

APPENDIX 2-B INITIAL STUDY



KORTUM RANCH DEVELOPMENT

INITIAL STUDY

SEPTEMBER 2023

PREPARED BY M-GROUP FOR:
THE CITY OF CALISTOGA
PLANNING AND BUILDING DEPARTMENT
1232 WASHINGTON STREET
CALISTOGA, CA 94515

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Initial Study Checklist	
Project Title:	Kortum Ranch Development
Lead agency name and address:	City of Calistoga Planning & Building Department 1232 Washington Street Calistoga, CA 94515
Contact person and phone number:	Jeff Mitchem, Planning & Building Director (707) 942-2830
Project Location:	500 Kortum Canyon Road, Calistoga, Napa County CA 94515 (APNs 011-290-007; -038; -039 & a remainder lot (formerly 011-310-023))
Project Sponsor/Owner:	Kortum Ranch LLC 500 Kortum Canyon Road Calistoga, CA 94515 Tim Schram, Adobe Associates, Inc (707) 541-2300
General Plan Designation:	Rural Residential – Hillside
Zoning:	Rural Residential – Hillside (RR-H)
Description of project:	The proposed Project includes the subdivision of four existing parcels totaling approximately 29.46 acres into 22 individual lots containing 22 single-family detached homes and ancillary improvements to be developed with hillside-sensitive design. As proposed, lots range from 0.38 acres to 6.10 acres with an average lot size of 1.34 acres. Based on buildable site pads, residences would range from approximately 2,500 square feet to 4,500 square feet. The project includes onsite road and utility improvements, construction of retaining walls and off-site improvements on Kortum Canyon Road between the project site and the intersection at Foothill Blvd.
Surrounding land uses and setting:	The Project site consists of 4 parcels (APNs 011-290-007, 038, 039 & a remainder lot (formerly 011-310-023)) located southwest of Foothill Boulevard along Kortum Ranch Road within the City of Calistoga. The Project site is bordered to the north by existing hillside residences adjacent to Foothill Boulevard, to the east by hillside residences, to the south by the boundary with County of Napa (Agricultural Watershed Zone) and a combination of agricultural and residential uses, and an existing residential development to the west on Lerner Lane. Surrounding uses include single-family dwellings to the north, west, and south, lodging and commercial to the north, and residential and agricultural to the east.

<p>Other public agencies whose approval is required:</p>	<p>California Department of Transportation (temporary encroachment on SR 29) California Department of Fish and Wildlife (as trustee agency for protection of special status species) Regional Water Quality Control Board (as trustee agency for protection of regulated waters)</p>
<p>California Native American tribes traditionally and culturally affiliated with the project area that have requested consultation:</p>	<p>Tribal contacts registered in the Native American Heritage Commission contact list applicable to the project site, dated December 29, 2022, were sent formal notification on January 6, 2023 with invitation to request consultation, pursuant to AB 52. Contacts included Cloverdale Rancheria of Pomo Indians, Dry Creek Rancheria of Pomo Indians, Guidiville Indian Rancheria, Lytton Rancheria, Middletown Rancheria of Pomo Indians, Mishewal Wappo Tribe of Alexander Valley, and Pinoleville Pomo Nation. Lytton Rancheria submitted a response on March 1, 2023 stating that consultation was not being requested. A representative from Mishewal-Wappo Tribe provided a response on May 10, 2023, requesting a site visit to see the area of disturbance, and the City is actively engaged in consultation.</p>

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1.0 INTRODUCTION

This Initial Study (IS) identifies and analyzes the potential environmental impacts of the project. The information and analysis presented in this document is organized in accordance with the California Environmental Quality Act (CEQA) checklist in Appendix G of the CEQA Guidelines.

CEQA Guidelines Section 15063(c) lists the following purposes of an Initial Study:

1. Provide the Lead Agency with information to use as the basis for deciding whether to prepare an Environmental Impact Report (EIR) or a Negative Declaration.
2. Enable an Applicant or Lead Agency to modify a project, mitigating adverse impacts before an EIR is prepared, thereby possibly enabling the project to qualify for a Negative Declaration.
3. Assist in the preparation of an EIR, if one is required.
4. Facilitate environmental assessment early in the design of a project.
5. Provide documentation of the factual basis for the finding in a Negative Declaration that a project will not have a significant effect on the environment.
6. Eliminate unnecessary EIRs.
7. Determine whether a previously prepared EIR could be used with the project.

CEQA Guidelines Section 15152(b) discourages repetitive discussions of the same issues and allows limiting discussion of a later project that is consistent with a prior plan to impacts which were not examined as significant effects in a prior EIR or to a discussion of significant effects which could be reduced by revisions in the later project (CEQA Guidelines Section 15152(d)). No additional benefit to the environment or public would be served by preparing an EIR merely to restate the analysis and the significant and unavoidable effects found to remain after adoption of all General Plan policies and mitigation measures. All General Plan policies adopted as mitigation apply to the project analyzed herein.

Because CEQA discourages repetitive discussions of the same issues, this environmental document tiers from the 2003 General Plan EIR (SCH No. 2003012009), certified on October 21, 2003, to examine site-specific impacts of the proposed project, as described below. A copy of the City of Calistoga General Plan and EIR are available at City of Calistoga, Planning & Building Department, 1232 Washington Street, Calistoga, CA 94515.

Pursuant to Section 15152 of the CEQA Guidelines, a project that is consistent with the

General Plan and zoning designations of the City may tier from the analysis contained in the General Plan EIR, incorporating by reference the general discussions from the broader EIR. The project would be consistent with the General Plan land use designation for the project site and site zoning district. Therefore, in accordance with Section 15152 of the CEQA Guidelines, the analysis within this IS may tier off the analysis previously prepared in the General Plan EIR. The analysis herein is also based upon project-specific technical studies and information, as well as a variety of city and regional planning documents. Analysis from both the General Plan EIR, city and regional planning documents, and the project-specific technical studies are herein incorporated by reference.

The City of Calistoga, as the lead agency, has conducted an Initial Study to determine the level of environmental review necessary for the proposed project.

2.0 PROJECT DESCRIPTION

2.1 PROJECT LOCATION

The project site is located in the southeast portion of the City of Calistoga, adjacent to the southern city limit, at 500 Kortum Canyon Road on four parcels (APNs 011-290-007; -038; -039; and a remainder lot (formerly 011-310-023)) totaling approximately 29.46 acres (**Figure 2.4-1: Regional Location**). Areas south, east, and west of the project site are primarily developed with rural residences characterized by large, heavily wooded lots. Existing commercial uses are located north of the project site with frontage on Foothill Boulevard (**Figure 2.4-2: Project Vicinity**).

2.2 EXISTING SITE CONDITIONS

The site was previously developed as the Busk Estate, which contained over 15 buildings and structures including a single-family home, apartment building, pool and cabana, four detached garages, outbuildings, and work and storage sheds. The site also contained shipping containers, abandoned cars, trucks, tractors, and construction equipment. In addition to its residential use, the Busk Estate served as a storage facility for construction materials, debris, large piles of reinforced concrete pipes, stacked piles of creosote-soaked railroad ties, and telephone poles. The property was purchased by Kortum Ranch, LLC in December 2020 who obtained a permit from the City of Calistoga to demolish and remove all structures and abandoned material. Following approval of such permit, all structures were demolished, and debris removed. At present, Kortum Canyon Road serves as a primary access point to the site, and Terrace Drive provides secondary access. Existing utilities, retaining walls, trees, and a well remain on the site. The site contains distinct clearings that are void of vegetation and trees and is where future single-family residences will be sited.

2.3 GENERAL PLAN LAND USE DESIGNATION

The project site is designated Rural Residential – Hillside on the City's General Plan Land Use map (**Figure 2.4-3: General Plan Land Use Designations**) which is intended to serve as a buffer between agricultural and urban uses, thereby limiting urbanization of the city. Areas currently designated Rural Residential are developed with a mixture of agriculture and large-lot residential uses. The General Plan contemplates agriculture as a major land use in areas with this designation. The maximum permitted density is determined through the subdivision review process and is subject to performance standards contained in the

General Plan. If projects meet the following performance standards, development at or near one dwelling unit per acre is permitted.

- Cluster development where feasible to minimize the deleterious effects of monotonous development that contradicts the residential character of the community.
- Preserve and enhance open spaces and agricultural lands.
- Target higher densities, within the range, adjacent to the more densely-developed areas and lower densities, within the range, outward to the City's edge consistent with the community's interest in feathering development.
- Provide landscaping and/or open space buffers between development and at the entrances to new development.
- Maintain scenic vistas from public rights-of-way and existing private development.
- Preserve natural resources important to the community, such as waterways.
- Enhance the rural traditions of the community and preserve Calistoga's small-town character through sensitive architectural and site planning.

Areas south of Foothill Boulevard, including the project site, are designated Rural Residential – Hillside which is intended to address public safety, open space conservation, and visual concerns associated with steeply sloped areas. Surrounding land uses designations include Rural Residential – Hillside to the east and west, and Downtown Commercial and Low Density Residential to the north. Areas south of the site are under the jurisdiction of Napa County and are designated Agriculture, Watershed, and Open Space.

2.4 ZONING DESIGNATION

The project site is zoned Rural Residential – Hillside (RR-H) on the City's zoning map (**Figure 2.4-4: Zoning Designations**) which implements the Rural Residential – Hillside General Plan Land Use. The RR-H zoning designation allows for a range of uses, including one single-family dwelling unit per lot, subject to approval of a Use Permit. As set forth in Section 17.15.010 of the Calistoga Municipal Code (CMC), the purposes of the RR-H zoning designation are to provide for development of hillside areas in such a way that preserves the environmental and scenic benefits and protects development on and surrounding hillside areas; promote hillside environmental goals and policies contained in the General Plan; establish densities and open space areas consistent with adopted regulations; maintain an environmental balance and protect the natural topography; avoid development that would result in an unacceptable hazard from fire, flood, landslide, or other natural disaster; avoid development that results in high public maintenance costs; and provide for flexible design so that development is concentrated in areas with the greatest environmental carrying capacity.

