6 requires ensuring that road patterns in new subdivisions both facilitate access for fire protection vehicles and establish secondary access routes for emergency evacuation when evaluating proposals.
- Action HS-2.a* requires regularly reviewing and updating emergency evacuation plans for all identified hazards, at least every five years, and following any major emergency event, to ensure alignment with current best management practices and evolving hazard conditions.
- Action HS-2.c requires implementing public awareness campaigns encouraging residents to limit the number of vehicles used during evacuations to reduce roadway congestion and encouraging development of community-based assistance networks to connect neighbors who need transportation with those who have extra vehicle capacity.
- Action HS-2.d requires conducting targeted outreach to evacuation-constrained residential neighborhoods to promote preparation of household evacuation plans, go-bags, and shelter-in-place plans.
- Action HS-2.e requires developing public-private partnerships with local businesses and organizations to support evacuation operations, including fuel availability during emergencies.
- Action HS-2.f requires supporting regional coordination to develop traffic control strategies for different hazard scenarios, including procedures for initiating signal power backup and strategic placement of traffic control personnel during evacuation events. Policy M-LU-1.5 requires all new residential and commercial development have at least two (or multiple) access routes to an existing publicly maintained road or a new road meeting current County standards.
- Policies CM-C-4.5, EL-C-4.4, K-C-4.4, L-C-4.4, LL-C-4.5, M-C-4.5, NL-C-4.5, and R-C-4.5 require that, when modifying the transportation network, the County opportunities to expand emergency access so that all residential areas have at least two means of emergency access.

Implementation of these policies would increase the effectiveness of the Lake County EOP and Lake County Wildfire Evacuation and Preparedness Plan and therefore would not impair or conflict with the plan. Specifically, Action HS-2.a* would ensure that all emergency evacuation plans are updated regularly to ensure they are appropriately supporting the Lake County population and align with current best management practices. Though new development or

redevelopment would increase existing evacuation constraints by adding additional residents to evacuation-constrained areas and additional vehicles on roadways during evacuation events, the evacuation plans would be regularly updated to account for this growth.

Further, as discussed in Chapter 2, *Project Description*, of this Draft EIR, future potential development under the proposed project could occur in undeveloped areas in Very High FHSZs. Without adequate access there is the potential for impacts related to evacuation to be **potentially significant**.

Impact WIL-2: Implementation of the proposed General Plan 2050 could result in inadequate evacuation access and impair the implementation of an emergency evacuation plan.

> **Significance with Mitigation:** Implementation of the proposed General Plan 2050 policies and actions would increase the effectiveness of emergency operations and evacuation, and therefore would not impair or conflict with applicable plans. Specifically, proposed Action HS-2.a* requires the regular review and update of emergency evacuation across the county. Future development, regardless of whether it includes new development or redevelopment, would be required to comply with adopted local, regional, and State plans and regulations addressing emergency response and evacuation, including SRA and Very High FHSZ Fire Safety Regulations, the California Building Standards Code, the Public Resources Code, the California Fire Code, and the Lake County Code of Ordinances, which have requirements for a minimum of two different ingress and egress route to each homesite, maximum lengths of single-access roads, minimum widths of roadways, year round access for firefighting equipment, and vegetation fuel management around roadways. Therefore, implementation of the proposed project would not substantially impair an adopted emergency response plan or emergency evacuation plan and impacts would be **less than significant**.

c) 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?

As discussed in Section 3.20.2, *Existing Conditions*, Lake County is prone to gusty and erratic winds, such as the “Konocti Winds” that increase in speed while traveling through the county from the north to the southern portion of the county. These winds have high speeds and can shift suddenly, and they are often accompanied by low humidity. They create dangerous conditions for starting and spreading wildfires, and they also spread wildfire smoke hazards, as can prevailing winds.

Section 3.20.1, *Regulatory Framework*, describes plans, policies, regulations, and procedures that help to reduce wildfire risks. The 2024 CAL FIRE Strategic Fire Plan, 2021 California Wildfire and Forest Resilience Action Plan, Lake County Multi-Jurisdictional Hazard Mitigation Plan, and

Lake County Emergency Operations Plan, are intended to reduce wildfire hazards and coordinate response to these hazards on a statewide and regional scale. In addition, the Lake County Air Quality Management District provides air quality alerts, advisories, and an interactive online map to view current air quality conditions in the region.

Further, the proposed General Plan 2050 contains additional policies and actions that require local planning and development decisions to consider impacts to wildfire risks and occupant exposure to pollutant concentrations from wildfire as shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation WIL. In particular, the following key policies and actions would serve to minimize wildfire risk in the EIR Study Area:

- Policy HS-1.1 discourages development in hazard-prone areas, unless appropriate design and hazard mitigation provisions are included to prevent potential danger to the health and safety of people.
- Policy HS-1.5 discourages the location of new critical facilities and infrastructure within mapped hazard areas. When no feasible alternative location exists, it requires that new critical facilities be designed and constructed to withstand hazard events without loss of operation.
- Policy HS-1.9 requires ensuring community education and outreach programs focus on all-hazards preparedness, promoting awareness of natural hazards, such as soil conditions, earthquakes, flooding, naturally occurring asbestos, fire hazards, and emergency procedures.
- Policy HS-5.10 requires working with local agencies and community-based organizations to provide resources to help residents respond to poor air quality events (e.g., transportation to resilience centers and supply free N95 masks).
- Policy HS-5.11 supports and secures funding for clean air facilities that provide refuge during poor air quality events. This includes incorporating air filtration systems in new and renovated resilience centers, supporting comparable private facilities, and prioritizing locations accessible to transit-dependent and vulnerable populations.
- Policy HS-5.12 encourages the Lake County Air Quality Management District to work in partnership with fire districts through noticing of burn permits to balance natural resource needs (e.g., prescribed burning) with air quality needs.
- Policy HS-8.1 requires consulting with the appropriate fire service district or CAL FIRE in areas designated as High and Very High Fire Hazard Severity Zones for fire regulations and design requirements prior to issuance of a building permit or approval of subdivisions (refer to Figure HS-3).
- Policy HS-8.2 requires actively supporting fuel modification and reduction programs on public and private lands throughout the county.

- Policy HS-8.3 requires defensible space around all structures in accordance with California Public Resources Code Section 4291 and applicable regulations established by CAL FIRE, including requirements for Zone 0 (0 to 5 feet), Zone 1 (5 to 30 feet), and Zone 2 (30 to 100 feet) where applicable. In High or Very High Fire Hazard Severity Zones, the ember-resistant Zone 0 must be maintained free of combustible materials such as plants, mulch, wood piles, and flammable fencing.
- Policy HS-8.4 requires locating parks, golf courses, utility corridors, roads, and greenbelts so that they can serve a double function as fuel breaks.
- Policy HS-8.5 requires continuing to coordinate with CAL FIRE and fire districts to maintain existing fuel breaks and emergency access routes for effective fire suppression.
- Policy HS-8.6 requires that existing public and private roadways in High and Very High Fire Hazard Severity Zones or the wildland-urban interface be maintained to comply with street signage and vegetation management fire safety regulations, including vegetation management fuel reduction within 50 feet of roadways on either side.
- Policy HS-8.8 requires coordinating with local and regional agencies to conduct vegetation management and long-term maintenance of fire hazard reduction projects (including community fire breaks) on all private and public roads and properties in fire hazard severity zones and the wildland-urban interface, as shown on Figures HS-3 and HS-4.
- Policy HS-8.9 requires coordinating with fire districts serving the unincorporated areas of the county to upgrade and retrofit existing development related to vegetation management around homes, adequacy of existing and future water supplies, fire flow tests, fire hydrants, routes or throughways for fire equipment access, clarity of addresses and street signs, and long-term maintenance in compliance with California Fire Safe Regulations, California Fire Code, and local ordinances for the populated areas of the county.
- Policy HS-8.10 requires that new structures within a High or Very High Fire Hazard Severity Zone or wildland-urban interface comply with California Building Code Chapter 7A, California Fire Code, and California Fire Safe Regulations, or equivalent standards, to ensure fire-resistant building materials and landscaping.
- Policy HS-8.11* requires limiting new development in the High or Very High Fire Hazard Severity Zones or wildland urban interface identified by CAL FIRE (see Figure HS-3 and Figure HS-4). If development is proposed in these zones, require review by the Community Development Department and appropriate fire service district prior to the issuance of development permits for proposed development projects and conceptual landscaping plans. Plans for proposed development in such areas shall include, at a minimum:
    - Site plan, planting plan, planting palette, and irrigation plan to reduce the risk of fire hazards and with consideration to site conditions, including slope, structures, and adjacencies.

  - Development and maintenance of defensible space, including defensible space within 100 feet of all structures, stricter vegetation management within 0 to 30 feet of a structure, and an ember resistant zone within 5 feet of all structures, as defined by California Government Code, Sections 51181 to 51189, and California Code of Regulations, Title 14, Division 1.5, Chapter 7, Subchapter 3.
  - More than one point of ingress and egress to improve evacuation, emergency response, and fire equipment access, and adequate water infrastructure for water supply and fire flow that meets or exceeds the standards in the California State Minimum Fire Safe Regulations.
  - Class A roofing assembly materials for new and replacement roofs.
  - Location and source of anticipated water supply to ensure adequate water supply for firefighting purposes.
- Policy HS-8.12 requires project applicants to prepare fire protection plans consistent with requirements in Chapter 49 of the California Fire Code, including a risk analysis, fire response capabilities, fire safety requirements (defensible space, infrastructure, and building ignition resistance), fire hazard mitigation measures and design considerations for non-conforming fuel modifications, wildfire education maintenance and limitations, and evacuation plans for new development in High or Very High Fire Hazard Severity Zones or wildland urban interface designated by the County and CAL FIRE (see Figure HS-3 and Figure HS-4).
- Policy HS-8.13 requires working with fire protection districts and departments to minimize risks to existing development by identifying existing non-conforming development and assisting property owners to upgrade buildings and properties to current fire safe standards, in terms of road standards, vegetative hazards, and street and building signage, requiring all development to meet or exceed State Responsibility Area and Very High Fire Hazard Severity Zone Fire Safe Regulations.
- Policy HS-8.16 requires coordinating with fire districts and departments to support fire prevention, public education, early detection programs, and property inspections to identify and avoid fire hazards.
- Action HS-8.f requires considering the development of a countywide ridgetop fuel break program.
- Policies CM-LU-1.5, EL-LU-1.6, K-LU-1.6, L-LU-1.6, LL-LU-1.6, M-LU-1.7, NL-LU-1.6, and R-LU-1.6 require the County to consider development intensity in areas outside of Community Growth Boundaries according to the area's ability to support water and wastewater needs, access, slope characteristics, protection of sensitive natural resources, and the site's susceptibility to natural hazards.

- Policies CM-LU-7.3, EL-LU-7.3, K-LU-7.3, L-LU-7.3, LL-LU-7.3, M-LU-7.3, NL-LU-7.3, and R-LU-7.3 require new industrial or heavy commercial uses to be sited appropriately, on land with average slopes not exceeding 20 percent and outside of a hazard zone, preferably served by public sewer and water facilities and within a Community Growth Boundary.
- Policies CM-PF-3.6, EL-PF-3.6, K-PF-3.6, L-PF-3.6, LL-PF-3.6, M-PF-3.7, NL-PF-3.6, and R-PF-3.6 require the County to support development of local fire safe councils and work collaboratively to manage hazardous vegetation on private properties.

These policies would ensure that fire hazard reduction measures occur and are maintained, and that existing and new development in woodland and forested areas would incorporate vegetation management and wildfire risk reduction measures. However, even with existing regulatory requirement and proposed General Plan 2050 policies, potential future development under the proposed General Plan 2050 could expose people to the uncontrolled spread of wildfire or pollutant concentrations due to factors such as vegetation. Further, future potential development under the proposed General Plan 2050 could exacerbate wildfire risks by adding people to wildfire-prone areas and exposing people in the county, incorporated cities, and State and federal lands to pollutant concentrations from a wildfire, especially during Konocti or other severe wind events. A wildfire combined with prevailing winds or Konocti winds could expose residents in the city to the uncontrolled spread of wildfire.

As discussed in Section 3.20.2, *Existing Conditions*, the topography throughout the county varies from 1,500 feet near Clear Lake to nearly 7,000 feet in the Mendocino National Forest. The topography varies across the county with gradual, hilly, and steep slopes in all Planning Areas. Construction of potential future development in these areas may require grading and site preparation activities that could change the slope of a single parcel or site.

All potential future development in unincorporated Lake County in Very High FHSZs would be required to comply with the California Building Standards Code, SRA and Very High FHSZ Fire Safe Regulations, Lake County Code of Ordinances Fire Protection Standards, and grading requirements, which include standards to minimize the spread of wildfire and soil instability due to slopes, and policies and actions in the proposed General Plan 2050. Specifically, the proposed Health and Safety Element includes HS-8.10, which requires new structures within a High or Very High FHSZ or WUI to comply with the California Building Code Chapter 7A, California Fire Code, and SRA and Very High FHSZ Fire Safe Standards requirements.

Compliance with the Lake County Fire Protection Standards and Grading Ordinance requirements requires new development to minimize grading of steep slopes and maintain soil stability. Wildfire smoke could potentially travel up a slope during a wildfire. Therefore, even with existing regulatory requirements, Code of Ordinance requirements, and proposed Safety Element policies, potential future development under the proposed General Plan 2050 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 grassland, woodland, and forested areas of unincorporated Lake County are easily ignited, especially during late summer and fall when temperatures and winds are high and relative humidity is low. During these conditions vegetation can dry out, particularly in areas with unirrigated vegetation, becoming extremely flammable and increasing wildfire risks.

As described in Section 3.20.1, *Regulatory Framework*, the Lake County CWPP and Lake County MJHMP contain several vegetation management, fuel reduction and maintenance, and fuel break projects to reduce the uncontrolled spread of wildfire due to vegetation on both public and private land. Additionally, all potential future development in wildfire-prone areas in unincorporated Lake County would be required to comply with SRA and Very High FHSZ Fire Safe Regulations, Public Resources Code Section 4291, California Government Code Section 51182, the California Fire Code, and the Lake County Code of Ordinances. 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.