Kortum Ranch Development | Calistoga, California

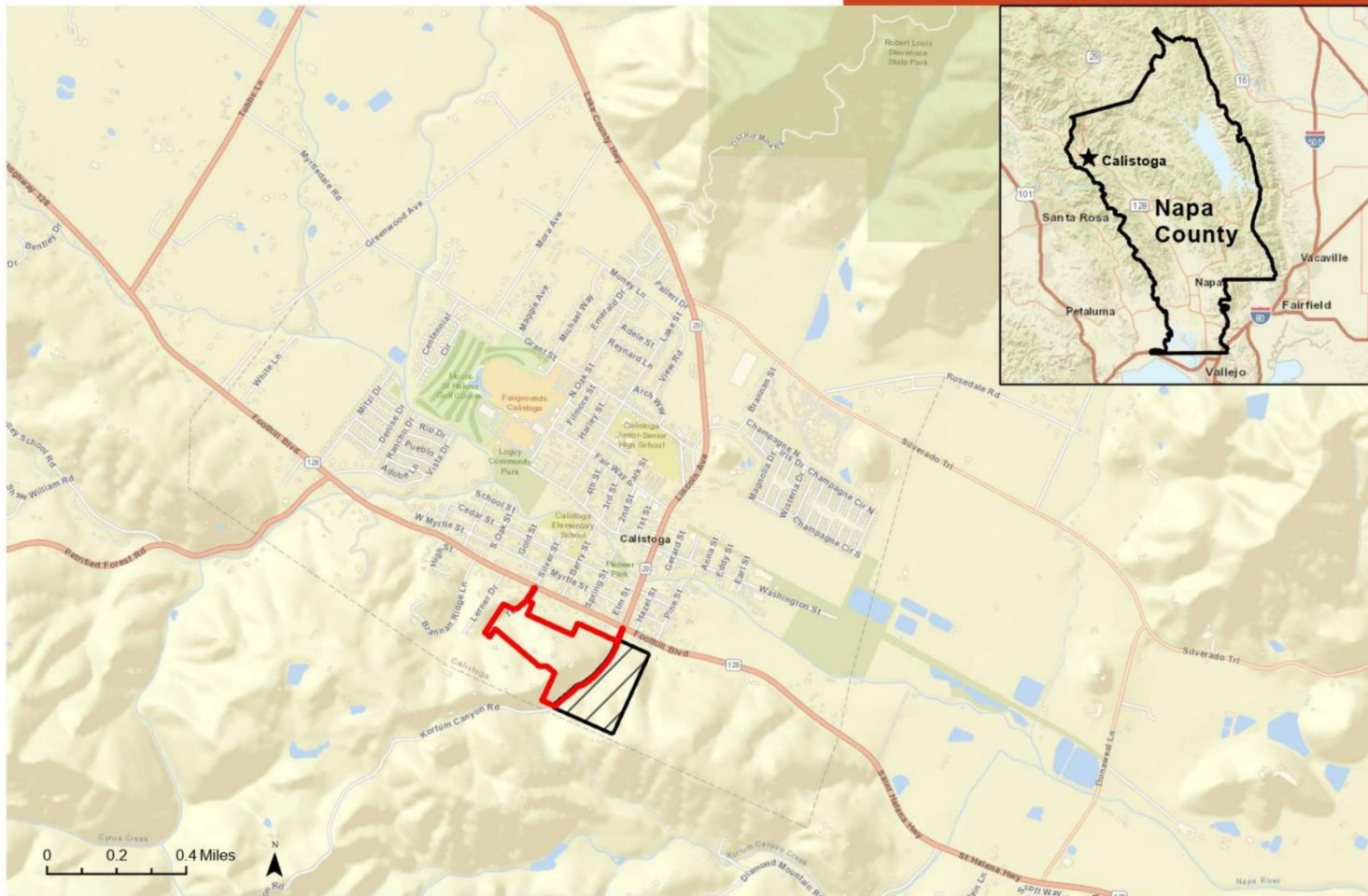


Figure 1 : Regional Location

-  Project Site
-  APN 011-310-023
(Not part of project)
-  Calistoga City Limits
-  Napa County

Data source: City of Calistoga; Napa County GIS; ESRI Basemap
 Note: APN 011-310-023 will be subject to a Lot Line Adjustment under separate entitlement.

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Figure 2 : Project Vicinity

-  Project Site
-  APN 011-310-023 (Not part of project)

Data source: City of Calistoga; Napa County GIS, ESRI Basemap

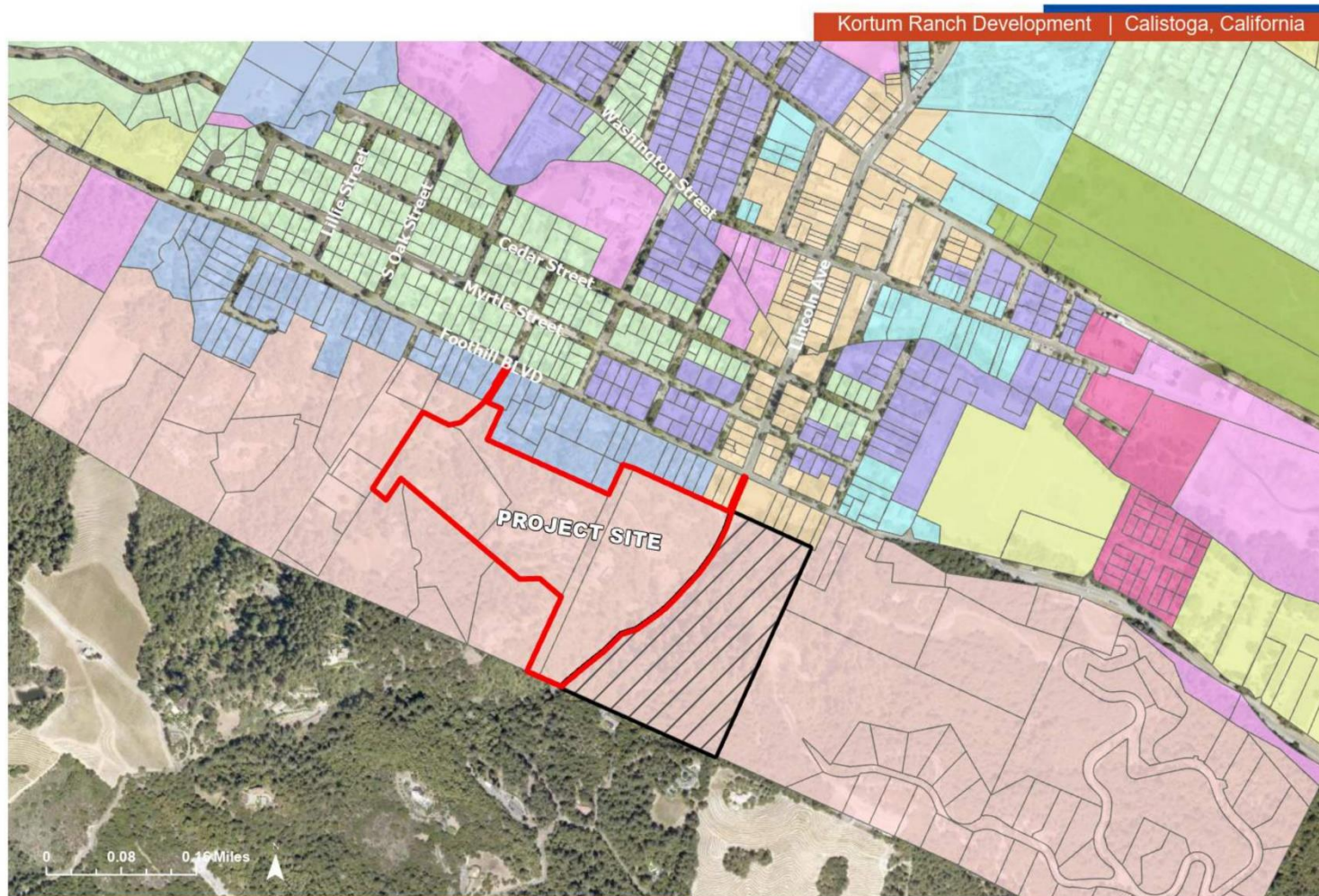


Figure 3 : General Plan Land Use



Data source: City of Calistoga; ESRI Basemap

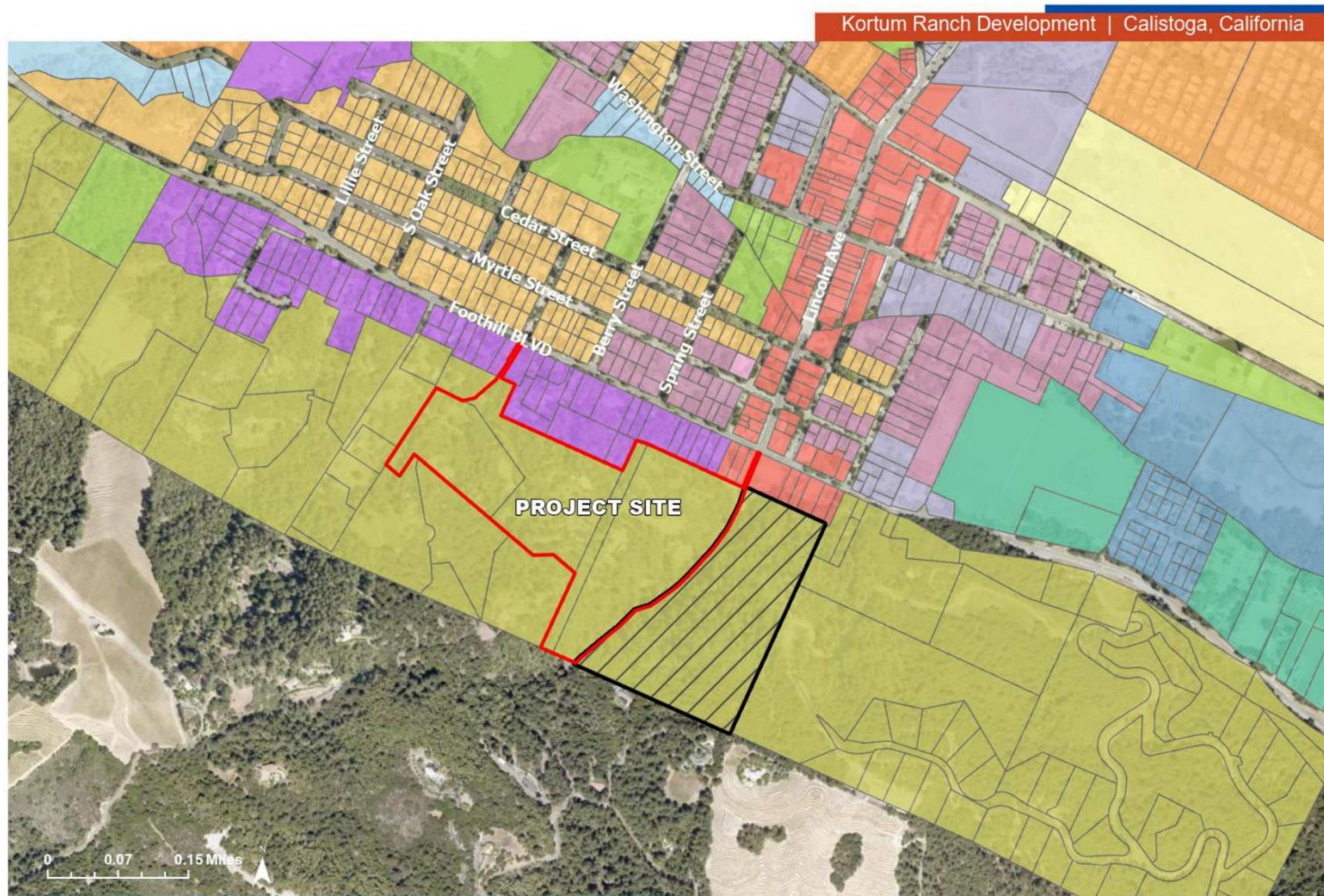


Figure 4 : Zoning

Project Site
 APN 011-310-023 (Not part of project)

Data source: City of Calistoga, ESRI Basemap

Zoning Designation		
 C-A: Airport Commercial	 P: Public/Quasi Public	 R-3-VA: Multifamily Residential/Office - Visitor Accomodations
 CC-DD: Community Commercial	 PD: Planned Development	 RR: Rural Residential
 DC-DD: Downtown Commercial	 R-1: One-Family Residential	 RR-H: Rural Residential - Hillside
 I: Light Industrial	 R-1-10: One-Family Residential	
 MHP: Mobile Home Park	 R-2: Two-Family Residential	
	 R-3: Multifamily Residential/Office	

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Figure 5 : Site Plan

- - - Right-of-Way
- - - Utility Easement
- - - Building Setback
- Parcel Lines

Data source: Plan set, prepared by IL, RMS, dated 2.14.2023

2.5 PROJECT COMPONENTS

This section provides a description of the proposed project as presented in the application materials submitted to the City of Calistoga by the project sponsor including the Kortum Ranch Subdivision Tentative Map dated December 16, 2022 (Appendix A), Slope Analysis Exhibit (Appendix B) dated December 20, 2022, Kortum Ranch Neighborhood Cluster Concept (Visual Analysis), (Appendix C) dated January 23, 2022, and other supporting documentation.