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 proposed General Plan 2050, and the potential for future development to be in wildfire-prone areas, impacts would still be potentially significant. Therefore, this impact is **potentially significant.**

Impact WIL-3: Development under the proposed General Plan 2050 would increase population, buildings, and infrastructure in wildfire-prone areas, thereby exacerbating wildfire risks.

> **Significance with Mitigation:** Implementation of the proposed General Plan 2050 could increase population, buildings, and infrastructure in wildfire prone areas. Though the proposed General Plan 2050 policies and mandatory State and local wildfire hazard reduction measures reduce risks in wildfire-prone areas, 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 General Plan 2050 Policy HS-8.2, Policy HS-8.3, Policy HS-8.6, Policy HS-8.8, Policy HS-8.10, and Policy HS-8.11* 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. Policy HS-8.12 also requires new development to prepare Fire Protection Plans and maintain defensible space around roads and structures. These policies provide the best wildfire hazard reduction measures available. However, the only way to fully avoid the wildfire

impact is to not allow development in Very High FHSZs and the WUI. The majority of Lake County is in a Very High FHSZ and/or the WUI. Prohibiting new development in unincorporated Lake County is not feasible or practical because the County has a responsibility to meet other, conflicting obligations, including increasing the number and type of housing available. Therefore, this type of measure is considered and rejected.

Due to potential unknown impacts from future development under the proposed General Plan 2050, impacts at the programmatic level would remain **significant and unavoidable**. This conclusion does not preclude a finding of less-than-significant impacts at the project level.

d) Would the project 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 environments?

Buildout under the proposed General Plan 2050 would require the installation of new roadways, fuel breaks, emergency water sources, transmission lines, and other utilities to serve future potential development in unincorporated Lake County.

- **Roadways.** Proposed buildout of the General Plan 2050 would include new roadways to connect to new developments throughout the unincorporated county; many of these developments would be in Very High FHSZs. Additionally, Health and Safety Element Policy HS-2.2, HS-2.5, and HS-2.6 require new development and subdivisions to have at least two emergency access routes or provide the opportunity to create secondary access routes in existing development. Potential future development under the proposed project could also create new or expanded roadways in fire-prone areas, including converting unpaved roads to paved access roads, developing roadways to new development, and expanding existing roads to accommodate evacuation and multimodal forms of transportation.
- **Fuel Breaks.** Health and Safety Element Policies HS-8.4 and HS-8.5, and Action HS-8.f require the installation and maintenance of fuel breaks, and Policies HS-8.3 and HS-8.11 require existing and new development to create and maintain defensible space, and conduct vegetation management consistent with State law. Health and Safety Element Policy HS-8.6 also requires vegetation management fuel reduction within 50 feet of public and private roadways. These activities would occur in Very High FHSZs and the WUI areas throughout unincorporated Lake County.
- **Emergency Water Sources.** Health and Safety Element Policies HS-8.9, HS-8.11, HS-8.18, and HS 8.19 ensure that existing and future development have sufficient water supplies for fire-fighting purposes and structural suppression, which would require the installation of new water conveyance infrastructure in new residential development or areas not served by adequate water supplies to meet CFC requirements.

- **Power lines.** Potential future development under the proposed General Plan 2050 would require electrical line installations and connections to provide power to buildings and infrastructure. Health and Safety Element Policy HS-8.15 requires collaboration with Pacific Gas & Electric to underground electrical transmission infrastructure throughout the county, prioritizing high-voltage transmission lines and areas in Very High and High FHSZs. Additionally, Health and Safety Element Policy HS-13.4 requires utility lines in new subdivisions to be placed underground.
- **Other Utilities.** Potential future development under the proposed General Plan 2050 would also require the installation and maintenance of water systems, 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 above-ground power transmission lines would create a higher risk of wildfire compared to other infrastructure. However, as stated above, the Health and Safety Element requires the undergrounding of utility lines in new divisions and encourages the undergrounding of existing electrical transmission lines, which is consistent with Lake County Code of Ordinance Chapter 20, Undergrounding Utility Districts. Additionally, the California Public Utilities Commission requires maintenance of vegetation around power lines, strict wire-to-wire clearances, annual inspections of above-ground power lines, and preparation of fire prevention plans for above-ground power lines in high-fire-threat districts. These measures would reduce the wildfire risks associated with the installation and maintenance of power lines.

Development in wildfire-prone areas would also be required to comply with building and design standards in the CBC and CFC, which include provisions for fire-resistant building materials, clearance of debris, and fire safety requirements during demolition and construction activities. Additionally, PRC Section 4291 and California Government Code Section 51182 require a defensible space within 100 feet of a structure and an ember-resistant zone within 5 feet of a structure. Furthermore, SRA and Very High FHZS Fire Safe Regulations would require additional vegetation management and a minimum setback of 30 feet for all buildings from property lines and/or center of a road, reducing the potential for new roadways to exacerbate wildfire risks. These measures, along with policies in the proposed General Plan 2050 Health and Safety Element for undergrounding of power lines, creation and maintenance of fuel breaks and vegetation management, and ensuring adequate water supplies 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, LCCO standards, and the proposed General Plan 2050 policies and actions to mitigate the impacts of infrastructure on the environment. Therefore, impacts would be **less than significant**.

Significance without Mitigation: Less than significant.

e) Would the project 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?

Wildfires, such as the 2015 Valley Fire and 2018 Mendocino 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 postfire slope instability—it would expose people or structures to significant risks from landsides, debris flows, or flooding.

As discussed in Section 3.10, *Hydrology and Water Quality*, of this Draft EIR, parts of Lake County are in the 100-year and 500-year floodplains. As shown on Figure 3.10-1, *Flood Zones,* in Section 3.10, *Hydrology and Water Quality*, of this Draft EIR, flood zones in the county generally follow the tributaries to Clear Lake, Scotts, Cole, Kelsey, and Adobe Creeks. These streams also contribute significantly to high lake stages and lakeshore flooding. The most important factor in flooding along the shores of Clear Lake is inadequate outlet capacity, which increases and prolongs high lake stages.

As discussed in Section 3.7, *Geology and Soils*, of this Draft EIR, most of Lake County is characterized as having landslide susceptibility based on past landslides, relative strength of rock units, and the steepness of slopes. The areas around the east side of Clear Lake, the Cache Creek Wilderness Area, Mount Konocti, and Long Valley have had documented landslides (CGS 2025). However, due to steep slopes throughout Lake County, landslides are possible in all the planning areas.

Further, the proposed General Plan 2050 contains additional policies and actions that require local planning and development decisions to consider risk to people or structures as a result of runoff, post-fire slope instability, or drainage changes as shown in Appendix F, *Proposed General Plan 2050 Policies and Actions*, of this Draft EIR, denoted with the abbreviation WIL. In particular, the following key policies would serve to minimize risk to people or structures as a result of runoff, post-fire slope instability, or drainage changes in the EIR Study Area:

- Policy HS-9.1 requires all development within the Special Flood Hazard Area to minimize flood risks to structures and infrastructure, and to ensure safe access during flood conditions through compliance with Federal Emergency Management Agency regulations and the Lake County Flood Plain Management Ordinance.
- Policy HS-9.8 promotes low impact development, which uses vegetation and soil to capture, treat, and retain stormwater runoff, such as green infrastructure, pervious surfaces, and green streets, in new and existing development.

- Policy HS-9.10 requires project applicants to demonstrate that urban development project sites and projects within floodplain areas will not adversely impact downstream properties or contribute to flooding hazards prior to approval.
- Policy HS-12.1 requires areas with more than 30 percent slope or in areas mapped with naturally occurring asbestos to submit engineering plans and geotechnical studies for all construction and grading. These plans must address roads, utility corridors, and similar off-site improvements as well as erosion and dust control. Development in other areas possessing potential landslide risk, regardless of slope, shall require engineering plans and/or geotechnical study prior to discretionary approval or approval of grading or building permits.
- Policy HS-12.9 prohibits new development on a hazardous fault trace, active landslide, or other geologic or seismic hazard area that poses a significant risk, including areas located downstream or downslope from such hazards, as shown on Figure HS-8 and Figure HS-9.
- Policy HS-12.12 prohibits, in areas of high potential for landslides, altering the land or hydrology in a way that is likely to increase the hazard potential, including:
  - Saturation due to drainage or septic systems.
  - Removal of vegetative cover.
  - Steepening of slopes or undercutting the base of a slope.

Furthermore, all new development in the unincorporated county is required to comply with State and local regulations, such as the CBC and Lake County Code of Ordinances, both of which have provisions to reduce flooding and landslides in existing and new development. For example, Section 1803 of the 2019 California Building Code requires a geotechnical investigation that must assess existing landslide susceptibility on a project site. Additionally, potential future development under the proposed General Plan 2050 would also be required to comply with Lake County Code of Ordinances Chapter 30, Grading Ordinance.

New development complying with these policies of the proposed General Plan 2050 would not expose people or structures to downslope landslides or downstream flooding due to postfire hazards. Furthermore, as identified in impact discussions (a) and (b), development under proposed General Plan 2050 must also comply with best management practices regarding wildfire prevention, action, and recovery as outlined in the Lake County Emergency Operations Plan and Lake County MJHMP. 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 postfire hazards. Compliance with these policies and regulatory requirements would ensure that impacts from postfire instability would be less than significant. Therefore, this impact is **less than significant**.

Significance without Mitigation: Less than significant.

3.20.5 Cumulative Impact Discussion

The cumulative setting for wildfire includes potential future development in the region, including the Cities of Lakeport and Clearlake, may exacerbate wildfire risk in Lake County and the surrounding area.

Would the project have a cumulative effect related to wildfire?

Future development over the buildout horizon of the proposed General Plan 2050 would not impair an adopted emergency response plan or emergency evacuation plan; 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. Cumulative development in the surrounding local jurisdictions and State lands would be subject to the same State regulations applicable to future projects over the buildout horizon. Although federal lands would not be subject to State regulations, they would still be subject to the National Cohesive Wildfire Management Strategy, NFPA Standards, and specific wildfire management provisions implemented by the U.S. Forest Service.

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, vegetation, or other factors, as described under Impact WIL-2. The addition of other proposed development projects in adjacent jurisdictions in similar environments that are sloped and contain high fuel loads 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 expose project occupants to pollutant concentrations from a wildfire or uncontrolled spread of a wildfire due to slope, prevailing winds, vegetation, or other factors. This would potentially result in cumulatively considerable impacts when taken into consideration with the proposed General Plan 2050.

Future potential development in the EIR Study Area and the surrounding region would be required to comply with the same State regulations, such as SRA and Very High FHSZ Fire Safe Regulations, PRC Section 4291, CBC, and CFC. State lands and land within the Cities of Clearlake and Lakeport would also implement wildfire reduction strategies through implementation of the Lake County CWPP, the Lake County MJHMP city annexes, and the State Hazard Mitigation Plan. However, the increase of potential development projects within the Very High FHSZs and the WUI outside of the EIR Study Area would result in a cumulatively significant impact due to the inherent risk of any increased human activity in these areas. Therefore, this cumulative impact is **significant**.

Impact WIL-4: Potential future development under the proposed General Plan 2050 could, in combination with other surrounding and future projects in the Very High FHSZs and the WUI, 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, vegetation, or other factors.

> **Significance with Mitigation:** There are no additional feasible mitigation measures available to reduce this cumulative impact to a less-than-significant level. Similar to Impact WIL-2, even with implementation of the proposed General Plan 2050 policies and actions, the only way to fully avoid the cumulative wildfire impact is to prohibit development in Very High FHSZs and WUI throughout the region. As a full prohibition of development in these areas is not feasible in the region, this impact is **significant and unavoidable**.

3.20.6 References

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4. ALTERNATIVES TO THE PROPOSED PROJECT

4.1 INTRODUCTION

This chapter presents the alternatives analysis for the proposed project, as required by the California Environmental Quality Act (CEQA). 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]).

The discussion includes an explanation of the methodology used to select alternatives to the proposed project, with the intent of identifying potentially feasible alternatives that could avoid or substantially lessen the significant impacts identified for the proposed project while still meeting most of the basic project objectives, pursuant to CEQA Guidelines Section 15126.6(a). This chapter identifies a reasonable range of alternatives that meet these criteria, and these alternatives are evaluated with respect to minimizing adverse environmental effects as compared to the proposed project. It also describes other alternatives and alternative concepts that were considered but eliminated from detailed consideration and the reasons for their elimination. For the alternatives selected for analysis, this chapter evaluates the impacts of the alternatives against baseline environmental conditions and compares the potential impacts of the alternatives with those of the proposed project. Finally, as required under CEQA Guidelines Section 15126.6(e), based on this analysis, this chapter then discusses the Environmentally Superior Alternative.

The following discussion is intended to inform the public and decision makers of feasible alternatives to the proposed project that would avoid or substantially lessen any of the significant effects of the proposed project. Section 15126.6, *Consideration and Discussion of Alternatives to the Proposed Project*, of the CEQA Guidelines states that:

> An EIR shall describe a range of reasonable alternatives to the project, or the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. An EIR is not required to consider alternatives, which are infeasible. The lead agency is responsible for

selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason.

4.2 FACTORS CONSIDERED WHEN DEVELOPING ALTERNATIVES

This section describes the basis for determining the range of CEQA alternatives and identifies the specific alternatives that are analyzed in this Draft EIR. The primary factors considered when determining feasible alternatives to the proposed project are the identified project objectives and those significant impacts that have been identified for the proposed project. Therefore, these two considerations are summarized in the sections that follow.

4.2.1 Project Objectives

Pursuant to CEQA Guidelines Section 15126.6(c), the range of potential alternatives to the proposed project shall include those that could feasibly accomplish most of the basic objectives of the proposed project. The primary purpose of the proposed project is to plan for the growth and conservation of Lake County over an approximately 25-year time horizon. Chapter 2, *Project Description*, provides objectives that 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. These objectives are further described in Section 2.6, *Project Objectives*.