2.5.1 OVERVIEW

The Kortum Ranch Development Project proposes to subdivide four existing parcels (APNs 011-290-007; -038; -039; and 011-310-023) into 22 individual lots to accommodate future construction of single-family residences. Parcel 011-310-023 originally spanned across Kortum Canyon Road, the eastern portion of which (18.69 acres) was divided from the project through lot line adjustment approved by the City. The remaining 29.46 acres, consisting of one remainder parcel and three parcels (APN 011-290-007; -038; -039), will be subdivided into 22 lots ranging from approximately 0.38 to 6.1 acres. At this time, the applicant is seeking approval of a Tentative Subdivision Map. Pursuant to CEQA Guidelines Section 21065, a “project” means an activity which may cause either a direct physical change in the environment or a reasonably foreseeable indirect physical change in the environment. Though no physical development will be approved with the Tentative Subdivision Map, the reasonably foreseeable physical change resulting from approval of the Tentative Map will include construction of 22 new single-family residences, and as such this Initial Study contemplates the environmental impacts of such development.

2.5.2 SITE PLAN AND COVERAGE

The site was previously developed and contains natural slopes and flat, graded areas which previously accommodated residential and outbuildings associated with the former Busk Estate. As presented in the Slope Analysis Exhibit, approximately 11.29 acres have slopes less than 30 percent, and 18.99 acres have slopes between 30 and 100 percent. Allowable building pad areas are located on portions of each proposed lot where the slope is 30 percent or less. The total buildable area of each lot ranges from approximately 3,500 square feet to over 20,000 square feet. The size of future single-family residences will be contingent on the total buildable area available as well as applicable development standards governing lot coverage and are anticipated to range from approximately 2,500 to 4,500 square feet. In addition to overall size, future residences will be subject to the regulations set forth in

Chapter 17.15 of the CMC.

2.5.3 ACCESS, CIRCULATION, AND PARKING

Primary access to the site will be provided via Kortum Canyon Road which will connect to an east/west right-of-way that traverses the project site and connects to Terrace Drive, west of Kortum Canyon Road. At the project site's main entrance, the roadway will be widened to 20-feet, providing 10-foot travel lanes in each direction with a two-foot shoulder on either side. Beyond the shoulder on the downslope portion of the right-of-way, vegetated swales or rock-lined drainage swales will be provided to capture stormwater. Between Terrace Drive and approximately the start of proposed Lots 12 and 16, a 12-foot emergency vehicle access (EVA) is proposed, and between Lots 15 and 16 a 10-foot wide vehicle turnout is proposed. In addition, as part of the project, Kortum Canyon Road will be widened to between 24 and 25 feet and the intersection of Foothill Boulevard and Kortum Canyon Road will be re-aligned. As part of the widening and realignment, a portion of APN 011-310-009, located at the southeast corner of Kortum Canyon Road/Foothill Boulevard will be removed and incorporated into the right-of-way.

Access to individual lots will be provided from the east/west right-of-way running through the site with specific driveway locations determined through the preliminary and final development plan process set forth in Chapter 17.15 of the CMC. When new residential structures are proposed, each dwelling will be required to provide two off-street spaces as set forth in Section 17.36.130 of the CMC and shall meet the design requirements set forth in Section 17.36.090.

2.5.4 LANDSCAPING, LIGHTING, AND FENCING

The project includes removal of an existing retaining wall at the project site entrance and installation of two retaining walls, including one at the project entrance and one between Lots 15 and 16 at the vehicle turnout. Landscaping is limited to installation of bioretention features and removal of 19 trees to accommodate widening of the east/west right-of-way (14 Douglas fir, 4 coast live oak, 1 black oak). As proposed, the project includes replacement of oak trees only at a 3:1 replacement ratio for a total of 15 replacement trees onsite. The project does not propose replacement of the 14 Douglas fir as the mortality rate of this species is high onsite. As the project is limited to approval of a Tentative Subdivision Map, no other landscaping, lighting, or fencing is proposed at this time. Rather, landscaping, lighting, and fencing for individual lots will be proposed and reviewed as part of the preliminary and final development plan and will be subject to approval by the City of Calistoga Planning

Commission. As set forth in Section 17.15.010, landscaping and fencing in the RR-H zoning district are required to be in harmony with and enhance natural site characteristics of the site such as topography and existing trees. Additionally, lighting will be subject to the City of Calistoga Residential Design Guidelines which require that lighting sources be screened from off-site view and that lighting levels be the minimum necessary to provide safety while avoiding off-site glare.

2.5.5 UTILITIES

Water

A 12-inch water main will be installed along Kortum Canyon Road connecting to an existing 8-inch water main along Foothill Boulevard and a proposed pump house located at the northeast corner of Lot 2. Potable water will be supplied to the site via installation of new private mains connecting to the existing municipal main located within Kortum Canyon Road/Foothill Boulevard. Water for use by residence, landscaping, and for fire suppression will be stored in above-ground water storage tanks including a proposed 350,000-gallon tank and 20,000-gallon tank located on Lot 22. A 3-inch water main will connect an existing well located on Lot 20 to the proposed 350,000-gallon water tank and will be utilized for landscape irrigation.

The project proposes installation of five fire hydrants on Lots 1, 6, 15, 16, and 20. An 8-inch main will be installed along the project roadway and EVA and will connect to each fire hydrant with 6-inch laterals.

Stormwater

Stormwater management is required both during and after construction, throughout the life of a development project. Consistent with Chapter 19.05 of the CMC, the project will implement best management practices (BMPs) throughout construction of the project to reduce stormwater runoff. BMPs to be implemented are detailed on Sheets C3.0, C3.1, and C3.2 of Appendix A and include installation of straw wattles along existing contours throughout the site to trap sediment and prevent erosion of sloped areas. In compliance with the Bay Area Stormwater Management Agencies Association (BASMAA) Post-Construction Manual, the project includes installation of an 880 square foot bioretention facility on Lot 1 of the Tentative Subdivision Map, a 340 square foot facility on portions of Lots 4, 8, and 9, and a 685 square foot facility on Lot 13.

Sewer

The project proposes to provide sanitary sewer services to all lots via connections to the City's sanitary sewer system within Kortum Canyon Road and Foothill Boulevard. An 8-inch sanitary sewer lateral will be installed along Kortum Canyon Road and will extend from an existing manhole in Foothill Boulevard to Lot 1, connecting the site with a new 8-inch sewer lateral. Lots 2 and 3 will tie into a shared sewer main extending along the utility easement located on Lot 2. Lots 4, 6, 19, 20, 21, and 22, will tie into sewer mains located along the project roadway. Lots 5, 7, 8, 9, and 10 will tie into a shared sewer main located within a utility easement extending through multiple lots. Lots 11 through 18 will tie into a shared sanitary sewer main that will extend along the EVA and connect to the city's sewer main through Terrace Drive, connecting to a manhole in Foothill Boulevard. Wastewater from the project site will be conveyed via new onsite infrastructure and tie into the City's existing sewer system which is processed and treated at the Dunaweal Wastewater Treatment Plant.

2.5.6 PROJECT CONSTRUCTION

Construction activities proposed as part of the Tentative Subdivision Map are limited to installation of utilities, access improvements, and bioretention facilities. However, consistent with the CEQA Guidelines this Initial Study analyzes reasonably foreseeable physical changes, which are presumed to include construction of 22 single-family residences and ancillary improvements. Typical construction activities are anticipated to include demolition, site preparation, grading, building construction, architectural coating, and installation of landscaping. It is assumed that single-family residences will be constructed over time as individual lots are purchased, designed, and reviewed by the City. For purposes of this analysis, it is assumed that construction activities will include fine site grading to establish level pad elevations, tree removal, installation of utility laterals, paving of site-specific driveways and access improvements, and installation of landscaping.

2.6 PROJECT OBJECTIVES

The following project objectives have been identified:

- Contribute market-rate housing units to the City's Regional Housing Needs Allocation (RHNA);
- Provide high-quality residential development consistent with the City's long-term development goals;
- Develop the project site in a manner that preserves the uniqueness of the site including the protection of slopes over 30 percent and retention of canopy cover; and
- Permanently preserve sensitive geological areas of the site as protected open space.

2.7 PROJECT ENTITLEMENTS

As prescribed in Section 16.06.030 of the CMC, the project is subject to review and approval of a Tentative Subdivision Map for division of land into five or more parcels. In addition, as set forth in Chapter 17.15 of the CMC, development of the single-family homes, associated landscaping, and lighting on each residential lot will require approval of a Conditional Use Permit, Preliminary, and Final Development Plan.

3.0 ENVIRONMENTAL FACTORS AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact " as indicated by the checklist on the following pages.

Aesthetics		Hazards & Hazardous Materials		Recreation	
Agricultural & Forestry		Hydrology / Water Quality		Transportation / Traffic	
Air Quality		Land Use / Planning		Tribal Cultural Resources	
Biological Resources	X	Mineral Resources		Utilities / Service Systems	
Cultural Resources		Noise		Wildfires	X
Geology / Soils		Population / Housing		Mandatory Findings of Significance	X
Greenhouse Gases	X	Public Services			

4.0 DETERMINATION

The CEQA Initial Study (IS) Checklist and written explanations are provided in Section 5 below. The Initial Study Checklist and narrative indicate the level of significance of the potential environmental effects of the proposed project upon each of the noted environmental resources. On the basis of this initial evaluation:

I find that the proposed project COULD NOT have a significant effect on the environment. A NEGATIVE DECLARATION will be prepared.	
I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.	
I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.	X
I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.	
I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION , including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.	

Olivia Ervin

9/15/2023

Olivia Ervin on behalf of Jeff Mitchem
 Planning & Building Director

Date

5.0 ENVIRONMENTAL CHECKLIST

The following sections contain the environmental checklist form presented in Appendix G of the CEQA Guidelines. The checklist form is used to describe the impacts of the project and to identify potentially significant impacts that require additional review through an Environmental Impact Report. A discussion follows each environmental issue identified in the checklist. For this checklist, the following designations are used:

Potentially Significant Impact: An impact that could be significant, and for which no mitigation has been identified. If any potentially significant impacts are identified, an EIR must be prepared.