4.2.2 Significant Impacts

As described, apart from the No Project Alternative, other alternatives to a project should be evaluated because of their ability to feasibly attain most of the basic objectives of the project and avoid or lessen the project's identified significant impacts. The proposed project would result in 15 significant impacts at a program level.

LESS-THAN-SIGNIFICANT IMPACTS WITH MITIGATION

The following impact was found to be less than significant with implementation of mitigation measures.

- **Impact UTIL-5:** Impacts from potential future development under the proposed General Plan 2050 could create a solid waste in excess of the capacity of local infrastructure.

LESS-THAN-SIGNIFICANT IMPACTS WITH MITIGATING POLICIES AND ACTIONS

The following impacts were found to be less than significant with implementation of mitigating policies and actions.

- **Impact AES-1:** Impacts from potential future development under the proposed General Plan 2050 could create a substantial adverse effect on a scenic viewshed.
- **Impact AES-3:** Impacts from potential future development under the proposed General Plan 2050 could create substantial light or glare which would adversely affect day or nighttime views in the area.
- **Impact AIR-2:** Construction and operation of projects under the proposed General Plan 2050 would generate emissions that exceed the Bay Area Air District's standards for regional construction and operational emissions.
- **Impact BIO-1:** Impacts to special-status species or the inadvertent loss of bird nests in active use, which would conflict with the federal Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (CFGC), could occur as a result of implementation of the proposed project.
- **Impact BIO-2:** Impacts to riparian areas, drainages, and sensitive natural communities could occur from potential future development under the proposed General Plan 2050 where natural habitat remains.
- **Impact BIO-3:** Potential future development from implementation of the proposed General Plan 2050 could result in direct and indirect impacts to wetland habitat.
- **Impact BIO-4:** Potential future development in the EIR Study Area could result in impacts on the movement of wildlife and potential for increased risk of bird collisions.
- **Impact CUL-1:** Impacts to known or yet to be classified historic resources could occur from potential future development under the proposed General Plan 2050.
- **Impact CUL-2:** Impacts to known and unknown archeological resources could occur from potential future development under the proposed General Plan 2050.
- **Impact GEO-1:** Impacts from potential future development under the proposed General Plan 2050 where there are known geological hazards could occur over the buildout horizon of the proposed project.
- **Impact GEO-2:** Impacts from potential future development under the proposed General Plan 2050 where there are potentially unstable soils could occur over the buildout horizon of the proposed project.
- **Impact GEO-3:** Impacts from potential future development under the proposed General Plan 2050 where there are expansive soils could occur over the buildout horizon of the proposed project.
- **Impact GEO-4:** Impacts from potential future development under the proposed General Plan 2050 where development could use septic systems with soils incapable of supporting

septic or alternative wastewater systems could occur over the buildout horizon of the proposed project.

- **Impact HAZ-1:** Impacts from potential future development under the proposed General Plan 2050 could 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.
- **Impact HYD-1:** Impacts from operation of potential future development under the proposed General Plan 2050 could degrade surface and groundwater quality.
- **Impact HYD-2:** Impacts from operation of potential future development under the proposed General Plan 2050 could decrease groundwater supplies and interfere with groundwater recharge.
- **Impact NOI-1:** Construction activities associated with potential future development could expose sensitive receptors to excessive noise from construction equipment.
- **Impact NOI-2:** Operational noise from stationary sources associated with potential future development could expose sensitive receptors to excessive noise from stationary equipment.
- **Impact NOI-3:** Construction activities associated with potential future development could expose sensitive receptors to excessive vibration from construction equipment.
- **Impact TRA-2:** Implementation of the proposed General Plan 2050 could result in inadequate evacuation access.
- **Impact TCR-1:** Impacts to known or yet to be classified Tribal Cultural historic resources could occur from potential future development under the proposed General Plan 2050.
- **Impact TCR-2:** Impacts to unknown Tribal Cultural Resources could occur from potential future development under the proposed General Plan 2050.
- **Impact WIL-2:** Implementation of the proposed General Plan 2050 could result in inadequate evacuation access the impair the implementation of an emergency evacuation plan.

SIGNIFICANT AND UNAVOIDABLE IMPACTS

The following impacts were found to be significant and unavoidable even with implementation of mitigation measures or mitigating policies and actions.

- **Impact AGF-1:** Implementation of the proposed project could result in the conversion of Prime Farmland, Farmland of Statewide Importance, or Unique Farmland land (together referred to as “qualifying Farmland”) to nonagricultural land uses.
- **Impact AGF-2:** Implementation of the proposed project could result in the loss of agricultural land under the Williamson Act.

- **Impact AGF-3:** The proposed project, in combination with past, present, and reasonably foreseeable projects, could result in a significant cumulative impact with respect to the conversion of Prime Farmland, Farmland of Statewide Importance, or Unique Farmland land (together referred to as "qualifying Farmland") and Williamson Act properties to non-agricultural uses.
- **Impact AIR-1:** Implementation of the General Plan 2050 would result in higher VMT growth when compared to population growth and the generation of substantial operational (long-term) criteria air pollutant emissions that would exceed the Bay Area Air District's regional significance criteria.
- **Impact AIR-3:** Implementation of the General Plan 2050 could expose air quality sensitive receptors to substantial toxic air contaminant concentrations from construction activities and from permitted and non-permitted sources during operation.
- **Impact AIR-5:** The health risk and criteria air pollutant impacts resulting from implementation of the proposed General Plan 2050 would be cumulatively considerable.
- **Impact TRA-1:** Growth associated with the proposed project would cause home-based VMT per resident and home-based work VMT per employee to be higher than the baseline average.
- **Impact TRA-3:** Growth associated with the proposed project would cause a cumulatively significant impact to VMT.
- **Impact UTIL-1:** Impacts from potential future development under the proposed General Plan 2050 could create a significant impact on water infrastructure.
- **Impact UTIL-2:** Impacts from potential future development under the proposed General Plan 2050 could create a significant impact on wastewater infrastructure.
- **Impact UTIL-3:** Impacts from potential future development under the proposed General Plan 2050 could create a significant impact on stormwater infrastructure.
- **Impact UTIL-4:** Impacts from potential future development under the proposed General Plan 2050 could create a significant impact on water supply.
- **Impact WIL-1:** Development under the proposed General Plan 2050 would increase population, buildings, and infrastructure in wildfire-prone areas, thereby exacerbating wildfire risks.
- **Impact WIL-3:** Development under the proposed General Plan 2050 would increase population, buildings, and infrastructure in wildfire-prone areas, thereby exacerbating wildfire risks.
- **Impact WIL-4:** Potential future development under the proposed General Plan 2050 could, in combination with other surrounding and future projects in the Very High FHSZs and the WUI, 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, vegetation, or other factors.

4.3 ALTERNATIVES CONSIDERED BUT REJECTED

As described in Section 4.1, *Introduction*, CEQA Guidelines Section 15126.6(c) requires EIRs to identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency's determination. CEQA Guidelines Section 15126.6(c) provides that among the factors that may be used to eliminate alternatives from detailed consideration in the EIR are (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts. During the planning process described in Section 2.5, *Planning Process,* of Chapter 2, *Project Description,* feedback from community engagement activities and have been incorporated into the proposed project. Thus, through the public process many different versions of the proposed project were considered. The following is a discussion of the main alternatives that would reduce environmental impacts that were considered and rejected, along with the reasons that alternative was not included in the analysis.

4.3.1 Reduced Housing Alternative

The County considered alternatives that would reduce construction and operational emissions leading to impacts to air quality and vehicle miles traveled (VMT) of the proposed project by reducing the proposed buildout potential, including the amount of potential housing development. The County rejected any alternative that would reduce the amount of housing due to the ongoing housing crisis.

The State of California has enacted several laws intended to address California's housing needs. The California Housing Accountability Act was initially passed in 1982 and has been revised in recent years. Under the Housing Accountability Act, so long as a project complies with applicable objective General Plan and zoning standards, a local agency may not deny a project or approve it at a lower density unless the agency finds that the project would have specific, adverse, unavoidable impacts on public health or safety. Pursuant to Government Code Section 65589.5(j), a local agency may only require a reduction in housing density as a condition of approval if the proposed project has a specific adverse effect on public health and safety that can only be mitigated by lowering the residential density. Accordingly, for many housing projects with no specific, adverse, unavoidable impacts on public health or safety, local agencies find reduced housing alternatives to be infeasible.

The County finds that, with implementation of proposed General Plan 2050 goals, policies, and actions that require the evaluation and mitigation of impacts on public health and safety from potential future development, a reduction in housing is not necessary to avoid a public health and safety impact. Therefore, a reduced housing alternative is considered infeasible. Furthermore, while the reduced housing alternative would reduce impacts from construction

and operation when compared to the proposed project, it would not entirely avoid significant environmental impacts.

Lastly, a reduced housing alternative would not fully achieve the project objectives that support balanced and orderly growth and seek to provide a range of housing types to meet the needs of all Lake County residents that are safe, clean, and healthy.

4.3.2 No Development in Very High Fire Hazard Severity Zones Alternative

The County considered alternatives that would prohibit development in very high fire hazard severity zones (FHSZ) to reduce wildfire-related impacts associated with increased population, buildings, and infrastructure in wildfire-prone areas. Nearly all land within the EIR Study Area is within a Very High FHSZ, with pockets of areas in high or moderate FHSZs near North Lakeport, Upper Lake, Lower Lake, and Kelseyville. Prohibiting new development in the Very High FHSZ is not feasible or practical because the County has a responsibility to meet other, conflicting obligations, including increasing the number and type of housing available and allowing reconstruction of homes burned by wildfires. Such a prohibition would disallow new development but would also disallow redevelopment and improvement projects on sites already developed in the Very High FHSZ. Such a prohibition would likely require the use of eminent domain. In addition, as described previously, the County rejected any alternative that would reduce the amount of housing due to the ongoing housing crisis and desire to support growth in the county.

4.4 ALTERNATIVES SELECTED FOR ANALYSIS

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 proposed project and that may avoid or substantially lessen any of the significant impacts of the proposed project.

- Alternative A: No Project Alternative
- Alternative B: Focused Growth and Reduced Non-residential Alternative

The first alternative is the CEQA-required “No Project” Alternative, which assumes the 2008 General Plan would remain in effect and would be not replaced by the proposed project.

The second alternative is the Focused Growth and Reduced Non-residential Alternative. This alternative assumes the same number of households, residential units, and population would occur as under the proposed project, but would allow more opportunities for dense housing in Community Growth Boundaries (CGB) and in proximity to existing transit facilities and services.

Additionally, this alternative would include a 25-percent reduction in all categories of non-residential development. Table 4-1, *2050 Buildout Potential for the Proposed Project and Alternatives to the Proposed Project,* shows how the buildout potential of the proposed project compares to that of the alternatives of the proposed project.

Table 4-1 2050 Buildout Potential for the Proposed Project and Alternatives to the Proposed Project

	Proposed Project	Alternative A: No Project	Alternative B: Focused Growth and Reduced Non-residential
Housing Units	22,830	21,960	22,830
Population [1]	54,770	52,704	54,770
Jobs	20,600	20,400 [2]	19,800 [3]
Net New Non-Residential Square Feet	1,379,720	1,366,320 [4]	1,034,790 [5]

Note. All numbers are rounded to the nearest 10

1. Population calculated using the Department of HCD's housing factor of 2.4 people per unit.
2. Calculated based on annual job growth from 2000 and 2024 based on California Economic Development Department data
3. Calculated based on 25-percent reduction from proposed project
4. Calculated based on proportional difference in jobs between the proposed project and Alternative A
5. Calculated based on 25-percent reduction from proposed project

The alternatives analysis assumes that the proposed General Plan 2050 goals, policies, and actions would apply to Alternative B, including the mitigating policies and actions, but would not apply to Alternative A. The following discussion compares the environmental impacts of the alternatives with those of the proposed project for each of the environmental topics analyzed in detail in Chapter 3, *Environmental Analysis*, of this Draft EIR.

4.5 ALTERNATIVE A: NO PROJECT ALTERNATIVE

Pursuant to CEQA Guidelines Section 15126.6(e)(1), the No Project Alternative is required as part of the "reasonable range of alternatives" to allow decision makers to compare the impacts of approving the proposed project with the impacts of taking no action or not approving the proposed project. Consistent with CEQA Guidelines Section 15126.6(e)(3)(A), when the project is the revision of a plan, as in this case, the No Project Alternative is the continuation of the existing plan. Under Alternative A, potential future development in Lake County would continue to be subject to existing policies, regulations, development standards, and land use designations of the 2008 General Plan.

The 2008 General Plan was adopted in 2008 and included a horizon year of 2025; the eight Local Area Plans were adopted between 1988 and 2010. A number of State and federal laws guiding General Plan policies have been updated since that time. Alternative A would not incorporate new topics that are now required by State law, such as environmental justice; would not revise relevant policies and actions to meet those requirements; would not include new or modified general plan goals, policies, and actions; and would not include any changes to existing development standards or land use designations.

Pursuant to CEQA Guidelines Section 15126.6(e)(3)(C), Lake County, acting as the Lead Agency, should analyze the impacts of the No Project Alternative by projecting what would reasonably be expected to occur in the foreseeable future if the proposed project were not approved, based on current plans and consistent with available infrastructure and community services. Under Alternative A, it is expected that the County will continue to change based on existing trends. Buildout projections for Alternative A are shown in Table 4-2, *Buildout Projections under Alternative A*.

In June 2020, the County adopted its 2019-2027 Housing Element, which is now a part of the existing General Plan and identifies housing sites throughout the county. Through 2050, there will be approximately three regional housing needs allocation (RHNA) cycles (each cycle constituting eight years). For the current RHNA cycle, the entire county was allocated a total of 1,905 units, including 1,375 units allocated to replace housing units lost in recent wildfires and 530 units to accommodate typical demand. Because fire recovery and rebuilding housing units lost to wildfire is still underway, one RHNA cycle includes the fire rebuild units, with the remaining RHNA cycles only including the typical demand. This covers the County's assigned RNHA of approximately 2,960 new units. The RHNA units cover the unincorporated county and the incorporated Cities of Clearlake and Lakeport, so this estimate conservatively uses the region's full allocation as a proxy for estimating the unincorporated county's future allocation, thus providing a buffer. Population growth in the county applies the same household size (2.4 persons per household) used in the buildout projections of the proposed project.

Overall, Alternative A, when compared to the proposed project, would be expected to result in less housing development and less population when compared to the proposed project.

Table 4-2 Buildout Projections under Alternative A

	Existing Conditions (2019)	Project Net Change under Alternative A	Total Buildout (2050)
Housing Units	19,000	2,960	21,960
Population [1]	45,600	7,100	52,700
Jobs [2]	17,410	2,990	20,400

Note. All numbers are rounded to the nearest 10

1. Population calculated using the Department of HCD's housing factor of 2.4 people per unit
2. Calculated based on annual job growth from 2000 and 2024 based on California Economic Development Department data

The potential environmental impacts associated with Alternative A when compared to the proposed project are described herein.

4.5.1 Aesthetics

As described in Section 3.1, *Aesthetics*, of this Draft EIR, the proposed project would result in less-than-significant impacts related to aesthetics with implementation of the proposed General Plan 2050 mitigating policies and actions provided in Section 3.1, *Aesthetics*, of this Draft EIR.

Lake County does not have any State Scenic Highways officially designated by Caltrans, however, the three main highways through Lake County—State Route (SR) 20, SR 29, and SR 53–are all eligible to be designated as State scenic highways.

Future development under both the proposed project and Alternative A would be required to comply with the Lake County Code of Ordinances (LCCO) regulations described in Section 3.1.1, *Regulatory Framework,* of Section 3.1, *Aesthetics.* However, under Alternative A, neither the new and modified goals, policies, and actions of the General Plan 2050 intended to help protect scenic resources nor the design guidelines included in the proposed project for the Special Study Areas to protect the visual character of the community would be included.

Alternative A would result in less development potential when compared to the proposed project. However, similar to the proposed project, Alternative A would result in new lighting sources that could result in sources of glare. Future development under both scenarios would be required to comply with best management practices in CALGreen and the LCCO. Future development under both scenarios would be reviewed for consistency with the lighting standards regarding the appropriate use of lighting and avoidance of glare from lighting and other sources.

While there would be less development potential under Alternative A when compared to the proposed project, and therefore less visual change that would have the potential to result in

aesthetic impacts, Alternative A would not include the beneficial new or modified General Plan 2050 goals, policies, or actions; therefore, impacts related to aesthetics would be **greater** under Alternative A when compared to the proposed project.

4.5.2 Agriculture and Forestry Resources

As described in Section 3.2, *Agriculture and Forestry Resources*, of this Draft EIR, the proposed project would result in significant and unavoidable impacts associated with conversion of Prime Farmland, Farmland of Statewide Importance, or Unique Farmland land (together referred to as "qualifying Farmland"); conflicts with zoning for agricultural use, or a Williamson Act contract; and cumulative impacts with respect to agricultural resources, even with implementation of the proposed General Plan 2050 mitigating policies and actions provided in Section 3.2, *Agriculture and Forestry Resources*, of this Draft EIR.

Within the EIR Study Area, qualifying Farmland and active Williamson Act contracts are in place in all planning areas. Alternative A would continue development as allowed under the 2008 General Plan. Under both scenarios, there is the potential for these agricultural lands to be converted to non-agricultural uses. The buildout potential under Alternative A would be less than the proposed project and therefore result in fewer acres of qualifying Farmland and land under Williamson Act contracts within the EIR Study Area with the potential to be converted to non-agricultural uses.

Timberland Preserve Zones (TPZ) are in the Cobb Mountain, East Lake Communities, Middletown, and North Lake Communities Planning Areas. All the lands zoned as TPZ would have a resource conservation land use designation under the proposed project, which would ensure the maintenance or sustained generation of natural resources in the county. Not all land zoned as TPZ would be conserved under Alternative A. Thus, Alternative A could result in more development on TPZ land when compared to the proposed project.

Therefore, impacts to agricultural resources would be reduced but impacts to forest lands would be greater when compared to the proposed project. Overall, there would be less development potential under Alternative A when compared to the proposed project and less agricultural land would be converted. However, Alternative A would not include the beneficial new or modified General Plan 2050 goals, policies, or actions intended to protect agricultural and forestry resources. As such, overall impacts related to agriculture and forestry resources would be **similar** when compared to the proposed project.

4.5.3 Air Quality

As described in Section 3.3, *Air Quality,* of this Draft EIR, the proposed project would result in significant and unavoidable impacts related to toxic air containment (TAC) concentrations exposure and health risk and criteria air pollutant cumulative impacts, even with implementation of the proposed General Plan 2050 mitigating policies and actions provided in Section 3.3, *Air Quality*, of this Draft EIR. Because the Lake County Air Quality Management District (LCAQMD) has not adopted CEQA thresholds of significance for criteria air pollutants, consistent with prior LCAQMD recommendations, thresholds of significance are those identified in the latest Bay Area Air District CEQA Guidelines.

Since the LCAB is in attainment for all criteria air pollutants, LCAQMD has not prepared an AQMP. To determine consistency with the applicable AQMP and long-term air quality planning efforts, the Bay Area Air District recommends that plan-level analyses include a comparison of a project's VMT increase and its projected population increase because transportation-related emissions are often one of the primary drivers for poor regional air quality.

Under Alternative A, development would continue as allowed under the 2008 General Plan, which would result in less projected development and population growth. There would be a 17-percent increase in population under the proposed project but a 14-percent increase under Alternative A. Further, Table 4-3, *VMT Projections for the Proposed Project Compared to Alternative A,* shows the difference in expected VMT at full buildout under the proposed project compared to Alternative A.

Table 4-3 VMT Projections for the Proposed Project Compared to Alternative A

	Existing Conditions (2019)	Proposed Project (2050)	Alternative A: No Project Alternative (2050)
Within Lake County	880,113	1,147,279	894,785
From Lake County to areas outside of Lake County	268,216	318,592	293,099
From outside of Lake County to Lake County	279,322	327,535	311,904

Source: Fehr & Peers, 2025.

As shown in Table 4-3, VMT is expected to be reduced under Alternative A when compared to the proposed project which would reduce operational (long-term) criteria pollutant emissions.

Under both the proposed project and Alternative A, construction activities would temporarily increase criteria air pollutant emissions within the Lake County Air Basin (LCAB) and future development would result in direct criteria air pollutant emissions from transportation, energy

(e.g., propane use), and area sources (e.g., aerosols, landscaping equipment, wood burning). However, Alternative A would continue development as allowed under the 2008 General Plan, which would result in less development in the EIR Study Area compared to the proposed project. Therefore, less direct and indirect criteria air pollutant emissions from energy (e.g., natural gas use) and area sources (e.g., aerosols and landscaping equipment) would occur. Additionally, there would be less of an elevation in concentrations of TACs in the vicinity of sensitive land uses.

Future development under both the proposed project and Alternative A would be subject to the LCAQMD's rules and regulations; however, Alternative A would not include the updated policy framework of the proposed project that ensures adequate planning occurs to accommodate the future population increase and potential future development.

Overall, there would reduced VMT and therefore air pollutant emissions expected under Alternative A when compared to the Proposed Project; however, Alternative A would not include the beneficial new or modified General Plan 2050 goals, policies, or actions. Therefore, impacts related to air quality would be **similar** under Alternative A when compared to the proposed project.

4.5.4 Biological Resources

As described in Section 3.4, *Biological Resources*, of this Draft EIR, the proposed project would result in less-than-significant impacts to biological resources with implementation of the proposed General Plan 2050 mitigating policies and actions provided in Section 3.4, *Biological Resources*, of this Draft EIR.

As under the proposed project, future development in the EIR Study Area under Alternative A could potentially affect animal and plant species identified as candidate, sensitive, or special-status species; riparian habitat; wetlands; and wildlife movement. Future development under both scenarios would be required to adhere to all federal, state, and local regulations relating to biological resources.

However, several new and modified General Plan 2050 policies and actions serve to mitigate impacts to biological resources. Such proposed policies and actions require consultation with the California Department of Fish and Wildlife to preserve populations of plants and animals, continued implementation of existing regulations and procedures, preparation of a biological resource assessment as part of project approval, avoidance of nests of native birds and implementation of protection measures, establishment of ecological buffer zones, and maintenance of adequate setbacks.

While development in the EIR Study Area would be less than under the proposed project, Alternative A would not include the beneficial new or modified General Plan 2050 goals,

policies, or actions that would help minimize impacts on biological resources. As such, impacts related to biological resources would be **greater** under Alternative A when compared to the proposed project.

4.5.5 Cultural Resources

As described in Section 3.5, *Cultural Resources*, of this Draft EIR, the proposed project would result in less-than-significant impacts to cultural resources with implementation of the proposed General Plan 2050 mitigating policies and actions provided in Section 3.5, *Cultural Resources*, of this Draft EIR.

The EIR Study Area contains existing prehistoric, architectural, historical, or archaeological resources that could be impacted by new demolition, inappropriate modification, or inappropriate new construction under both the proposed project or Alternative A. Future development under both scenarios would be subject to the regulations of the LCCO and other State and federal regulations. However, several new and modified General Plan 2050 policies and actions serve to mitigate impacts to cultural resources by requiring continued review of proposed developments in conjunction with appropriate entities to determine the presence of historic and archeological resources and mitigation to protect such resources, examination of project areas with significant archaeological resources by a qualified consulting archaeologist with recommendations for protection and preservation, and continued compliance with required trainings.

While development in the EIR Study Area would be less than under the proposed project, Alternative A would not include the beneficial new or modified General Plan 2050 goals, policies, or actions that would help minimize impacts on cultural resources. As such, impacts related to cultural resources would be **greater** under Alternative A when compared to the proposed project.

4.5.6 Energy

As described in Section 3.6, *Energy*, of this Draft EIR, the proposed project would result in less-than-significant impacts related to energy.

All development that occurs in the state is required to comply with best management practices regulated in the California Green Building Code and Building and Energy Efficiency Standards, which ensure new development would not result in wasteful or inefficient use of energy. Additionally, neither the proposed project nor Alternative A would introduce a level of development and population growth that would be anticipated to necessitate the construction of new energy supply facilities or transmission infrastructure.

Though, less development would occur under Alternative A so energy consumption from construction would be less when compared to the proposed project and energy use from building electricity, natural gas, and transportation would also be less under Alternative A when compared to the proposed project, the standard of significance for energy impact is focused on efficiency and not on amount. Thus, impacts related to energy would be **similar** under Alternative A when compared to the proposed project.

4.5.7 Geology and Soils

As described in Section 3.7, *Geology and Soils*, of this Draft EIR, the proposed project would result in less-than-significant impacts related to geology and soils with implementation of the proposed General Plan 2050 mitigating policies and actions provided in Section 3.7, *Geology and Soils*, of this Draft EIR.

Future development under both the proposed project and Alternative A would be subject to the same the LCCO regulations, including compliance with the California Building Code, as well as the 2025 Multi-Jurisdictional Hazard Mitigation Plan (MJHMP). Future development under both scenarios would also be required to comply with the federal Paleontological Resources Preservation Act that limits the collection of vertebrate fossils and other rare and scientifically significant fossils to qualified researchers who have obtained a permit from the appropriate State or federal agency and the PRC Section 5097 that prohibits the removal of any paleontological site or feature from public lands without the permission of the jurisdictional agency. However, several new and modified General Plan 2050 policies and actions serve to mitigate impacts by requiring subsidence monitoring and mitigation as a condition of approval for proposed geothermal operations and promoting regenerative agriculture techniques that improve soil health.

Thus, while development in the EIR Study Area would be less than the proposed project, Alternative A would not include the new or modified General Plan 2050 goals, policies, or actions intended to minimize geology and soil impacts, and as such, impacts related to geology and soils would be **greater** under Alternative A when compared to the proposed project.

4.5.8 Greenhouse Gas Emissions

As described in Section 3.8, *Greenhouse Gas Emissions*, of this Draft EIR, the proposed project would result in less-than-significant impacts related to greenhouse gas (GHG) emissions with implementation of the proposed General Plan 2050 mitigating policies and actions provided in Section 3.8, *Greenhouse Gas Emissions,* of this Draft EIR.

Future development under both the proposed project and Alternative A would experience emission reductions from implementation of State measures and strategies to reduce Statewide GHG emissions. The GHG emissions from new buildings constructed would be subject to the triennial updates of California's Building and Energy Efficiency Standards, which would presumably improve over time and thereby result in more efficient buildings.

Under Alternative A, there would be less development, resulting in an overall decrease in energy usage from construction and operation of potential future development as well as reduced VMT (see Table 4-3, *VMT Projections for the Proposed Project Compared to Alternative A*). However, Alternative A would be implemented under the 2008 General Plan, which does not include the new or modified General Plan 2050 goals, policies, or actions to further reduce potential GHG emissions to achieve State GHG reduction goals consistent with the Bay Area Air District CEQA Guidelines. Therefore, impacts related to GHG emissions would be **greater** under Alternative A when compared to the proposed project.

4.5.9 Hazards and Hazardous Materials

As described in Section 3.9, *Hazards and Hazardous Materials*, of this Draft EIR, the proposed project would result in less-than-significant impacts related to hazards and hazardous materials with implementation of the proposed General Plan 2050 mitigating policies and actions provided in Section 3.9, *Hazards and Hazardous Materials*, of this Draft EIR.

Future development under both scenarios would involve the routine use, transport, and handing of hazardous materials throughout the county, and could occur within 0.25 miles of an existing or proposed school. Several sites in Lake County are considered active, open, or in need of further review for hazardous material cleanup. Thus, it is possible that future development could occur on a designated hazardous cleanup site, which could result in direct contact, inhalation, or ingestion of hazardous materials that could potentially cause adverse health impacts to construction workers, future site inhabitants, and nearby sensitive receptors. However, under both the proposed project and Alternative A, future development would be required to comply with all federal, State, regional, and local regulations regarding the safe handling, transport, disposal, and use of hazardous materials, as well as those regarding emergency response and evacuation to minimize impacts.