Less than Significant with Mitigation Incorporated: An impact that requires mitigation to reduce the impact to a less-than-significant level.

Less than Significant Impact: Any impact that would not be considered significant under CEQA relative to existing standards.

No Impact: The project would not have any impact.

5.1 AESTHETICS

Would the project:	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion

Impact AES-A, AES-C. As set forth in the Open Space and Conservation Element of the City of Calistoga General Plan, views of and from the city comprise an important element for Calistoga's sense of place.

Most of Calistoga's scenic vistas and corridors are associated with the open space and natural resources within the city and its surroundings. Such areas include the Napa River corridor and tributaries, views of the rural and undeveloped lands surrounding the city, and Calistoga's hillside areas. Views of the surrounding countryside, ridgelines and hilltops are

an important contributor to the quality of life and community identity of the city.

Many of Calistoga's scenic resources are located outside city limits and are generally protected by County development policies or through public ownership. The General Plan seeks to regulate development within the city limits that might block or impede scenic views. It also encourages the development of a more visually harmonious cityscape through, for example, regulation of rooflines and roofing materials and building clustering. Specifically, General Plan Policy P1.6-1 requires enforcement of the City's Hillside Development Ordinance in which project approval is subject to design review related to the siting of buildings, topography, grading and drainage, road plans, and tree removal.

The project is seeking approval of a Tentative Subdivision Map which will enable construction of 22 new single-family residences. Development of individual lots will be subject to applicable regulations including the City's Hillside Development Ordinance, Calistoga Municipal Code Chapter 17.15, and the City's Residential Design Guidelines. The City's Hillside Development Ordinance seeks to preserve the environmental and scenic benefits of hillside areas and protect development on hillsides. Conceptual site development plans and a visual analysis (Appendix C) demonstrate a design that maximizes use of existing graded areas and minimizes disturbance of mature trees and steeply sloped areas. Approval of the project includes reconstruction of the access road which would include the removal of 20 native trees which will be replaced at a 3:1 ratio as a condition of project approval. Moreover, the project is required to comply with the hillside standards of Calistoga Municipal Code Section 17.15.010.B, which require building siting, orientation, roof characteristics, vegetation removal, and cut and fill to be in harmony with and enhance the natural site characteristics as well as preserve and enhance views and vistas on and off the subject property. Development of the 22 single-family homes on the project site may result in the removal of additional trees which will require replacement at a similar 3:1 ratio, or as otherwise deemed appropriate through review and approval of a concept and final development plan by the City of Calistoga Planning Commission.

Through compliance with the City's Hillside Ordinance and Residential Design Guidelines, impacts to a scenic vista or resource as a result of degradation of the existing visual character or public views will be **less-than-significant**.

- **Impact AES-B.** There are no designated State Scenic Highways within the City of Calistoga. Through Calistoga, Lincoln Avenue is coterminous with State Route (SR) 29 and Foothill Boulevard with SR 128. As shown on the California Department of Transportation's (Caltrans) California Scenic Highway Mapping System Map, both SR 29

and SR 128 are designated as eligible state scenic highways.¹ The project site is located ~210 feet south of Foothill Boulevard/SR 128 at the intersection with Lincoln Avenue/SR 29. Development of the site will be visible from both highways, as demonstrated in the Visual Analysis prepared for the project (Appendix A: Kortum Ranch Subdivision Tentative Map, Adobe Associates, Inc., July 10, 2023

- Appendix B: Slope Analysis Exhibit, Slope Analysis Exhibit, Adobe Associates, Inc., December 20, 2022

Appendix C). However, given that the project will be required to demonstrate compliance with local regulations governing hillside development, which seeks to protect natural resources, impacts resulting from damage to scenic resources including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway will be **less than significant**.

Impact AES-D. The proposed project will subdivide the site into 22 lots for single-family residences. New residential uses will result in an increase in lighting relative to existing conditions. The project will be required to conform with applicable City standards related to lighting, including screening lighting sources from off-site view and providing the minimum lighting levels necessary to provide safety and security while avoiding glare. To ensure consistency with local regulations related to lighting associated with construction of 22 new single-family residences, the project shall be required to implement Mitigation Measure AES-1, which requires submittal of a lighting plan for review and approval by the City. With implementation of Measure AES-1, the project will not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area and impacts will be reduced to **less than significant**.

Mitigation Measure(s)

Implementation of Mitigation Measure AES-1 will reduce impact AES-D to less than significant.

AES-1: The applicant shall include a lighting plan on the Final Map/Plan Set for review and approval. The lighting plan shall demonstrate that new lighting fixtures are shielded and/or recessed to avoid light overspill, are directed downward and away from adjoining properties, and are consistent with the International Dark Sky Association model ordinance objectives by providing the minimum lighting level necessary for night-time safety, utility,

¹ California Department of Transportation. *California Scenic Highway Mapping System*. Available at: <https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways>. Accessed January 2023.

security, productivity, enjoyment, and commerce and minimizing sky glow, light overspill and obtrusive lighting levels. The final map shall restrict the use of lighting to no more than 3,000 kelvins, and 100 Lumens for exterior lighting.

5.2 AGRICULTURE AND FORESTRY RESOURCES

Would the project:	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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))?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Would the project:	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
agricultural use or conversion of forest land to non-forest use?				

Discussion

Impact AGR-A, AGR-E. Pursuant to the California Department of Conservation (DOC) Farmland Mapping and Monitoring Program (FMMP), the project site is designated as Urban and Built-up Land and Other Land.² The DOC defines “Urban and Built-up Land” as land that is used for developed purposes, including, but not limited to, residential, industrial, commercial, and public administration development. In addition, the DOC defines “Other Land” as land not included in any other mapping category such as low-density rural development, brush, timber, wetland, and riparian areas.

Areas proximate to the site including a 54-acre area southwest, 72-acre area southeast, and 28-acre area northeast of the site are designated Unique and Prime Farmland. As the site does not contain land designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, development of the project will not result in the conversion of the site from farmland to non-agricultural use. Furthermore, though the site is proximate to existing agricultural areas designated under the FMMP as Unique and Prime Farmland, these areas are separated from the site by existing roadways and jurisdictional boundaries. As such, development of the site with residential uses as proposed will not result in conversion of nearby areas to non-agricultural uses. Since the project will not convert Prime, Unique, or Farmland of Statewide Importance to non-agricultural use nor involve other changes in the existing environment which could result in conversion of farmland or forest land to non-agricultural or non-forest uses, impacts of the project will be **less than significant**.

Impact AGR-B. The project site is currently zoned RR-H, which conditionally permits single-family residential uses. The project site is not under a Williamson Act contract³ and as such subdivision and future development of the site with 22 single-family residences will not

² California Department of Conservation. California Important Farmland Finder. Available at: <https://maps.conservation.ca.gov/dlrp/ciff/>. Accessed February 2023.

³ County of Napa, Geographic Information Systems, Williamson Act Parcels, updated 01/13/23, https://gis.napa.ca.gov/giscatalog/catalog_xml.asp accessed February 2023.

conflict with existing zoning for agricultural use or a Williamson Act contract. Therefore, **no impact** will occur due to a conflict in zoning from the proposed project.

Impact AGR-C, AGR-D. The United States Department of Agriculture, Forest Service sets forth standards and procedures for classifying existing vegetation which is mapped using the Classification and Assessment with Landsat of Visible Ecological Groupings (CALVEG) system. The mission of CALVEG is to classify California existing vegetation communities for use in statewide resource planning considerations. In addition to other classifications, areas are mapped into one of the following broad Vegetation Mapping Criteria:

- Conifer - greater than 10 percent conifer cover as the dominant type
- Mix - greater than 10 percent tree cover and 20 to 90 percent hardwood cover
- Hardwood - greater than 10 percent hardwood cover as the dominant type
- Shrub - greater than 10 percent shrub cover as the dominant type
- Grass - greater than 10 percent grass cover as the dominant type
- Barren - less than 10 percent cover of any natural vegetation
- Agriculture
- Urban
- Ice/snow
- Water

In addition to the classes listed above, CALVEG also maps Timberland Productivity, which is separated into the following categories:

- P - Productive forest site, capable of growing 10 percent cover of industrial wood tree species
- N - Non-productive site, not capable of growing 10 percent cover of industrial wood tree species
- O - Non-forest types

As shown in the existing vegetation coverage for Napa County, the project site includes hardwood and conifer cover types that are classified as productive forest site.⁴ However, the site is not considered Timberland by PRC 4526 which includes 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 because the site is not available for commercial uses given the rural residential zoning.

The site was previously used for residential uses and commercial storage and not for forestry

⁴ County of Napa, Geographic Information Systems, Calveg, updated 01/14/11, https://gis.napa.ca.gov/giscatalog/catalog_xml.asp, accessed February 2023.

purposes. As defined in Gov Code 12220(g) forestland is defined as land that can support 10% 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. Again, the proposed project site is zoned Rural Residential-Hillside and was previously used for residential uses and storage. While the site is characterized as a productive forest site with more than 10% tree cover, the intention of the land is for rural residential development (hillside) and as such, would not result in the loss of forest land or convert forest land to a non-forest use. As such, the project will have a **less than significant impact** with regard to conversion of forest land or as a result of a potential conflict with forest land, timberland, or Timberland Production zoning which may require a timber harvest plan or timber conversion permit).

5.3 AIR QUALITY

Would the project:	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion

Impact AIR-A, AIR-B. The City of Calistoga is located within the San Francisco Bay Area Air Basin (SFBAAB), which is under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD). The SFBAAB area is currently designated as a nonattainment area for State and federal ozone, State and federal fine particulate matter 2.5 microns in diameter (PM_{2.5}), and State respirable particulate matter 10 microns in diameter (PM₁₀) ambient air quality standards (AAQS). The SFBAAB is designated attainment or unclassified for all other AAQS. On January 9, 2013, the U.S. Environmental Protection Agency (USEPA) issued a final rule to determine that the Bay Area has attained the 24-hour PM_{2.5} federal AAQS. Nonetheless, the Bay Area must continue to be designated as nonattainment for the federal PM_{2.5} AAQS until such time as the BAAQMD submits a redesignation request and a maintenance plan to the USEPA, and the USEPA approves the proposed redesignation. The USEPA has not yet approved a request for redesignation of the SFBAAB; therefore, the

SFBAAB remains in nonattainment for 24-hour PM_{2.5}.

In compliance with regulations, due to the nonattainment designations of the area, the BAAQMD periodically prepares and updates air quality plans that provide emission reduction strategies to achieve attainment of the AAQS, including control strategies to reduce air pollutant emissions through regulations, incentive programs, public education, and partnerships with other agencies. The current air quality plans are prepared in cooperation with the Metropolitan Transportation Commission (MTC) and the Association of Bay Area Governments (ABAG).