There are only two airports within Lake County: Lampson Field Airport, which is a general aviation airport, and Gravelly Valley Airport, which is a small airport operated by the United States Forest Service. Under both the proposed project and Alternative A, any future development would be required to adhere to existing regulations of the Federal Aviation Administration and Caltrans Division of Aeronautics.

Several new and modified General Plan 2050 policies and actions serve as means to mitigate impacts related to hazards and hazardous materials, for example through requirements to prepare construction and operational health risk assessments and update hazard mitigation and emergency response plans.

While development in the EIR Study Area would be reduced when compared to the proposed project and thereby pose less risk of geological hazards and expose fewer people to hazardous materials, Alternative A would not include the beneficial new or modified General Plan 2050 goals, policies, or actions and, as such, impacts related to hazards and hazardous materials would be **greater** under Alternative A when compared to the proposed project.

4.5.10 Hydrology and Water Quality

As described in Section 3.10, *Hydrology and Water Quality*, of this Draft EIR, the proposed project would result in less-than-significant impacts to hydrology and water quality with implementation of the proposed General Plan 2050 mitigating policies and actions provided in Section 3.10, *Hydrology and Water Quality,* of this Draft EIR.

As under the proposed project, future development under Alternative A would involve soil disturbance during the construction phases and changes in land uses during the operational phases that could generate pollutants and affect water quality. Stormwater runoff would discharge into storm drains and drainage ditches and ultimately flow into creeks, rivers, and Clear Lake. Under both scenarios, future development that disturbs one acre or more of land would be required to comply with Construction General Permit (CGP) Order WQ 2022-0057-DWQ, which involves the preparation and implementation of a stormwater pollution prevention plan (SWPPP). Additionally, future development would be subject to the same existing federal, State, and local regulations relating to hydrology and water quality, such as Phase II Small municipal separate storm sewer systems (MS4) permit requirements and Lake County stormwater regulations and requirements, to ensure that pre- and post-construction impacts to water quality are minimized.

However, several new and modified General Plan 2050 policies and actions serve as means to mitigate impacts to hydrology and water quality. Such proposed policies and actions ensure future amendments to the General Plan land use map allow development only where it has access to adequate water supply and wastewater treatment, ensure stormwater collection and drainage facilities are properly designed and sited to protect people and property while conserving water resources and protecting water quality, and include others policies to protect water quality and maintain consistency with MS4 permits.

While development in the EIR Study Area would be reduced when compared to the proposed project, Alternative A would not include the beneficial new or modified General Plan 2050 goals, policies, or actions and, as such, impacts related to hydrology and water quality would be **greater** under Alternative A when compared to the proposed project.

4.5.11 Land Use and Planning

As described in Section 3.11, *Land Use and Planning*, of this Draft EIR, the proposed project would result in less-than-significant impacts related to land use and planning.

Like the proposed project, Alternative A would maintain the existing roadway patterns and would not include any new major physical features through existing neighborhoods that would physically divide established communities within the EIR Study Area.

Under Alternative A, development would continue to occur throughout the EIR Study Area under the 2008 General Plan and would not conflict with the County's development standards currently in place. However, Alternative A would not implement beneficial new and modified 2050 General Plan goals, policies, or actions and would not incorporate new topics that are now required by State law, such as environmental justice. Therefore, Alterative A would not achieve the same level of consistency with the intent of the Cortese-Knox Act and the California Housing Element Law.

Continuing the use of the 2008 General Plan would conflict with current laws and would not include the new and modified General Plan 2050 goals, policies, and actions created for the purpose of avoiding or mitigating an environmental effect. Therefore, impacts related to land use and planning would be **greater** under Alternative A when compared to the proposed project.

4.5.12 Mineral Resources

As described in Section 3.12, *Mineral Resources*, of this Draft EIR, the proposed project would result in less-than-significant impacts related to mineral resources. The EIR Study Area does not include any classified mineral land but does include aggregate resources mines.

Under both the 2008 General Plan and the proposed General Plan 2050, mining sites have land use designations of Resource Conservation, Rural Lands, Rural Residential, and Low Density Residential, which either do not allow development or allow only low-density development. Further, mining operations within the EIR Study Area would be subject to the development regulations contained in the LCCO, as well as the policies and implementation measures of the Aggregate Resource Management Plan (ARMP), which was adopted in 1992. Thus, impacts

related to mineral resources would be **similar** under Alternative A when compared to the proposed project.

4.5.13 Noise

As described in Section 3.13, *Noise,* of this Draft EIR, the proposed project would result in less-than-significant impacts related to noise and vibration with implementation of the proposed General Plan 2050 mitigating policies and actions provided in Section 3.13, *Noise*, of this Draft EIR.

Future development allowed under both the proposed project and Alternative A would be subject to the standards of the LCCO. Because less development would occur under Alternative A and fewer vehicular trips and reduced VMT would be generated (see Table 4-3, *VMT Projections for the Proposed Project Compared to Alternative A*), noise and vibration from construction and operation of future development would be reduced under Alternative A when compared to the proposed project.

Several new and modified General Plan 2050 policies and actions serve as means to mitigate noise impacts like considering the compatibility of proposed development with the noise environment, requiring contractors to use noise-reducing measures, working with Caltrans to evaluate and develop traffic noise mitigation programs, and requiring a project-specific acoustic study for projects that may exceed County noise standards.

While development and VMT in the EIR Study Area would be reduced when compared to the proposed project, Alternative A would not include the beneficial new or modified General Plan 2050 goals, policies, or actions and, as such, impacts related to noise would be **similar** under Alternative A when compared to the proposed project.

4.5.14 Population and Housing

As described in Section 3.14, *Population and Housing,* of this Draft EIR, the proposed project would result in less-than-significant impacts related to population and housing.

The proposed General Plan 2050 is the policy document that plans to accommodate future growth and ensure adequate services and infrastructure to support future growth. Therefore, the proposed project would not directly induce growth but rather is a response to reasonably foreseeable growth that is likely to occur whether the proposed project is adopted or not. The projected growth under the proposed project accounts for future Regional Housing Needs Allocation (RHNA) cycles and pipeline projects and strategically allocates future development based on the needs of the county.

Alternative A would not include the updated policy framework of the proposed project that ensures adequate planning occurs to accommodate the future population increase and future development year through 2050. Therefore, impacts related to population and housing would be **greater** under Alternative A when compared to the proposed project.

4.5.15 Public Services

As described in Section 3.15, *Public Services,* of this Draft EIR, the proposed project would result in less-than-significant impacts related to fire protection services, police protection services, schools, parks, and libraries.

Alternative A would result in fewer residents and less new development in the EIR Study Area when compared to the proposed project and, therefore, would result in reduced demand on the public service providers that serve the EIR Study Area. Potential future development under Alternative A would be required to comply with all existing County regulations adopted to ensure that communities have adequate public services. Overall, impacts related to public services would be **reduced** under Alternative A when compared to the proposed project.

4.5.16 Recreation

As described in Section 3.16, *Recreation*, of this Draft EIR, the proposed project would result in less-than-significant impacts related to parks and recreational facilities.

Alternative A would result in fewer residents and less new development in the EIR Study Area when compared to the proposed project and, therefore, would result in reduced demand on the parks and recreational facilities that serve the EIR Study Area. Potential future development under Alternative A would be required to comply with all existing County regulations adopted to ensure that communities have adequate access to parks and recreational facilities. Overall, impacts related to parks and recreational facilities would be **reduced** under Alternative A when compared to the proposed project.

4.5.17 Transportation

As described in Section 3.17, *Transportation*, of this Draft EIR, the proposed project would result in significant and unavoidable VMT impacts because the proposed project's VMT would exceed baseline unincorporated county averages, even with implementation of the proposed General Plan 2050 mitigating policies and actions provided in Section 3.17, *Transportation*, of this Draft EIR.

As under the proposed project, future development under Alternative A would be required to comply with all existing federal, State, and local regulations to minimize conflicts within the circulation system and support emergency access.

Under Alternative A, development would continue as allowed under the 2008 General Plan, which would result in less projected development and population growth when compared to the proposed project. As shown in Table 4-3, *VMT Projections for the Proposed Project Compared to Alternative A,* VMT is expected to be reduced under Alternative A when compared to the proposed project.

Though Alternative A would not include the beneficial new or modified General Plan 2050 goals, policies, or actions included under the proposed project, VMT would be reduced under Alternative A compared to the proposed project. Therefore, overall impacts related to transportation would be **reduced** under Alternative A when compared to the proposed project.

4.5.18 Tribal Cultural Resources

As described in Section 3.18, *Tribal Cultural Resources*, of this Draft EIR, the proposed project would result in less-than-significant impacts related to tribal cultural resources, with implementation of the proposed General Plan 2050 mitigating policies and actions provided in Section 3.18, *Tribal Cultural Resource*, of this Draft EIR.

The EIR Study Area contains known tribal cultural resources and future development projects have the potential to disturb tribal cultural resources under both scenarios. As under the proposed project, future development under Alternative A would be subject to the federal and State laws regarding tribal cultural resources. In the event of the discovery of human remains, procedures of conduct mandated by Health and Safety Code Section 7050.5, Public Resources Code (PRC) Section 5097.98, and the California Code of Regulations (CCR) Section 15064.5(e) would be required.

Several new and modified General Plan 2050 policies and actions serve to mitigate impacts to tribal cultural resources by requiring continued review of proposed developments in conjunction with appropriate entities to determine the presence of tribal cultural resources and protect such resources; collaborating with local tribes to incorporate traditional ecological knowledge and cultural heritage into public landscaping, habitat restoration, and infrastructure projects; requiring construction employees to be trained in recognizing potentially significant tribal cultural resources that may be discovered during ground-disturbing activities; and requiring continued compliance with required trainings. These policies and actions would not be included under Alternative A.

While development in the EIR Study Area would be reduced when compared to the proposed project, Alternative A would not include the beneficial new or modified General Plan 2050 goals, policies, or actions that would help minimize impacts to tribal cultural resources. As such, impacts related to tribal cultural resources would be **greater** under the Alternative A when compared to the proposed project.

4.5.19 Utilities and Service Systems

As described in Section 3.19, *Utilities and Service Systems*, of this Draft EIR, the proposed project would result in a less-than-significant impact related to energy infrastructure and a less-than-significant impact related to solid waste regulations with Mitigation Measure UTIL-1. The proposed project would result in significant and unavoidable impacts related to water, wastewater, stormwater, and solid waste infrastructure, even with implementation of the proposed General Plan 2050 mitigating policies and actions provided in Section 3.19, *Utilities and Service Systems,* of this Draft EIR.

As under the proposed project, future development under Alternative A would be required to comply with all existing federal, state, and local regulations and demand and consumption trends generally demonstrate that advances in water-efficient regulations and recycling and solid waste reduction requirements would reduce impacts when compared to existing conditions. However, though Alternative A would result in fewer residents and less non-residential square footage in the EIR Study Area compared to the proposed project, this alternative would not include the beneficial new or modified General Plan 2050 goals, policies, or actions intended to ensure that new development projects demonstrate that infrastructure capacity is sufficient to support the new development or otherwise provide further mitigation and assess impact fees. Therefore, overall impacts related to utilities and service systems would be **greater** under Alternative A when compared to the proposed project.

4.5.20 Wildfire

As described in Section 3.20, *Wildfire*, of this Draft EIR, the proposed project would result in less-than-significant impacts related to evacuation, associated infrastructure, and flooding or landslides. The proposed project would result in significant and unavoidable impacts related to increasing population, buildings, and infrastructure in wildfire-prone areas, thereby exacerbating wildfire risk, even with implementation of the proposed General Plan 2050 mitigating policies and actions provided in Section 3.20, *Wildfire*, of this Draft EIR.

As under the proposed project, future development under Alternative A would be required to integrate applicable emergency operation and evacuation requirements as necessary into development to facilitate evacuation in wildfire-prone areas. Potential future development, regardless of whether it includes new development or redevelopment, would also be required

to comply with adopted local, regional, and State plans and regulations addressing emergency access, response, and evacuation and wildfire hazards. Future development in the Wildland-Urban Interface Fire Area (WUIFA) or Very High FHSZ would be required to comply with the Very High FHSZ Fire Safe Regulations, the California Building Code (CBC), the California Fire Code (CFC), and the Lake County Community Wildfire Protection Plan (CWPP), which have emergency access, building fire safety, and perimeter wildfire protection measures.

However, several new and modified General Plan 2050 policies and actions serve as means to mitigate impacts related to wildfire. Such as proposed policies and actions require fire-safe landscaping, updated fuel management strategies, and regularly updating the Emergency Operations Plan.

While Alternative A would not include the beneficial new or modified General Plan 2050 goals, policies, or actions to further mitigate impacts related to wildfires, development in the EIR Study Area and Very High FHSZ would be reduced when compared to the proposed project and thereby pose less risk of wildfire hazards. As such, impacts related to wildfire would be **similar** under Alternative A when compared to the proposed project.

4.6 ALTERNATIVE B: FOCUSED GROWTH AND REDUCED NON-RESIDENTIAL ALTERNATIVE

Under Alternative B, the General Plan would be updated as under the proposed project, assuming the same number of households, residential units, and population; however, this alternative would involve a 25-percent reduction in non-residential development potential (commercial and industrial land uses) and a corresponding 25-percent reduction in new jobs. Additionally, under Alternative B, future development would be focused in areas near existing transit facilities and commercial development. All residential development within the proposed community growth boundaries (CGB) and along existing transit routes would be designated as Medium- or High- Density Residential, Local Commercial, or Community Commercial land use designations to ensure focused growth in these areas. Development potential on existing residential land uses outside of the proposed CGBs would not increase under Alternative B. Development outside of the proposed CGBs would occur under existing General Plan land use designations in these areas, which include the following: Agriculture, Rural Lands, Resort Commercial, Service Commercial, Industrial, and Public Facilities.

By allowing denser housing development in areas that can meet community needs, Alternative B would accommodate the same amount of population and housing growth as the proposed General Plan 2050, but in a smaller footprint to reduce the conversion of agricultural land. This alternative would also provide residential development in closer proximity to transit as well as residential-serving, commercial development and employment sites to reduce VMT and associated air emissions.

A 25-percent reduction in the following land use designations would occur across the EIR Study Area: Local Commercial, Community Commercial, Service Commercial, and Industrial. By reducing the commercial and industrial development potential, the demand on utilities and services systems under Alternative B would thus be reduced. Buildout projections for Alternative B are shown in Table 4-4, *Buildout Projections Under the Alternative B.*

Table 4-4 Buildout Projections Under Alternative B

	Existing Conditions (2019)	Project Net Change under Alternative B	Total Buildout (2050)
Housing Units	19,000	3,830	22,830
Population [1]	45,600	9,170	54,770
Jobs	17,410	2,390	19,800

Note. All numbers are rounded to the nearest 10

1. Population calculated using the Department of HCD's household size of 2.4 people per household

Source: Lake County, PlaceWorks, 2025.

The alternatives analysis assumes that the proposed General Plan 2050 goals, policies, and actions would apply to Alternative B, including the mitigating policies and actions. The potential environmental impacts associated with Alternative B when compared to the proposed project are described herein.

4.6.1 Aesthetics

As described in Section 3.1, *Aesthetics*, of this Draft EIR, the proposed project would result in less-than-significant impacts related to aesthetics with implementation of the proposed General Plan 2050 mitigating policies and actions provided in Section 3.1, *Aesthetics*, of this Draft EIR.

As described in Section 3.5.1, *Aesthetics*, Lake County does not have any Caltrans officially designated State Scenic Highways, but SR 20, SR 29, and SR 53 are all eligible to be designated as State scenic highways.

Future development under both the proposed project and Alternative B would be required to comply with LCCO regulations as described in Section 3.1.1, *Regulatory Framework,* of Section 3.1, *Aesthetics.* However, Alternative B would focus growth primarily in CGBs, which could lead to increased building heights when compared to the proposed project. Increased building height would have the potential to affect scenic vistas or scenic roadways in the EIR Study Area.

Future development under both the proposed project and Alternative B would be required to comply with Lake County Code of Ordinances (LCCO) regulations as described in Section 3.1.1, Regulatory Framework, of Section 3.1, Aesthetics. Further, similar to the proposed project, under Alternative B the new and modified goals, policies, and actions of the General Plan 2050

that help to protect scenic resources and the design guidelines for the Special Study Areas to protect the visual character of the community would be included.

Similar to the proposed project, Alternative B would result in new lighting sources that could result in sources of glare. Future development under both scenarios would be required to comply with best management practices in CALGreen and the LCCO. Future development under both scenarios would be reviewed for consistency with the lighting standards regarding the appropriate use of lighting and avoidance of glare from lighting and other sources.

While Alternative B would allow for greater density in CGBs and increased building height, potential future development would be subject to the same regulations as those under the proposed project, including the new or modified General Plan 2050 goals, policies, or actions; therefore, impacts related to aesthetics would be **similar** under Alternative B when compared to the proposed project.

4.6.2 Agriculture and Forestry Resources

As described in Section 3.2, *Agriculture and Forestry Resources*, of this Draft EIR, the proposed project would result in significant and unavoidable impacts associated with conversion of qualifying Farmland; conflicts with zoning for agricultural use, or a Williamson Act contract; and cumulative impacts with respect to agricultural resources, even with implementation of the proposed General Plan 2050 mitigating policies and actions provided in Section 3.2, *Agriculture and Forestry Resources*, of this Draft EIR.

Within the EIR Study Area, qualifying Farmland and active Williamson Act contracts are in place in all planning areas. Alternative B would focus residential growth in CGBs and reduce commercial development throughout the EIR Study Area, thus reducing the amount of the farmlands—Prime Farmland, Farmland of Statewide Importance, or Unique Farmland, and lands under Williamson Act contracts—with the potential to be converted to non-agricultural uses.

Timberland Preserve Zones are in the Cobb Mountain, East Lake Communities, Middletown, and North Lake Communities Planning Areas. All the lands zoned as TPZ would have a resource conservation land use designation under both the proposed project and Alternative B, which would ensure the maintenance or sustained generation of natural resources in the county. Thus, impacts to timberland would be similar under both scenarios.

Therefore, with more compact residential development and reduced non-residential development throughout the EIR Study Area, fewer agricultural lands would be converted to non-agricultural uses under Alternative B. Impacts related to agriculture and forestry resources would be **reduced** when compared to the proposed project. However, the project's significant and unavoidable impacts would not be completely avoided.

4.6.3 Air Quality

As described in Section 3.3, *Air Quality,* of this Draft EIR, the proposed project would result in significant and unavoidable impacts related to TAC concentrations exposure and health risk and criteria air pollutant cumulative impacts, even with implementation of the proposed General Plan 2050 mitigating policies and actions provided in Section 3.3, *Air Quality*, of this Draft EIR. As described in Section 3.5.3, *Air Quality*, consistent with prior LCAQMD recommendations, thresholds of significance are those identified in the latest Bay Area Air District CEQA Guidelines. The Bay Area Air District recommends that plan-level analyses include a comparison of a project's VMT increase and its projected population increase.

Alternative B would result in the same level of residential development, but reduced non-residential development, when compared to the proposed project. Therefore, direct and indirect criteria air pollutant emissions from energy (e.g., natural gas use) and area sources (e.g., aerosols and landscaping equipment) would be reduced when compared to the proposed project, as would be the concentrations of TACs and particulate matter to which sensitive receptors would be exposed.

Further, new residential development under Alternative B would be focused in CGBs and near residential-serving facilities to promote fewer trips and increased usage of alternative modes of transportation. This would reduce VMT and therefore operational (long-term) criteria pollutant emissions when compared to the proposed project.

Future development under both the proposed project and Alternative B would be subject to the LCAQMD's rules and regulations, and the updated policy framework of the proposed project to further ensure protection of air quality.

Overall, because Alternative B would result in decreased non-residential development and focused residential growth, impacts related to air quality would be **reduced** under Alternative B when compared to the proposed project.

4.6.4 Biological Resources

As described in Section 3.4, *Biological Resources*, of this Draft EIR, the proposed project would result in less-than-significant impacts to biological resources with implementation of the proposed General Plan 2050 mitigating policies and actions provided in Section 3.4, *Biological Resources*, of this Draft EIR.

As under the proposed project, future development in the EIR Study Area under Alternative B could potentially affect animal and plant species identified as candidate, sensitive, or special-status species; riparian habitat; wetlands; and wildlife movement. Under Alternative B, residential development would be focused in a smaller footprint, which would lead to less

conversion of currently undeveloped land. Future development under both scenarios would be required to adhere to all federal, state, and local regulations relating to biological resources. Further, as under the proposed project, the new and modified General Plan 2050 policies and actions that serve to mitigate impacts to biological resources would apply under Alternative B. Such proposed policies and actions require consultation with the California Department of Fish and Wildlife to preserve populations of plants and animals, continued implementation of existing regulations and procedures, preparation of biological resource assessments as part of project approval, avoidance of nests of native birds and implementation of protection measures, establishment of ecological buffer zones, and maintenance of adequate setbacks. As such, impacts related to biological resources would be **reduced** under Alternative B when compared to the proposed project

4.6.5 Cultural Resources

As described in Section 3.5, *Cultural Resources*, of this Draft EIR, the proposed project would result in less-than-significant impacts to cultural resources with implementation of the proposed General Plan 2050 mitigating policies and actions provided in Section 3.5, *Cultural Resources*, of this Draft EIR.

The EIR Study Area contains existing prehistoric, architectural, historical, or archaeological resources that could be impacted by new demolition, inappropriate modification, or inappropriate new construction under both the proposed project or Alternative B. Future development under both scenarios would be subject to the regulations of the LCCO and other State and federal regulations. Under both scenarios, new and modified General Plan 2050 policies and actions would serve to mitigate impacts to cultural resources. Therefore, impacts to cultural resources would be **similar** under Alternative B when compared to the proposed project.

4.6.6 Energy

As described in Section 3.6, *Energy*, of this Draft EIR, the proposed project would result in less-than-significant impacts related to energy.

Under both the proposed project and Alternative B, future development would be required to comply with best management practices regulated in the California Green Building Code and Building and Energy Efficiency Standards that ensure new development would not result in the wasteful or inefficient use of energy. Additionally, neither the proposed project nor Alternative B would introduce a level of development and population growth that would be anticipated to necessitate the construction of new energy supply facilities or transmission infrastructure.

Both the proposed project and Alternative B would include the proposed General Plan 2050 goals, policies, and actions that would increase energy efficiency. Alternative B would involve a reduction in non-residential development, which would reduce construction-related energy consumption when compared to the proposed project. Similarly, operational energy use from building electricity and natural gas would also be reduced. Additionally, energy use from transportation would be reduced under Alternative B as a result of reduced VMT associated with increased densities in CGBs and areas near transit facilities and other residential-serving development. Thus, impacts related to energy would be **reduced** under Alternative B when compared to the proposed project.

4.6.7 Geology and Soils

As described in Section 3.7, *Geology and Soils*, of this Draft EIR, the proposed project would result in less-than-significant impacts related to geology and soils with implementation of the proposed General Plan 2050 mitigating policies and actions provided in Section 3.7, *Geology and Soils*, of this Draft EIR.

Future development under both the proposed project and Alternative B would be subject to the same the LCCO regulations, including compliance with the California Building Code, as well as the MJHMP. Future development under both scenarios would also be required to comply with the federal Paleontological Resources Preservation Act that limits the collection of vertebrate fossils and other rare and scientifically significant fossils to qualified researchers who have obtained a permit from the appropriate State or federal agency and the PRC Section 5097 that prohibits the removal of any paleontological site or feature from public lands without the permission of the jurisdictional agency. As under the proposed project, future development under Alterative B would also be subject to the proposed General Plan 2050 goals, policies, and actions to further minimize geologic hazards.

Though the same residential development potential would occur under Alternative B, it would be focused in CGBs and other areas of higher residential concentration likely with wastewater infrastructure. Thus, there would be less of an impact regarding the use of septic tanks. Additionally, there would be less non-residential development potential, reducing impacts to geology and soils when compared to the proposed project. Therefore, overall impacts related to geology and soils would be **reduced** under Alternative B when compared to the proposed project.

4.6.8 Greenhouse Gas Emissions

As described in Section 3.8, *Greenhouse Gas Emissions*, of this Draft EIR, the proposed project would result in less-than-significant impacts related to greenhouse gas (GHG) emissions with

implementation of the proposed General Plan 2050 mitigating policies and actions provided in Section 3.8, *Greenhouse Gas Emissions,* of this Draft EIR.

Future development under both the proposed project and Alternative B would experience emission reductions from implementation of State measures and strategies to reduce Statewide GHG emissions. The GHG emissions from new buildings constructed would be subject to the triennial updates to California's Building and Energy Efficiency Standards, which would presumably improve over time and thereby result in more energy efficient buildings. Potential future development under Alterative B would also be subject to the proposed General Plan 2050 goals, policies, and actions to further reduce GHG emissions.

Residential development under Alternative B would be focused in CGBs and in areas with existing residential-serving facilities to reduce VMT. Additionally, there would be less non-residential development potential under Alternative B which traditionally creates more emissions than residential development. Thus, GHG emissions from energy consumption during construction, from residential transportation, and from commercial and industrial operations would be reduced when compared to the proposed project.

Overall, due to the reduction in development and focused residential growth overall impacts from GHG emissions would be **reduced** under Alternative B when compared to the proposed project.

4.6.9 Hazards and Hazardous Materials

As described in Section 3.9, *Hazards and Hazardous Materials*, of this Draft EIR, the proposed project would result in less-than-significant impacts related to hazards and hazardous materials with implementation of the proposed General Plan 2050 mitigating policies and actions provided in Section 3.9, *Hazards and Hazardous Materials*, of this Draft EIR.

Future development under both scenarios would involve the routine use, transport, and handing of hazardous materials throughout the county, and could occur within 0.25 miles of an existing or proposed school. Several sites in Lake County are considered active, open, or in need of further review for hazardous material cleanup. Thus, it is possible that future development could occur on a designated hazardous cleanup site under both scenarios. Under both the proposed project and Alternative B, future development would be required to comply with all federal, State, regional, and local regulations, as well as the proposed General Plan 2050 goals, policies, and actions, regarding the safe handling, transport, disposal, and use of hazardous materials, as well as those regarding emergency response and evacuation to minimize impacts.

Though the same residential development potential would occur under Alternative B, there would be less non-residential development potential, which tend to use more hazardous materials. The reduction in commercial and industrial development would reduce potential

hazards and hazardous materials impacts when compared to the proposed project. Overall, impacts related to hazards and hazardous materials would be **reduced** under Alternative B when compared to the proposed project.

4.6.10 Hydrology and Water Quality

As described in Section 3.10, *Hydrology and Water Quality*, of this Draft EIR, the proposed project would result in less-than-significant impacts to hydrology and water quality with implementation of the proposed General Plan 2050 mitigating policies and actions provided in Section 3.10, *Hydrology and Water Quality,* of this Draft EIR.

As under the proposed project, future development under Alternative B would involve soil disturbance during the construction phases and changes in land uses during the operational phases that could generate pollutants and affect water quality. Stormwater runoff would discharge into storm drains and drainage ditches and ultimately flow into creeks, rivers, and Clear Lake. Under both scenarios, future development that disturbs one acre or more of land would require compliance with CGP Order WQ 2022-0057-DWQ, which includes the preparation and implementation of an SWPPP. Additionally, any future development would be subject to the same existing federal, state, and local regulations relating to hydrology and water quality.

As under the proposed project, future development under Alterative B would be subject to the proposed General Plan 2050 goals, policies, and actions to further minimize impacts to hydrology and water quality. However, unlike the proposed project, residential development under Alternative B would be focused in CGBs and areas with denser residential uses; thus, future development would more easily be able to connect to existing drainage systems. Additionally, there would be less non-residential development, which traditionally uses more water. Due to the reduction in non-residential development, overall impacts related to hydrology and water quality would be **reduced** under Alternative B when compared to the proposed project.