The most recent federal ozone plan is the 2001 Ozone Attainment Plan, which was adopted on October 24, 2001 and approved by the California Air Resources Board (CARB) on November 1, 2001. The plan was submitted to the USEPA on November 30, 2001 for review and approval. The most recent State ozone plan is the 2017 Clean Air Plan, adopted on April 19, 2017. The 2017 Clean Air Plan was developed as a multi-pollutant plan that provides an integrated control strategy to reduce ozone, PM, toxic air contaminants (TACs), and greenhouse gases (GHGs). Although a plan for achieving the State PM₁₀ standard is not required, the BAAQMD has prioritized measures to reduce PM in developing the control strategy for the 2017 Clean Air Plan. The control strategy serves as the backbone of the BAAQMD's current PM control program.

The aforementioned air quality plans contain mobile source controls, stationary source controls, and transportation control measures to be implemented in the region to attain the State and federal AAQS within the SFBAAB. Adopted BAAQMD rules and regulations, as well as thresholds of significance, have been developed with the intent to ensure continued attainment of AAQS, or to work towards attainment of AAQS for which the area is currently designated nonattainment, consistent with applicable air quality plans. The BAAQMD's established significance thresholds associated with development projects for emissions of ozone precursors including reactive organic gases (ROG) and oxides of nitrogen (NO_x), as well as for PM₁₀ and PM_{2.5}, expressed in pounds per day (lbs/day) and tons per year (tons/yr). Adopted thresholds are shown in Table 5.3-1. By exceeding the BAAQMD's mass emission thresholds for ROG, NO_x, PM₁₀, or PM_{2.5}, a project would be considered to conflict with or obstruct implementation of the BAAQMD's air quality planning efforts.

TABLE 5.3-1: AIR QUALITY SIGNIFICANCE THRESHOLDS

Criteria Air Pollutant	Construction Thresholds	Operational Thresholds	
	Average Daily	Average Daily	Annual

	Emissions (lbs./day)	Emissions (lbs./day)	Average Emissions (tons/year)
ROG	54	54	10
NOx	54	54	10
PM ₁₀	82 (Exhaust)	82	15
PM _{2.5}	54 (Exhaust)	54	10
CO	Not Applicable	9.0 ppm (8-hour average) or 20.0 ppm (1-hour average)	
Fugitive Dust	Construction Dust Ordinance or other BMP	Not Applicable	
Health Risks and Hazards	Single Sources Within 1,000-foot Zone of Influence	Combined Sources (Cumulative from all sources within 1,000-foot zone of influence)	
Excess Cancer Risk	>10 per one million	>100 per one million	
Hazard Index	>1.0	>10.0	
Incremental annual PM _{2.5}	>0.3 µg/m ³	>0.8 µg/m ³	
Greenhouse Gas Emissions			

Land Use Projects – (Must Include A or B)	<p>A. Projects must include, at a minimum, the following project design elements:</p> <ol style="list-style-type: none"> 1. Buildings <ol style="list-style-type: none"> a. The project will not include natural gas appliances or natural gas plumbing (in both residential and nonresidential development). b. The project will not result in any wasteful, inefficient, or unnecessary energy usage as determined by the analysis required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the State CEQA Guidelines. 2. Transportation <ol style="list-style-type: none"> a. Achieve a reduction in project-generated vehicle miles traveled (VMT) below the regional average consistent with the current version of the California Climate Change Scoping Plan (currently 15 percent) or meet a locally adopted Senate Bill 743 VMT target, reflecting the recommendations provided in the Governor's Office of Planning and Research's Technical Advisory on Evaluating Transportation Impacts in CEQA: <ol style="list-style-type: none"> i. Residential projects: 15 percent below the existing VMT per capita ii. Office projects: 15 percent below the existing VMT per employee iii. Retail projects: no net increase in existing VMT b. Achieve compliance with off-street electric vehicle requirements in the most recently adopted version of CALGreen Tier 2. <p>B. Be consistent with a local GHG reduction strategy that meets the criteria under State CEQA Guidelines Section 15183.5(b).</p>
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Source: BAAQMD's April 2022 CEQA Air Quality Guidelines

Note: BMP = Best Management Practices, ROG = reactive organic gases, NOx = nitrogen oxides, PM₁₀ = coarse particulate matter or particulates with an aerodynamic diameter of 10 micrometers (µm) or less, PM_{2.5} = fine particulate matter or particulates with an aerodynamic diameter of 2.5µm or less;

Emissions of particulate matter can be split into two categories: fugitive emissions and exhaust emissions. The BAAQMD thresholds of significance for exhaust PM emissions are shown above. The BAAQMD does not maintain quantitative thresholds for fugitive emissions of PM₁₀ or PM_{2.5}; rather, BAAQMD requires all projects within the district's jurisdiction to implement best management practices related to dust suppression.

The project's construction emissions were quantified as part of a Construction Health Risk and Greenhouse Gas Assessment prepared for the project by Illingworth & Rodkin, Inc. on May 19, 2023 (Appendix D).

Construction Emissions

Construction emissions were modeled using the California Emissions Estimator Model (CalEEMod) software version 2022.1.1.12 for on-site construction activity, construction vehicle trips, and evaporative emissions.

CalEEMod is a statewide model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify air quality emissions from land use projects. The model applies inherent default values for various land uses, including construction data, trip generation rates, vehicle mix, trip length, average speed, compliance with the California Building Standards Code (CBSC), etc. Where project-specific information is available, such information should be applied in the model. The emissions analysis utilized default values, assuming construction of all 22 single-family residences occur simultaneously. Table 5.3-2 summarizes the construction period emissions projected using CalEEMod.

TABLE 5.3-2: PROJECTED CONSTRUCTION PERIOD EMISSIONS

Year	ROG	NOx	PM₁₀ Exhaust	PM_{2.5} Exhaust
<i>Construction Emissions (Tons)</i>				
2024 - 2025	0.52	2.07	0.09	0.08
<i>Average Daily Construction Emissions (pounds/day)</i>				
2024 + 2025 (325 construction workdays)	3.21	12.72	0.55	0.51
<i>BAAQMD Thresholds (pounds per day)</i>	54 lbs./day	54 lbs./day	82 lbs./day	54 lbs./day
Exceed Threshold?	No	No	No	No

Construction activities, particularly during site preparation and grading, would temporarily generate fugitive dust in the form of PM₁₀ and PM_{2.5}. Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site could deposit mud on local streets, which could be an additional source of airborne dust after it dries. The BAAQMD requires all projects to include a “basic” set of best management practices (BMPs) to manage fugitive dust and considers impacts from dust (i.e. fugitive PM₁₀ and PM_{2.5}) to be less than significant if BMPs are implemented. Therefore, to ensure implementation of BMPs, **Mitigation Measure AQ-1** is required. As mitigated, the Project would have a **less than significant impact** on air quality during construction.

Operational Emissions

As shown in Table 3-1 of the BAAQMD 2022 CEQA Guidelines, the operational criteria pollutant screening size for single-family residential developments is 421 dwelling units and the project only plans for 22 units. As such, the project screens out from the need for a quantitative analysis of air quality emissions at operation and it can be conclusively determined that operational air quality emissions will not exceed the established BAAQMD thresholds and impacts will be **less than significant**.

Cumulative Emissions

Past, present, and future development projects contribute to the region’s adverse air quality impacts on a cumulative basis. By nature, air pollution is largely a cumulative impact. A single project is not sufficient in size to, by itself, result in nonattainment of AAQS. Instead, a project’s individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project’s contribution to the cumulative impact is considerable, then the project’s impact on air quality would be considered significant. In developing thresholds of significance for air pollutants, BAAQMD considered the emission levels for which a project’s individual emissions would be cumulatively considerable. The thresholds of significance presented in Table 5.3-1 represent the levels at which a project’s individual emissions of criteria air pollutants or precursors would result in a cumulatively considerable contribution to the SFBAAB’s existing air quality conditions. If a project exceeds the significance thresholds presented in Table 5.3-1, the project’s emissions would be cumulatively considerable, resulting in a significant adverse cumulative air quality impact to the region’s existing air quality conditions. Because the project will not generate criteria pollutant emissions above the applicable thresholds of significance, the project will not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is

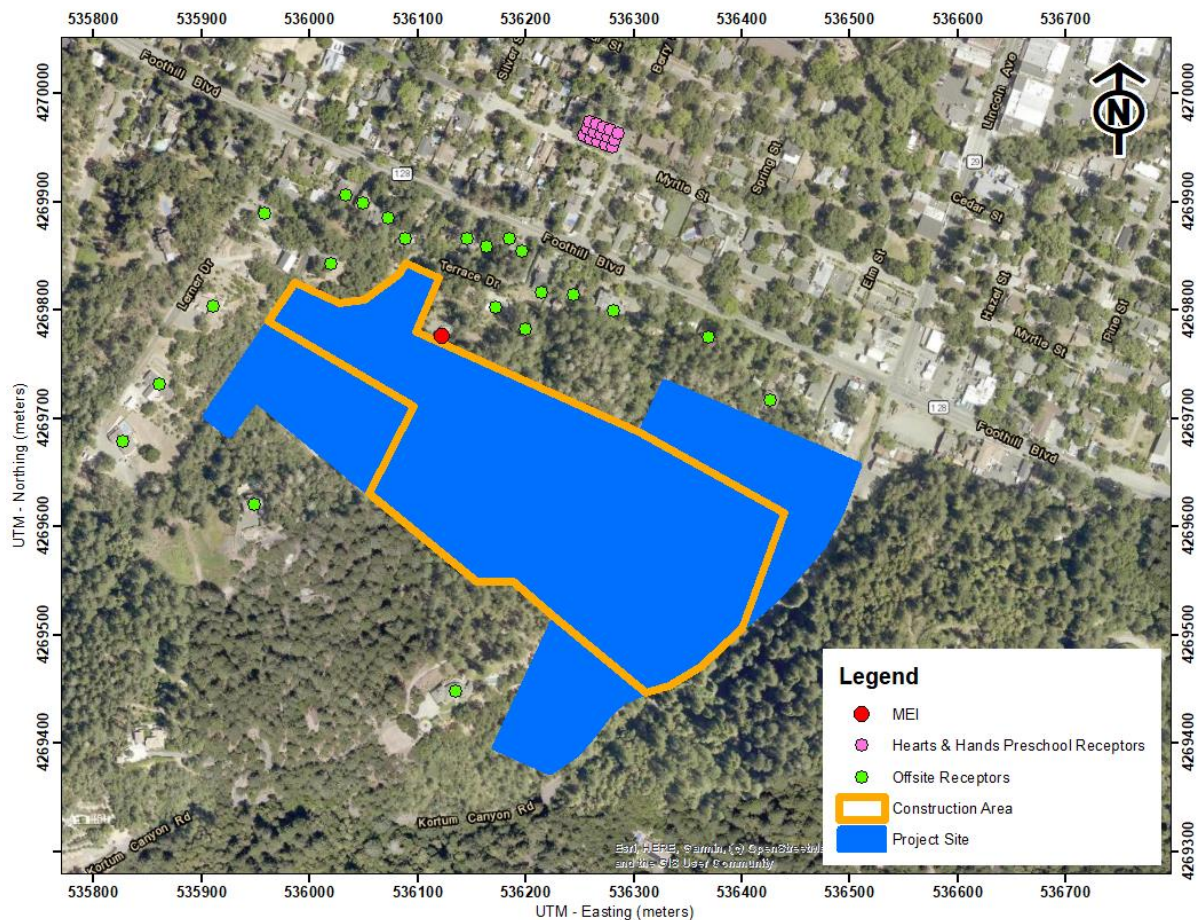
nonattainment under an applicable federal or State AAQS and as such cumulative air quality impacts will be **less than significant**.