4.6.11 Land Use and Planning

As described in Section 3.11, *Land Use and Planning*, of this Draft EIR, the proposed project would result in less-than-significant impacts related to land use and planning.

Like the proposed project, Alternative B would maintain the existing roadway patterns and would not include any new major physical features through existing neighborhoods that would physically divide established communities within the EIR Study Area.

Like the proposed project, under Alternative B, the proposed General Plan 2050 would include updated and new elements to be consistent with State laws. Additionally, residential development under Alternative B would occur throughout the EIR Study Area to meet the needs of the County. Though there would be a reduction in non-residential development under Alternative B when compared to the proposed project, this would not conflict with any applicable land use plan adopted for the purpose of avoiding or mitigating an environmental effect. Therefore, impacts related to land use and planning would be **similar** under Alterative B when compared to the proposed project.

4.6.12 Mineral Resources

As described in Section 3.12, *Mineral Resources*, of this Draft EIR, the proposed project would result in less-than-significant impacts related to mineral resources. The EIR Study Area does not include any classified mineral land, but does include aggregate resources mines.

Under both the proposed project and Alternative B, mining operations within the EIR Study Area would be subject to the development regulations contained in the LCCO, as well as the policies and implementation measures of the ARMP. Thus, impacts related to mineral resources would be **similar** under Alternative B when compared to the proposed project.

4.6.13 Noise

As described in Section 3.13, *Noise,* of this Draft EIR, the proposed project would result in less-than-significant impacts related to noise and vibration with implementation of the proposed General Plan 2050 mitigating policies and actions provided in Section 3.13, *Noise*, of this Draft EIR.

Future development allowed under both the proposed project and Alternative B would be subject to the standards of the LCCO as well as the proposed General Plan 2050 goals, policies, and actions to further minimize noise impacts. However, Alternative B would result in increased residential density but would not increase overall residential development potential, which would result in the same construction but reduced VMT. The reduced VMT from Alterative B would result in reduced vehicular noise from the operational phase of potential future development. Additionally, there would be a deduction in non-residential development potential, thus reducing the associated construction and operational phase noise. Therefore, impacts related to noise would be **reduced** under Alternative B when compared to the proposed project.

4.6.14 Population and Housing

As described in Section 3.14, *Population and Housing,* of this Draft EIR, the proposed project would result in less-than-significant impacts related to population and housing.

The proposed General Plan 2050 is the policy document that plans to accommodate future growth and ensure adequate services and infrastructure to support future growth. Neither the proposed project nor Alternative B would directly induce growth but rather would represent a response to growth that is likely to occur whether the proposed project is adopted or not. The projected residential growth under both scenarios accounts for future RHNA cycles. Therefore, impacts related to population and housing would be **similar** under Alternative B when compared to the proposed project.

4.6.15 Public Services

As described in Section 3.15, *Public Services,* of this Draft EIR, the proposed project would result in less-than-significant impacts related to fire protection services, police protection services, schools, parks, and libraries.

Alternative B would result in the same amount of growth in residents in the EIR Study Area as the proposed project and, therefore, would result in the same demand on the public service providers that serve the EIR Study Area. Though the focused growth under Alternative B could result in increased concentrations of demand on certain services when compared to the proposed project, future development under Alternative B would generally place new residents closer to available services and facilities, which would be beneficial. Potential future development under Alternative B would be required to comply with all existing County regulations adopted to ensure that communities have adequate access to public services. Overall, due to the same level of population growth, impacts related to public services would be **similar** under Alternative B when compared to the proposed project.

4.6.16 Recreation

As described in Section 3.16, *Recreation*, of this Draft EIR, the proposed project would result in less-than-significant impacts related to parks and recreational facilities.

Alternative B would result in the same amount of growth in residents in the EIR Study Area as the proposed project, and therefore, would result in the same demand on parks and recreational facilities that serve the EIR Study Area. Though the focused growth under Alternative B could result in increased concentrations of demand on certain parks and recreation facilities when compared to the proposed project, future development under Alternative B would generally place new residents closer to available facilities, which would be

beneficial. Potential future development under Alternative B would be required to comply with all existing County regulations adopted to ensure that communities have adequate access to parks and recreational facilities. Overall, due to the same level of population growth, impacts related to recreation would be **similar** under Alternative B when compared to the proposed project.

4.6.17 Transportation

As described in Section 3.17, *Transportation*, of this Draft EIR, the proposed project would result in significant and unavoidable impacts related to VMT generation of the proposed project exceeding baseline unincorporated county averages, even with implementation of the proposed General Plan 2050 mitigating policies and actions provided in Section 3.17, *Transportation*, of this Draft EIR.

As under the proposed project, future development under Alternative B would be required to comply with all existing federal, state, and local regulations to minimize conflict within the circulation system and support emergency access. Both scenarios would also include the same General Plan 2050 goals, policies, and actions.

As described in impact discussion (a) of Section 3.17, *Transportation*, of this Draft EIR, under the proposed project, future residents of Lake County will generally have similar travel patterns to existing residents but longer trip lengths are expected with employment growth concentrated on the edges of some communities, resulting in higher VMT when compared to baseline conditions. Under Alternative B, residential development would be focused in areas near existing transit facilities and commercial development to support a reduced VMT generated by residents. Additionally, under Alternative B, there would be a reduction in on-residential development potential and jobs, thus reducing the VMT generated by employees.

Because of the reduction on VMT under Alternative B compared to the proposed project, overall impacts related to transportation would be **reduced** under Alternative B when compared to the proposed project.

4.6.18 Tribal Cultural Resources

As described in Section 3.18, *Tribal Cultural Resources*, of this Draft EIR, the proposed project would result in less-than-significant impacts related to tribal cultural resources, with implementation of the proposed General Plan 2050 mitigating policies and actions provided in Section 3.18, *Tribal Cultural Resource*, of this Draft EIR.

The EIR Study Area contains known tribal cultural resources and there is also the potential for tribal cultural resources to be identified as part of project-specific development over the course of the implementation of the proposed project. As under the proposed project, future development under Alternative B would be subject to the federal and State laws regarding tribal cultural resources. In the event of the discovery of human remains, procedures of conduct mandated by Health and Safety Code Section 7050.5, Public Resources Code (PRC) Section 5097.98, and the California Code of Regulations (CCR) Section 15064.5(e) would be required. Additionally, both the proposed project and Alternative B would include the General Plan 2050 policies and actions serve to mitigate impacts to tribal cultural resources. Therefore, impacts to tribal cultural resources would be **similar** under Alternative B when compared to the proposed project.

4.6.19 Utilities and Service Systems

As described in Section 3.19, *Utilities and Service Systems*, of this Draft EIR, the proposed project would result in a less-than-significant impact related to energy infrastructure and a less-than-significant impact related to solid waste regulations with Mitigation Measure UTIL-1, but significant and unavoidable impacts related to water, wastewater, stormwater, and solid waste infrastructure, even with implementation of the proposed General Plan 2050 mitigating policies and actions provided in Section 3.19, *Utilities and Service Systems,* of this Draft EIR.

As under the proposed project, future development under Alternative B would be required to comply with all existing federal, state, and local regulations. Additionally, demand and consumption trends generally demonstrate that advances in water-efficient regulations and recycling and solid waste reduction requirements would reduce impacts from existing conditions. Though Alternative B would result in the same number of residents as the proposed project, there would be fewer non-residential square feet and jobs in the EIR Study Area when compared to the proposed project. Non-residential development tends to have a larger demand for utilities and associated infrastructure. Thus, demand on utilities infrastructure capacity that serve the EIR Study Area would be reduced when compared to the proposed project. Overall, impacts related to utilities and service systems would be **reduced** under Alternative B when compared to the proposed project.

4.6.20 Wildfire

As described in Section 3.20, *Wildfire*, of this Draft EIR, the proposed project would result in less-than-significant impacts related to evacuation, associated infrastructure, and flooding or landslides but significant and unavoidable impacts related to increasing population, buildings, and infrastructure in wildfire-prone areas, thereby exacerbating wildfire risk, even with implementation of the proposed General Plan 2050 mitigating policies and actions provided in Section 3.20, *Wildfire*, of this Draft EIR.

As under the proposed project, future development under Alternative B would be required to integrate applicable emergency operation and evacuation requirements as necessary into development to facilitate evacuation for people in wildfire-prone areas. Potential future development, regardless of whether it includes new development or redevelopment, would also be required to comply with adopted local, regional, and State plans and regulations addressing emergency access, response, and evacuation and wildfire hazards. Most of Lake County is in a Very High FHSZ, thus focusing residential development in CGBs would not change the FHSZ most development would be in.

However, the reduction in non-residential development reduces overall development in fire-prone areas. Thus, impacts related to wildfire would be **reduced** under Alternative B when compared to the proposed project

4.7 SUMMARY OF ALTERNATIVES EVALUATION

Table 4-5, *Comparison of Project Alternative Impacts*, compares the impact of each alternative to impacts of the proposed project. The impacts of each alternative are classified as having a reduced (↓), similar or comparable to (=), or greater (↑) level of impact when compared to the proposed project.

Table 4-5 Comparison of Project Alternative Impacts

Environmental Topic	Proposed Project [1]	Alternative A: No Project Alternative	Alternative B: Focused Growth and Reduced Non-Residential Alternative
3.1 Aesthetics	LTS/M	↑	=
3.2 Agriculture and Forestry Resources	SU	=	↓
3.3 Air Quality	SU	=	↓
3.4 Biological Resources	LTS/M	↑	↓
3.5 Cultural Resources	LTS/M	↑	=
3.6 Energy	LTS	=	↓
3.7 Geology and Soils	LTS/M	↑	↓
3.8 Greenhouse Gas Emissions	LTS	↑	↓
3.9 Hazards and Hazardous Materials	LTS/M	↑	↓
3.10 Hydrology and Water Quality	LTS/M	↑	↓
3.11 Land Use and Planning	LTS	↑	=
3.12 Mineral Resources	LTS	=	=
3.13 Noise	LTS/M	=	↓
3.14 Population and Housing	LTS	↑	=
3.15 Public Services	LTS	↓	=
3.16 Recreation	LTS	↓	=
3.17 Transportation	SU	↓	↓
3.18 Tribal Cultural Resources	LTS/M	↑	=
3.19 Utilities and Service Systems	SU	↑	↓
3.20 Wildfire	SU	=	↓

Notes:

1. The impacts listed in this column represent the highest significance determination for each respective topic.

LTS Less than Significant

LTS/M Less than Significant with Mitigation

SU Significant and Unavoidable

Table 4-6, *Ability to Meet Proposed Project Objectives*, identifies the ability of each of the project alternatives to meet the proposed project's objectives.

Table 4-6 Ability to Meet Proposed Project Objectives

Objective	Proposed Project	Alternative A: No Project Alternative	Alternative B: Focused Growth and Reduced Non-Residential Alternative
Support balanced and orderly growth and conservation that preserve and promote a high quality of life and good health outcomes for everyone, safe community, conservation of resources, including Tribal Cultural Resources, and natural beauty and protect and enhance the natural environment.	Yes	Partial	Yes
Ensure compliance with changes in State law, including, but not limited to, developing an Environmental Justice Element, and a Safety Element that is correlated with the requirements of the Multi-Jurisdictional Hazard Mitigation Plan.	Yes	No	Yes
Develop a plan that accommodates a level of growth that could reasonably occur over the next 25 years, that plans for both growth and conservation.	Yes	No	Partial
Provide a range of housing types to meet the needs of all Lake County residents that are safe, clean, and healthy.	Yes	Partial	Yes
Preserve agricultural lands and ensure a diverse, healthy, and competitive agricultural industry.	Yes	Partial	Yes
Research and optimize the use of geothermal resources to generate sustainable energy that benefits Lake County and includes planning processes that involve collective participation of residents, industries, and public agencies.	Yes	No	Yes
Effectively prepare for and respond to natural and human-caused disasters, avoid the loss of life, minimize health and safety hazards, and increase resilience in Lake County.	Yes	Partial	Yes
Create cohesive and vibrant communities that preserve and celebrate the communities' historic character and design heritage.	Yes	Partial	Partial
Create a transportation network that accommodates new development while reducing per-capita vehicle miles traveled (VMT) and	Yes	Partial	Yes

Table 4-6 Ability to Meet Proposed Project Objectives

Objective	Proposed Project	Alternative A: No Project Alternative	Alternative B: Focused Growth and Reduced Non-Residential Alternative
greenhouse gas (GHG) emissions, promotes environmental protections and stewardship, and protects human life.			
Provide for continued economic viability of mineral extraction activities while minimizing impacts on the public and the environment.	Yes	Yes	Yes
Protect the county's diverse biological resources, sensitive significant habitats, and ecosystem health.	Yes	Partial	Yes
Create a park, recreation, and open space system that serves the recreational needs of the county's residents and visitors.	Yes	Partial	Yes
Provide resilient and well-maintained public facilities and services that meet the needs of all community members, are adequately funded, and enhance quality of life in Lake County.	Yes	Partial	Yes

4.7.1 Summary of Alternative A: No Project Alternative

As shown in Table 4-5, *Comparison of Project Alternative Impacts*, Alternative A would have mainly greater impacts when compared to the proposed project. There would be similar impacts related to agricultural and forestry resources, air quality, energy, mineral resources, noise, and utilities and service systems. Impacts related to public services, recreation, and transportation would be reduced when compared to the proposed project.

As shown in Table 4-6, *Ability to Meet Proposed Project Objectives*, Alternative A would only fully meet one objective: Provide for continued economic viability of mineral extraction activities while minimizing impacts on the public and the environment. Alternative A would not meet the objectives to ensure compliance with changes in State Law, develop a plan that accommodates a level of growth that could reasonably occur over the next 25 years, or research and optimize the use of geothermal resources to generate sustainable energy. All other objectives would be partially met by Alternative A.

4.7.2 Summary of Alternative B: Focused Growth and Reduced Non-Residential Alternative

As shown in Table 4-5, *Comparison of Project Alternative Impacts*, Alternative B would not result in similar impacts related to aesthetics, cultural resources, land us and planning, mineral resources, population and housing, public services, recreation, and tribal cultural resources when compared to the proposed project. All other impacts would be reduced when compared to the proposed project.

As shown in Table 4-6, *Ability to Meet Proposed Project Objectives*, Alternative B would meet or partially meet all objectives.

4.8 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

In addition to the discussion and comparison of impacts of the proposed project and the alternatives, CEQA Guidelines Section 15126.6 requires that an "environmentally superior" alternative be selected and the reasons for such a selection be disclosed. In general, the environmentally superior alternative is the alternative to the proposed project that would be expected to generate the least number of significant impacts. Identification of the environmentally superior alternative is an informational procedure and the alternative to the proposed project selected may not be the alternative to the proposed project that best meets the goals or needs of the Lake County. Because CEQA Guidelines Section 15126.6(c) requires an evaluation of a reasonable range of alternatives to the proposed project, the proposed project under consideration cannot be identified as the environmentally superior alternative. Additionally, in accordance with CEQA Guidelines Section 15126.6(e)(2), if the environmentally superior alternative is the "no project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.

As shown in Table 4-5, Comparison of Project Alternative Impacts, and discussed in Section 4.7, *Summary of Alternative Evaluation*, Alternative B, *Focused Growth and Reduced Non-residential Alternative*, would reduce impacts to most environmental topics (12 out of 20) and would not create greater impacts when compared to the proposed project. Though Alternative B would be the environmentally superior alternative, it would not fully meet some important project objectives.

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5. OTHER CEQA CONSIDERATIONS

This chapter provides a discussion of the effects of the proposed project based on the analyses presented in Sections 3.1 through 3.20 of this Draft Environmental Impact Report (EIR). The topics covered in this chapter include effects found not to be significant, significant and unavoidable impacts, significant irreversible changes to the environment, and growth-inducing effects. A more detailed analysis of the effects that the proposed project would have on the environment, and proposed mitigation measures to minimize significant impacts, are provided in Chapter 3, *Environmental Analysis*, of this Draft EIR.

5.1 EFFECTS FOUND NOT TO BE SIGNIFICANT

California Environmental Quality Act (CEQA) Guidelines Section 15128, *Effects Not Found to be Significant*, allows environmental issues for which there is no likelihood of significant impact to be "scoped out" and not analyzed further in the EIR. Based on the analysis in the Notice of Preparation (see Appendix A, *Notice of Preparation and Scoping Comments*, of this Draft EIR), it was determined that the proposed project would have the potential to result in environmental impacts related to all environmental impact topics, and no topics have been scoped out from the environmental analysis.

5.2 SIGNIFICANT UNAVOIDABLE IMPACTS

CEQA Guidelines Section 15126.2(a) requires that "direct and indirect significant effects of the project on the environment shall be clearly identified and described, giving due consideration to both the short- and long-term effects." CEQA Guidelines Section 15126.2(c) requires that an EIR describe any significant impacts that cannot be avoided, even with the implementation of feasible mitigation measures. Table ES-1, *Summary of Significant Environmental Impacts and Mitigation Measures*, in the *Executive Summary* of this Draft EIR lists significant impacts with associated mitigation measures. Table ES-2, *Summary of Significant Environmental Impacts and Proposed Mitigating Policies and Actions*, in the *Executive Summary* of this Draft EIR lists significant impacts and the proposed mitigating General Plan 2050 policies and actions, including the impact's level of significance with the imposition of mitigating policies and actions.

While mitigating General Plan 2050 policies and actions would reduce the level of impact, the following impacts would remain significant and unavoidable after mitigating policies and actions are applied. The identification of these program-level impacts does not preclude the finding of less-than-significant impacts for subsequent projects analyzed at the project level that do not exceed applicable thresholds of significance. As detailed in Section 3.2, *Agriculture and Foresty Resources;* Section 3.3, *Air Quality;* Section 3.17, *Transportation;* Section 3.19, *Utilities and*

Service Systems; and Section 3.20, *Wildfire,* of this Draft EIR, the following environmental impacts associated with the proposed project were found to be significant and unavoidable, as listed:

- **Impact AGF-1:** Implementation of the proposed project could result in the conversion of Prime Farmland, Farmland of Statewide Importance, or Unique Farmland land (together referred to as "qualifying Farmland") to nonagricultural land uses.
- **Impact AGF-2:** Implementation of the proposed project could result in the loss of agricultural land under the Williamson Act.
- **Impact AGF-3:** The proposed project, in combination with past, present, and reasonably foreseeable projects, could result in a significant cumulative impact with respect to the conversion of Prime Farmland, Farmland of Statewide Importance, or Unique Farmland land (together referred to as "qualifying Farmland") and Williamson Act properties to non-agricultural uses.
- **Impact AIR-2:** Construction and operation of projects under the proposed General Plan 2050 would generate emissions that exceed the Bay Area Air District's standards for regional construction and operational emissions.
- **Impact AIR-3:** Implementation of the General Plan 2050 could expose air quality sensitive receptors to substantial toxic air contaminant concentrations from construction activities and from permitted and non-permitted sources during operation.
- **Impact AIR-5:** The health risk and criteria air pollutant impacts resulting from implementation of the proposed General Plan 2050 would be cumulatively considerable.
- **Impact TRA-1**: Growth associated with the proposed project would cause home-based VMT per resident and home-based work VMT per employee to be higher than the baseline average.
- **Impact TRA-3:** Growth associated with the proposed project would cause a cumulatively significant impact to VMT.
- **Impact UTIL-1:** Impacts from potential future development under the proposed General Plan 2050 could create a significant impact on water infrastructure.
- **Impact UTIL-2:** Impacts from potential future development under the proposed General Plan 2050 could create a significant impact on wastewater infrastructure.
- **Impact UTIL-3:** Impacts from potential future development under the proposed General Plan 2050 could create a significant impact on stormwater infrastructure.
- **Impact UTIL-4:** Impacts from potential future development under the proposed General Plan 2050 could create a significant impact on water supply.
- **Impact WIL-1:** Development under the proposed General Plan 2050 would increase population, buildings, and infrastructure in wildfire-prone areas, thereby exacerbating wildfire risks.

- **Impact WIL-3:** Development under the proposed General Plan 2050 would increase population, buildings, and infrastructure in wildfire-prone areas, thereby exacerbating wildfire risks.
- **Impact WIL-4:** Potential future development under the proposed General Plan 2050 could, in combination with other surrounding and future projects in the Very High FHSZs and the WUI, 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, vegetation, or other factors.

5.3 SIGNIFICANT IRREVERSIBLE CHANGES

Section 15126.2(d) of the CEQA Guidelines requires that an EIR discuss whether "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." The discussion shall consider primary and secondary impacts that generally commit future generations to similar uses, irreversible damage from environmental accidents, and irretrievable commitments of resources.

Future development allowed under the proposed project would result in the commitment of limited, renewable resources, such as lumber and water. In addition, development under the proposed project would irretrievably commit nonrenewable resources for the construction of buildings, infrastructure, and roadway improvements. These nonrenewable resources include mined minerals, such as sand, gravel, steel, lead, copper, and other metals. Future buildout under implementation of the proposed project also represents a long-term commitment to the consumption of fossil fuels such as natural gas and gasoline. Increased energy demands would be used for construction, lighting, heating, and cooling of residences, and transportation of people within, to, and from Lake County. However, as shown in Section 3.6, *Energy*, and Section 3.19, *Utilities and Service Systems*, of this Draft EIR, several regulatory measures and proposed General Plan 2050 goals, policies, and actions encourage energy and water conservation, alternative energy use, waste reduction, alternatives to automotive transportation, and green building. Future development under the proposed project would be required to comply with all applicable building and design requirements, including those set forth in Title 24 relating to energy conservation. In compliance with CALGreen, the State's Green Building Standards Code, future development would be required to reduce water consumption by 20 percent, divert 50 percent of construction waste from landfills, and install low pollutant-emitting materials. Therefore, while the construction and operation of future development, as a result of increased development allocations under the proposed project, would involve the use of nonrenewable resources, compliance with applicable standards and regulations and implementation of proposed General Plan 2050 goals, policies, and actions would reduce the use of nonrenewable resources to the maximum extent practicable, and the proposed project would not represent a large commitment of nonrenewable resources.

Irreversible changes to the physical environment could also occur from accidental release of hazardous materials associated with development activities; however, compliance with the applicable existing regulations and proposed General Plan 2050 goals, policies, and actions as discussed in Section 3.9, *Hazards and Hazardous Materials*, of this Draft EIR would ensure these impacts would be less than significant. Therefore, irreversible damage is not expected to result from the adoption and implementation of the proposed project.

5.4 GROWTH-INDUCING EFFECTS

Section 15126.2(e) of the CEQA Guidelines requires that an EIR discuss the ways in which a proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Typical factors may include the removal of obstacles to population growth, such as through a major expansion of a wastewater plant.

This section evaluates the proposed project's potential to create such growth inducements. As CEQA Guidelines Section 15126.2(e) requires, "[it] must not be assumed that growth in an area is necessarily beneficial, detrimental, or of little significance to the environment." In other words, negative impacts associated with growth inducement occur only where the projected growth would cause significant adverse environmental impacts.

Growth-inducing impacts fall into two general categories: direct or indirect. Direct growth-inducing impacts are generally associated with providing urban services to an undeveloped area. Indirect, or secondary, growth-inducing impacts consist of growth induced in the region by additional demands for housing, goods, and services associated with the population increase caused by, or attracted to, a new project.

As discussed in detail in Section 3.14, *Population and Housing*, of this Draft EIR, the General Plan is the policy document that plans to accommodate the amount of reasonably foreseeable growth given past growth trends and the ability of existing services and infrastructure to support future growth. Therefore, the proposed General Plan 2050 would not directly induce growth but rather is a response to growth that is likely to occur whether the proposed project is adopted or not. Because the proposed General Plan 2050 also includes recommendations for future roadway and infrastructure extension, as is required to do by state law, it has the potential to indirectly induce growth. However, the proposed General Plan 2050 itself is the County's effort to adequately plan for this growth. Additionally, this additional growth would likely occur incrementally over a period of approximately 25 years, and a policy framework is in place to ensure adequate planning occurs to accommodate it regardless of the development timeline.

5.4.1 Direct Impacts

The proposed project is a plan-level document and does not propose any specific development; however, implementation of the proposed project would induce growth by increasing the development potential in the EIR Study Area, as shown in Table 2-3, *Proposed 2050 Buildout Projections in the EIR Study Area*, in Chapter 2, *Project Description*, of this Draft EIR. As shown in Table 2-3, the 2050 forecast for the EIR Study Area is approximately 54,770 total population, 22,830 housing units, and 20,600 jobs. State law requires the County to promote the production of housing to meet its Regional Housing Needs Allocation (RHNA). References. The environmental impacts of this anticipated growth under the proposed General Plan 2050 are discussed in Sections 3.1 through 3.20 in Chapter 3, *Environmental Analysis*. In addition, the proposed General Plan 2050 encourages infill growth within community growth boundaries and other designated areas, helping to reduce development pressures on lands outside the established communities.

5.4.2 Indirect Impacts

The proposed project could be considered growth-inducing because it includes policies and actions that encourage new growth within the EIR Study Area. Population and employment growth would occur incrementally over approximately 25 years and would be consistent with the regional planning objectives established for the region. Growth would be required to comply with the County's General Plan, zoning regulations, and standards for public services and utilities. Secondary effects associated with this growth do not represent a new significant environmental impact that has not already been addressed in the individual resource sections of this EIR.

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This Draft Environmental Impact Report (EIR) was prepared by Lake County in consultation with the following organizations, consultants, and individuals.

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Yoyo Zeng ..... Transportation Planner

Padre Associates, Inc.

Alan Churchiull, P.G. ..... Senior Geologist
Jerome Summerlin, C.E.G., C.Hg. ..... President

ORGANIZATIONS CONSULTED

CalFire Sonoma Lake Napa Unit

Mike Wink ..... Assistant Chief

Kelseyville Fire Protection District

Joe Higgins ..... Fire Chief
Paul Bleuss ..... Fire Marshal
Kristina Navarro ..... Financial Analyst

Kelseyville Unified School District

Nicki Thomas ..... Superintendent
Maribel Mosqueda ..... Superintendent's Secretary

Konocti Unified School District

Becky Salato ..... Superintendent
Stephanie Hunt ..... Director, Maintenance, Operations, and Construction

Lake County Fire Protection District

Willie Sapeta ..... Fire Chief
Autumn Lancaster ..... Fire Marshal/Firefighter Paramedic

Lake County Library

Christopher Veach ..... Director of the Library/County Librarian

Lake County Public Services Department, Parks and Trails Division

Lars Ewing ..... Public Service Director

Lake County Water and Wastewater Department

Robin Borre ..... Administrator
Scott Hornung ..... Deputy Administrator

Lake County Sheriff's Department

Luke Bingham ..... Sheriff-Coroner
Leah Sautelet ..... Emergency Services Manager

Lake Pillsbury Fire Protection District

Larry Thompson ..... Interim Fire Chief

Lakeport Fire District

Patrick Reitz ..... Fire Chief

Lakeport Unified School District

Matthew Bullard ..... Superintendent
Dan Camacho ..... Director of Maintenance and Operations

Lucerne Elementary School District

Megan Grant ..... Superintendent

Middletown Unified School District

Jeff Crane ..... Superintendent
Michael Del Sarto ..... Director of Maintenance

Northshore Fire Protection District

Mike Ciancio ..... Fire Chief
Shannon Banks ..... Interim Fire Chief

South Lake County Fire Protection District

Joshua Lau ..... Battalion Chief
Gloria Fong ..... Staff Services Analyst

Upper Lake Unified School District

Dr. Giovanni Annous ..... Superintendent
Ronnie Valadez ..... Maintenance & Operations Coordinator