Conclusion

As stated previously, the applicable regional air quality plans include the 2001 Ozone Attainment Plan and the 2017 Clean Air Plan. Because construction and operation of the project will not result in emissions of criteria air pollutants in excess of BAAQMD's thresholds of significance, conflicts with or obstruction of the implementation of the applicable regional air quality plans will not occur and impacts of the project will be **less than significant**.

Impact AIR-C. There are groups of people more affected by air pollution than others. CARB has identified the following persons who are most likely to be affected by air pollution: children under 16, the elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, and elementary schools.

For cancer risk assessments, children are the most sensitive receptors, since they are more susceptible to cancer causing toxic air contaminant (TACs). Residential locations are assumed to include infants and small children. The closest sensitive receptors to the project site are the residents in the single-family housing to the north, northeast, south and west of the project site. There are also children located at the nearby Hearts & Hands Preschool north of the project site. Figure 5.3.1 below shows the project site and identifies the nearest sensitive receptors:

FIGURE 5.3-1: OFF-SITE SENSITIVE RECEPTORS AND MAXIMUM TAC IMPACTS

Source: Kortum Ranch Subdivision Construction Health Risk & Greenhouse Gas Assessment, Illingworth & Rodkin, May 19, 2023, Figure 1, Page 13

The primary health risk impact associated with construction projects are cancer risks associated with diesel exhaust (i.e., DPM), which is a known TAC, and exposure to high ambient concentrations of dust (i.e., $PM_{2.5}$). DPM poses both a potential health and nuisance impact to nearby receptors. A health risk assessment of the project construction activities evaluated potential health effects to nearby sensitive receptors from construction emissions of DPM and $PM_{2.5}$ using the U.S. EPA AERMOD dispersion model. AERMOD predicts DPM and $PM_{2.5}$ concentrations at sensitive receptors (i.e., residences) in the vicinity of the project construction area. The AERMOD dispersion model is a BAAQMD-recommended model for use in modeling analysis of these types of emission activities for CEQA projects.⁵

⁵ BAAQMD, 2023, Appendix E of the 2022 BAAQMD CEQA Guidelines. April, 2022.

The CalEEMod model provided total uncontrolled annual PM₁₀ exhaust emissions (assumed to be DPM) for the off-road construction equipment and for exhaust emissions from on-road vehicles. Total DPM emissions were estimated to be 0.09 tons (179 pounds) and fugitive dust emissions (PM_{2.5}) to be 0.04 tons (71 pounds) from all construction stages. Emission sources for the construction site were grouped into two categories: exhaust emissions of DPM and fugitive PM_{2.5} dust emissions.

The maximum increased cancer risks were calculated using the modeled TAC concentrations combined with the BAAQMD CEQA guidance for age sensitivity factors and exposure parameters. Non-cancer health hazards (HI) and maximum PM_{2.5} concentrations were also calculated and identified. Age-sensitivity factors reflect the greater sensitivity of infants and children to cancer causing TACs. Third-trimester, infant, child, and adult exposures were assumed to occur at all residences during the entire construction period, while child exposures were assumed at the preschool.

The maximum modeled annual DPM and PM_{2.5} concentrations were identified at nearby sensitive receptors (as shown in Figure 5.3.1) to find the maximally exposed individuals (MEI). Results of this assessment indicated that the construction MEIs were located at the same receptor but at two different heights. The cancer risk MEI was located on the second floor of an adjacent single-family home north of the project site and the annual PM_{2.5} concentration MEI was located on the first floor of the same single-family home north of the project site. Table 5.3-3 summarizes the maximum cancer risks, PM_{2.5} concentrations, and HI for project's construction activities at the MEIs.

TABLE 5.3-3: CONSTRUCTION RISK IMPACTS AT THE OFF-SITE MEIs

Source		Cancer Risk ¹ (per million)	Annual PM _{2.5} ¹ (µg/m ³)	Hazard Index
Project Construction	Unmitigated	13.56 (infant)	0.11	0.02
	Mitigated ²	3.59 (infant)	0.06	<0.01
BAAQMD Single-Source Threshold		10	0.3	1.0
Exceed Threshold?	Unmitigated	Yes	No	No
	Mitigated ²	No	No	No
Impacts at Hearts & Hands Preschool				
Project Construction	Unmitigated	0.24 (child)	0.01	<0.01
BAAQMD Single-Source Threshold		10	0.3	1.0
Exceed Threshold?	Unmitigated	No	No	No

Notes: ¹ Maximum cancer risk and PM_{2.5} concentration occur at different receptor heights.

² Construction equipment with Tier 4 interim engines as Mitigation Measures.

As shown in Table 5.3-3, the maximum cancer risks from uncontrolled (i.e., unmitigated)

construction activities at the cancer risk MEI location would exceed the BAAQMD single-source significance threshold. However, with the incorporation of best management practices required by **Mitigation Measure AQ-1** and **Mitigation Measure AQ-2** which requires the reduction of diesel emissions by 30%, the cancer risk of nearby sensitive receptors from construction activities would be reduced to levels below the BAAQMD single-source significance threshold. The unmitigated annual PM_{2.5} concentration and HI at the MEIs do not exceed their respective BAAQMD single-source significance thresholds. Therefore, with mitigation, potential impacts due to exposure of pollutant concentrations at nearby sensitive receptors would be reduced to less than significant.

The modeling also predicted that the cancer risk, PM_{2.5} concentration, and HI at the nearby Hearts and Hands Preschool would fall below the BAAQMD single-source significance thresholds, as shown in Table 5.3-3. As such, the project would have a less than significant impact on health risks to MEIs at the nearby preschool.

Conclusion

Based on the above discussion, the project has the potential to have significant impacts on air quality. Through the implementation of **Mitigation Measures AQ-1** and **AQ-2** the potential impacts would be reduced, and the project would result in a **less than significant impact**.

Impact AIR-D. Emissions of concern include those leading to odors, emission of dust, or emissions considered to constitute air pollutants. Air pollutants have been discussed in Impacts AIR-A through AIR-C above. Therefore, the following discussion focuses on emissions of odors and dust.

According to the BAAQMD CEQA Guidelines, odors are generally regarded as an annoyance rather than a health hazard.⁶ Manifestations of a person's reaction to odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache). The presence of an odor impact is dependent on a number of variables including: the nature of the odor source; the frequency of odor generation; the intensity of odor; the distance of odor source to sensitive receptors; wind direction; and sensitivity of the receptor. Due to the subjective nature of odor impacts, the number of variables that can influence the potential for an odor impact, and the variety of odor sources, quantitative analysis to determine the presence of a significant odor impact

⁶ Bay Area Air Quality Management District. California Environmental Quality Act Air Quality Guidelines. May 2017.

is difficult. Typical odor-generating land uses include, but are not limited to, wastewater treatment plants, landfills, and composting facilities. The project will not introduce any such land uses and is not located in the vicinity of any such existing or planned land uses.

Construction activities often include diesel-fueled equipment and heavy-duty trucks, which could create odors associated with diesel fumes that may be considered objectionable. However, construction activities will be temporary and pursuant to Section 8.20.025 of the Calistoga Municipal Code, will be restricted to the hours of 7:00 AM to 7:00 PM, Monday through Saturday, prohibited on Sunday. Additionally, Mitigation Measures AQ-1 and AQ-2 will minimize emissions, including emissions leading to odors. Accordingly, substantial objectionable odors are not expected to occur during construction activities or at operation.

With respect to dust, as noted previously, Mitigations Measure AQ-1 reduce emissions and dust during project construction through the implementation of BMPs. BMPs will reduce construction-related dust by requiring that haul trucks with loose material are covered, reducing vehicle dirt track-out, and limiting vehicle speeds within the project site, among other methods, which will ensure that construction of the project does not result in substantial emissions of dust. Following project construction, vehicles operating within the project site will be limited to paved areas of the site, and non-paved areas will be retained in their natural state or landscaped. Thus, project operations will not include sources of dust that could adversely affect a substantial number of people. Consequently, construction and operation of the project will not result in emissions (such as those leading to odors) adversely affecting a substantial number of people, and as such the project will have a **less than significant impact**.

Mitigation Measure(s):

Implementation of Mitigation Measures AQ-1 and AQ-2 will reduce impacts AIR-A through AIR-D to less than significant.

AQ-1: All contractors shall implement the following BMPs during construction of the Project which shall be included as a note on the Final Map and Improvement Plans:

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.

4. All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph).
5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as practicable. Building pads shall be laid as soon as practicable after grading unless seeding or soil binders are used.
6. All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph.
7. All trucks and equipment, including their tires, shall be washed off prior to leaving the site.
8. Unpaved roads providing access to site located 100 feet or further from a paved road shall be treated with a 6- to 12-inch layer of compacted layer of wood chips, mulch, or gravel.
9. Publicly visible signs shall be posted with the telephone number and name of the person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's General Air Pollution Complaints number shall be visible to ensure compliance with applicable regulations.
10. Limit the simultaneous occurrence of excavation, grading, and ground-disturbing construction activities.
11. Install wind breaks (e.g., trees, fences) on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50 percent air porosity.
12. Plant vegetative ground cover (e.g., fast-germinating native grass seed) in disturbed areas as soon as possible and watered appropriately until vegetation is established.
13. Install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than one percent.
14. Minimize the amount of excavated material or waste materials stored at the site.
15. Hydroseed or apply non-toxic soil stabilizers to construction areas, including previously graded areas, that are inactive for at least 10 calendar days.

AQ-2: A construction operation plan shall be submitted by all contractors prior to issuance of any and all building permits for units on the site. The plan shall be reviewed by an air quality expert and approved by the City prior to construction. The plan shall be implemented by contractors and reduce DPM emissions by 30 percent and may incorporate one or more of the following methods:

- All construction equipment larger than 25 horsepower used at the site for more than two continuous days or 20 hours total shall meet U.S. EPA Tier 4 emission standards for PM (PM₁₀ and PM_{2.5}).
- Use equipment that meets U.S. EPA emission standards for Tier 2 or 3 engines and include particulate matter emissions control equivalent to CARB Level 3 verifiable diesel emission control devices that altogether achieve a 30 percent reduction in particulate matter exhaust in comparison to uncontrolled equipment; alternatively (or in combination).

- Use of electrical or non-diesel fueled equipment,
- Use alternatively fueled equipment,
- Installation of electric power lines during early construction phases to avoid use of diesel generators and compressors,
- Use of electrically-powered equipment,
- Forklifts and aerial lifts used for exterior and interior building construction shall be electric or propane/natural gas powered,
- Change in construction build-out plans to lengthen phases, and/or
- Implementation of different building techniques that result in less diesel equipment usage.

5.4 BIOLOGICAL RESOURCES

Would the project:	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Interfere substantially with the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Conflict with any local policies or	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Would the project:	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
ordinances protecting biological resources, such as a tree preservation policy or ordinance?				
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

Impact BIO-A, BIO-B, BIO-C, BIO-D, and BIO-E. Certain plant and wildlife species are considered to have special status if they are listed or proposed for listing under the federal or State Endangered Species Acts (ESA), meet the definition of rare or endangered under CEQA, or are considered rare locally. In addition, nesting birds and raptors are protected under the federal Migratory Bird Treaty Act of 1918 (MBTA), which prohibits killing, possessing, or trading of migratory birds, except in accordance with regulations prescribed by the Secretary of the Interior. The MBTA covers take of whole birds, parts of birds, and bird nests and eggs. Various sections of the California Fish and Game Code (CFGC) also designate certain avian, mammal, reptile, and amphibian species as fully protected. With respect to plant species, the California Native Plant Society (CNPS) maintains a list of plant species native to the State that have low numbers, limited distribution, or are otherwise threatened with extinction. Potential impacts to populations of CNPS-listed plants receive consideration under CEQA.

The City of Calistoga General Plan Figure OSC-1 indicates that the project site may have moderately significant biological resources in the form of woodland, forest, and chapparel. The project site is located in an area surrounded by densely vegetated hillsides with minimal urban development. A biological report is being prepared and will be further discussed in the EIR.

A preliminary arborist report was prepared by MacNair & Associates Consulting Arborists and Horticulturalists and received on November 1, 2022 (Appendix E) The report discusses

the health of the trees on site and the impacts to trees from the grading of the road that will occur as part of the subdivision. Tree vegetation on the site is a mixed evergreen/hardwood zone consisting primarily of Douglas fir (*Pseudotsuga menziesii*), black oak (*Quercus kelloggii*), coast live oak (*Quercus agrifolia*), with occasional valley oak (*Quercus lobata*), white oak (*Quercus garryana*), madrone (*Arbutus menziesii*), Pacific big-leaf maple (*Acer macrophyllum*), and bay laurel (*Umbellularia californica*). There are also numerous coast redwoods (*Sequoia sempervirens*) on the site that appear to be introduced and not native to the site.

The proposed internal access roadway improvement requires widening for two turnouts and another area of slope grading that will impact 20 native trees, including one black oak, four coast live oaks, 14 Douglas fir, and one coast redwood cluster of mixed health. The five oaks are rated in moderate health, with three trees having marginal structural conditions. The coast redwood is also in moderate condition. The 14 Douglas firs are in poor to marginal health with poor suitability for preservation ratings due to insect attack. Douglas fir mortality on the site is high, with numerous dead, standing trees in the area. Most of the Douglas firs have both drought and insect infestation symptoms, including low vigor (annual shoot growth), low crown density, poor foliage color, and branch and twig dieback.

The Coast Redwoods and the Douglas Fir are subject to Calistoga Municipal Code (CMC) Chapter 19.01. These trees are considered protected trees because they all have a Diameter at Breast Height (DBH) greater than 12 inches. The Black Oak 12 (002) and the Coast Live Oak 13(002) are also considered protected trees under this ordinance as they both have a DBH greater than 6 inches. Removal of the trees requires a tree removal/disturbance permit in Compliance with CNC Chapter 19.01. Removal of protected trees may result in a significant impact due to a conflict with a local policy or ordinances protecting biological resources and will be further analyzed in the Kortum Ranch EIR.

Based on the above, the project could have a substantial adverse effect, either directly or through habitat modifications, on a species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS; riparian habitats or other sensitive natural communities; state- or federally protected wetlands; and/or movement corridors or native wildlife nursery sites. Therefore, a **potentially significant** impact could occur.

Further analysis of Impacts BIO-A, BIO-B, BIO-C, BIO-D, and BIO-E will be included in the Biological Resources chapter of the Kortum Ranch EIR.

Impact BIO-F. No Habitat Conservation Plan, Natural Community Conservation Plan,

or other approved local, regional, or State Habitat Conservation Plan exists for the City of Calistoga. Therefore, the project will not conflict with the provisions of an adopted Habitat Conservation Plan or any other Natural Community Conservation Plan approved by a local, regional or state body and **no impact** will occur as a result of project implementation.

5.5 CULTURAL RESOURCES

Would the project:	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Disturb any human remains, including those interred outside of dedicated cemeteries.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

Impact CUL-A. Historical resources are features that are associated with the lives of historically important persons and/or historically significant events, that embody the distinctive characteristics of a type, period, region or method of construction, or that have yielded, or may be likely to yield, information important to the pre-history or history of the local area, California, or the nation. Examples of typical historical resources include, but are not limited to, buildings, farmsteads, rail lines, bridges, and trash scatters containing objects such as colored glass and ceramics.

A Cultural Resources Evaluation (CRE) was prepared for the project by Archaeological Resource Service on April 12, 2022 (Appendix F) to determine to what extent historical and archaeological resources could be impacted by the project. The CRE included a record search of the California Historical Resources Information System (CHRIS) at the Northwest Information Center at Sonoma State University to determine whether cultural resources have been recorded within or adjacent to the project site, to determine if the site has been surveyed in the past, and to assess the likelihood of unrecorded cultural resources within the project site based on archaeological, ethnographic, and historical documents and literature. According to the records search, the project area has not been subject to a previous cultural resources evaluation, and no significant or potentially significant cultural

resources have been observed in or near the project area.

In addition to the CHRIS records search, the CRE included a field survey of the project area. The field survey observed a series of road cuts and terraces throughout the property and heavily modified cleared areas where demolished buildings were previously sited. Potential cultural resources meeting the Secretary of the Interior's Standards were not identified as part of the field survey.

Based on the above, because known cultural resources do not exist on-site, the project would not cause a substantial adverse change in the significance of a historical resource, and a **less-than-significant** impact would occur.

Impact CUL-B. According to the CRE, the proposed development areas were examined through a pedestrian survey. These locations were observed to be heavily modified terraces on the hillside. No artifacts, archaeological feature or other indicators of significant archaeological deposits or features were observed on-site during the examination.

While known resources do not exist within the project site, the CRE noted that the project site is within the Wappo ethnographic territory. Archeological evidence indicates that the Wappo people chose to inhabit areas mostly along streams and creeks or near springs. Furthermore, the surface reconnaissance found no indication of the presence of prehistoric or historic archaeological deposits in the project area. However, historic artifacts potentially include all byproducts of human land use greater than 50 years of age. Consistent with General Plan Objective CI-3.4 and Policies P.3.4-1 through P.3.4-4, and to address potential impacts due to accidental discovery, the project shall comply with **Mitigation Measure CUL-1** during ground disturbing activities. With implementation of measure CUL-1, the project will not cause a substantial adverse change in the significance of an archaeological resource, and impacts will be reduced to **less than significant**.

Impact CUL-C. Although the project site does not include evidence suggesting that human remains have been interred within the site boundaries, in the event that human remains are encountered during ground-disturbing activities, the project would be required to comply with all requirements set forth by California Health and Safety Code Section 7050.5, including the immediate cessation of ground-disturbing activities near or in any area potentially overlying adjacent human remains and contacting the Napa County Coroner upon the discovery of any human remains. If the County Coroner determines that the discovered remains are of Native American descent, the Native American Heritage Commission (NAHC) would be contacted immediately. If required, the project sponsor would

retain a City-qualified archeologist to provide adequate inspection, recommendations, and retrieval. Compliance with California Health and Safety Code Section 7050.5 and performance of actions therein will ensure that in the event of accidental discovery of historically significant human remains, potential impacts of the project will be **less than significant**.

Mitigation Measure(s)

Implementation of Mitigation Measure CUL-1 will reduce impact CUL-B to less than significant.

CUL-1: If during the course of ground-disturbing activities, including, but not limited to, excavation, grading, and construction, prehistoric or historic archaeological features such as a concentration of flaked stone artifacts, culturally modified soil (midden) or dietary shell, or the remnants of an historic trash deposit over 100 years old, are encountered, all work shall be halted in the vicinity of the discovery. A qualified archaeologist shall be contacted immediately to make an evaluation and determine if the discovered material represents a definite cultural resource. In the event that a potentially significant feature has been identified, a temporary suspension of ground-disturbing activities shall be enforced until an appropriate mitigation program can be developed and implemented to the satisfaction of the City of Calistoga and affiliated Native American Tribes.

5.6 ENERGY

Would the project:	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

Impact ENE-A, ENE-B. A description of the California Green Building Standards Code and the Building Energy Efficiency Standards, with which the project would be required to comply, as well as discussions regarding the project’s potential effects related to energy demand during construction and operations, are provided below.

California Green Building Standards Code

The California Green Building Standards Code, otherwise known as the CALGreen Code (CCR Title 24, Part 11), is a portion of the California Building Standards Code (CBSC). The purpose of the CALGreen Code is to improve public health, safety, and general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices. The provisions of the code apply to the planning, design, operation, construction, use, and occupancy of every newly constructed building or structure throughout California. Requirements of the CALGreen Code include, but are not limited to, the following measures:

- Installation of Electric Vehicle (EV) charging infrastructure in residential and non-residential structures;
- Maximum fixture water use rates;
- Compliance with the California Department of Water Resources’ Model Water Efficient

- Landscape Ordinance (MWEL0), or a local ordinance, whichever is more stringent;
- Diversion of 65 percent of construction and demolition waste from landfills;
 - Mandatory use of low-pollutant emitting interior finish materials such as paints, carpet, vinyl flooring, and particle board; and
 - For single-family and some low-rise residential development developed after January 1, 2020, mandatory on-site solar energy systems capable of producing 100 percent of the electricity demand created by the residence(s).

Building Energy Efficiency Standards

The 2022 Building Energy Efficiency Standards went into effect on January 1, 2023 and establishes new requirements related to heat pumps, requires that new single-family homes be electric-ready, and expands solar and storage requirements. It is estimated that over a 30 year period, the 2022 energy code will reduce greenhouse gas (GHG) emissions by 10 million metric tons.⁷

Construction Energy Use

Construction of the project will involve on-site energy demand and consumption related to use of oil in the form of gasoline and diesel fuel for construction worker vehicle trips, hauling and materials delivery truck trips, and operation of off-road construction equipment. In addition, diesel-fueled portable generators may be necessary to provide additional electricity demands for temporary on-site lighting, welding, and for supplying energy to areas of the site where energy supply cannot be met through a hookup to the existing electricity grid.

All construction equipment and operation thereof will be regulated by the CARB In-Use Off-Road Diesel Vehicle Regulation. The In-Use Off-Road Diesel Vehicle Regulation is intended to reduce emissions from in-use, off-road, heavy-duty diesel vehicles in California by imposing limits on idling, requiring all vehicles to be reported to CARB, restricting the addition of older vehicles into fleets, and requiring fleets to reduce emissions by retiring, replacing, or repowering older engines, or installing exhaust retrofits. The In-Use Off-Road Diesel Vehicle Regulation would subsequently help to improve fuel efficiency and reduce GHG emissions.

Technological innovations and more stringent standards are being researched, such as multi-function equipment, hybrid equipment, or other design changes, which could help to reduce demand on oil and emissions associated with construction.

The CARB has prepared the 2017 Climate Change Scoping Plan Update (2017 Scoping Plan),

⁷ State of California, Energy Commission, 2022 Building Energy Efficiency Standard Summary, August 2021.

which builds upon previous efforts to reduce GHG emissions and is designed to continue to shift the California economy away from dependence on fossil fuels. Appendix B of the 2017 Scoping Plan includes examples of local actions (municipal code changes, zoning changes, policy directions, and mitigation measures) that would support the State's climate goals. The examples provided include, but are not limited to, enforcing idling time restrictions for construction vehicles, utilizing existing grid power for electric energy rather than operating temporary gasoline/diesel-powered generators, and increasing use of electric and renewable fuel-powered construction equipment. The In-Use Off-Road Diesel Vehicle Regulation described above, with which the project must comply, would be consistent with the intent of the 2017 Scoping Plan and the recommended actions included in Appendix B of the 2017 Scoping Plan.

Based on the above, the temporary increase in energy use occurring during construction of the project would not result in a significant increase in peak or base demands or require additional capacity from local or regional energy supplies. In addition, the project will be required to comply with all applicable regulations related to energy conservation and fuel efficiency, which would help to reduce the temporary increase in demand.

Operational Energy Use

Following construction of the project, electricity will be provided to the project site by Pacific Gas & Electric (PG&E) or by Marin Clean Energy which offers customers the choice of having 50% to 100% of electricity supplied from renewable sources, such as wind, bioenergy, and hydroelectric. While MCE provides electric generation, PG&E continues to deliver electricity through its facilities, and handles maintenance, repairs, and billing services. In accordance with the 2022 Building Energy Efficiency Standards, the project will be required to include on-site renewable energy systems capable of producing 100 percent of the electricity demanded by the residences. Energy use associated with operation of the project will be typical of residential uses, requiring electricity for interior and exterior building lighting; heating, ventilation, and air conditioning (HVAC); electronic equipment; machinery; appliances; security systems; and more. Maintenance activities during operations, such as landscape maintenance, would involve the use of electric- or gas-powered equipment. In addition to on-site energy use, the project will result in transportation energy use associated with vehicle trips generated by residents, visitors, and service providers.

The project will be subject to all relevant provisions of the most recent update of the CBC, including the Building Energy Efficiency Standards. Adherence to the most recent CALGreen Code and the Building Energy Efficiency Standards will ensure that the proposed structures

will consume energy efficiently. As previously noted, each of the dwelling units are required to include photovoltaic (PV) generation sized to meet all of the homes' expected electricity needs. Required compliance with the CBC will ensure that the building energy use associated with the project will not be wasteful, inefficient, or unnecessary. In addition, electricity supplied to the project by PG&E will comply with the State's Renewables Portfolio Standard, which requires investor-owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 33 percent of total procurement by 2020 and to 60 percent by 2030. Thus, in addition to the solar energy generated by the on-site PV systems, a portion of the supplemental energy provided by PG&E to the project site will also originate from renewable sources.

With regard to transportation energy use, the project will comply with all applicable regulations associated with vehicle efficiency and fuel economy, including mandatory EV-capable parking spaces required by CALGreen. For single-family residences, townhomes, and duplexes, CALGreen requires all new dwelling units to have electrical panel capacity, a dedicated branch circuit, and a listed raceway to accommodate a dedicated 208/40-volt branch circuit to support future installation of charging stations.

Conclusion

Based on the above, construction and operation of the project would not result in wasteful, inefficient, or unnecessary consumption of energy resources or conflict with or obstruct a State or local plan for renewable energy or energy efficiency. Thus, the project will result in **less than significant** energy impacts.

5.7 GEOLOGY AND SOILS

Would the project:	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
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 based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii. Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii. Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv. Landslides?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Be located on expansive soil, as defined in Table 18-1B of the Uniform Building Code (1994), creating	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Would the project:	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion

The following is based on the Geotechnical Report prepared for the project by KC Engineering Co., April 16, 2021 (Appendix G).

Impact GEO-AI, GEO-AII. The project site is not located within a designated Alquist-Priolo Earthquake Fault Zone and known surface expressions of active faults do not exist within the property. While the project site does lie within a seismically active region and numerous faults in the area are considered active, the project site is not within an established California Earthquake Hazard Zone for surface fault rupture hazards.⁸ In addition, as discussed in the Geotechnical Report, the project site does not include active faults with the potential for surface fault rupture directly beneath the site. The three closest known active faults to the site are Rodgers Creek, Hunting Creek-Berryessa, and the West Napa faults, which are 9.6 miles west, 14.9 miles east, and 16 miles southeast of the site, respectively. Therefore, the potential for surface rupture due to faulting occurring beneath the site during the design life of the proposed development is considered low.

With regard to strong seismic ground shaking, new single-family homes will be engineered in accordance with the CBC, which includes standards appropriate for Site Design Category

⁸ California Department of Conservation. Earthquake Zones of Required Investigation. Available at: <https://maps.conservation.ca.gov/cgs/EQZApp/app/>. Accessed January 2023.

D structures, such as the proposed dwelling units. Proper engineering design of new structures, in compliance with the CBC, will ensure that the project will not directly or indirectly cause substantial adverse effects involving rupture of a known earthquake fault or strong seismic ground shaking, and as such impacts will be **less than significant**.

Impact GEO-AIII. Liquefaction is a state of soil particles suspension caused by a complete loss of strength when the effective stress drops to zero. Soils most susceptible to liquefaction are clean, loose, saturated, uniformly graded, fine-grained sands. Liquefaction normally occurs under saturated conditions in soils such as sand in which the strength is purely frictional. Primary factors that trigger liquefaction include moderate to strong ground shaking (seismic source), relatively clean, loose granular soils (primarily poorly graded sands and silty sands), and saturated soil conditions (shallow groundwater). Due to increasing pressure with depth, liquefaction of granular soils is generally limited to the upper 50 feet of a soil profile.

The project site is not located in an area designated by the California Geologic Survey (CGS) as a Liquefaction Zone which was confirmed by the Geotechnical Report which concluded that loose, cohesionless sand deposits are not present at the site. Therefore, impacts resulting from a substantial adverse effect, including the risk of loss, injury, or death involving liquefaction will be **less than significant**.

Subsidence is the settlement of soils of very low density generally from either oxidation of organic material, or desiccation and shrinkage, or both, following drainage. Subsidence takes place gradually, usually over a period of several years. Given that the project would comply with the CBSC, the potential for subsidence to pose a risk to the project is considered low and impacts resulting from a substantial adverse effect, including the risk of loss, injury, or death involving subsidence will be **less than significant**.

Impact GEO-AIV.

Seismically-induced landslides are triggered by earthquake ground shaking. The risk of landslide hazard is greatest in areas with steep, unstable slopes. While the project site is not located in an area designated by the CSG as a Landslide Zone, the project site contains steep slopes and during field surveys several debris flow areas were observed including an old landslide escarpment at the northwest corner of Lot 2 of the proposed Tentative Map which was reported to have deposited materials downslope to a neighboring property; a debris flow escarpment along the western portion of Lot 4 which occurred within a steep ravine and was mitigated through placement of rip-rap; older vegetated debris flow escarpments

on the western portion of Lot 4 on the northern facing ravine and upslope of the debris flow escarpment noted previously; and an old debris flow escarpment along the northern portion of Lot 11 of the proposed Tentative Map. Furthermore, site investigations identified existing cut slopes with signs of erosion and relatively shallow sloughing. Based on site observations, the Geotechnical Report recommended further evaluation by a Certified Engineering Geologist and incorporation of appropriate mitigations if downslope hazards are identified. An update to the geotechnical investigation was prepared by KC Engineering Co. on August 8, 2023, and includes as an Appendix a Debris Flow Hazard Assessment prepared by Bajada Geosciences. As provided therein, the previously identified areas have the potential to result in debris flow that could impact downslope hazards. To address downslope hazards, the project shall implement **Mitigation Measure GEO-1**, which requires installation of catchment basins or debris fencing in areas identified as potential hazards. With implementation of measure GEO-1, impacts resulting from a substantial adverse effect, including the risk of loss, injury, or death involving landslides and location on a geologic unit or soil that is unstable, or that could become unstable as a result of the project, and result in on- or off-site landslides will be **less than significant**.

Impact GEO-B. Erosion refers to the removal of soil from exposed bedrock surfaces by wind or water. Although naturally occurring, erosion is often accelerated by human activities that disturb soil and vegetation. The topography of the project site is steep and, as observed in the Geotechnical Report, existing cut slopes show signs of erosion and shallow sloughing. Consistent with General Plan Objective SAF-1.2 and Policies P1 -P4, the project shall comply with **Mitigation Measure GEO-2** which incorporates the site-specific recommendations presented in the Geotechnical Report including a recommendation to repair existing cut slopes, thereby preventing further erosion.

Construction activities, including site preparation, tree removal, and grading could result in soil erosion or loss of topsoil. Additionally, the project proposes to remove the existing retaining wall at the entrance to the project and construct a new 55-foot long retaining wall with a similar height. During the road improvements, the construction of a 10-foot turnout at the border of lots 15 & 16 will a new retaining wall will be constructed. Soil erosion will be controlled through best management practices (BMPs) and adherence to a Storm Water Pollution Prevention Plan (SWPPP) throughout site preparation and construction activities (see discussion in Hydrology and Water Quality). Furthermore, consistent with the City's Erosion Control requirements, set forth in Chapter 19-08 of the Calistoga Municipal Code, the project will be required to comply with **Mitigation Measure GEO-3**, which requires submittal of an erosion control plan that identifies measures to be implemented during

construction and establishes controls for grading activity during the rainy season. With measure GEO-3, impacts resulting from substantial soil erosion or the loss of topsoil will be **less than significant**.

Impact GEO-C. Lateral spreading is horizontal/lateral ground movement of relatively flat-lying soil deposits towards a free face such as an excavation, channel, or open body of water; typically, lateral spreading is associated with liquefaction of one or more subsurface layers near the bottom of the exposed slope. According to the Geotechnical Report, loose, cohesionless sand deposits associated with liquefaction are not present at the site. Thus, impacts resulting from a substantial adverse effect, including the risk of loss, injury, or death involving lateral spreading will be **less than significant**.

Impact GEO-D. Expansive soils change in volume with changes in moisture and can shrink or swell, causing heaving and cracking of slabs-on-grade, pavements, and structures. As part of the Geotechnical Report, on-site soils were assessed to determine the plasticity characteristics. The analysis found that site soils range from low to highly expansive and are prone to heave and shrink movement with changes in moisture content and must be carefully considered in the design of grading, foundations, and drainage.

The project will be required to comply with all applicable CBSC standards to ensure structural integrity. Additionally, the Geotechnical Report includes recommendations to address potential impacts related to expansive soils and settlements, including measures pertaining to foundations, pavements, existing fill removal, fill compaction, engineered fill, and review of the final improvement plans to ensure recommendations have been properly incorporated into the project design.

As noted previously, the project will be required to comply with **Mitigation Measure GEO-2**, which incorporates recommendations contained in the site-specific Geotechnical Report. Incorporation of measure GEO-2 will reduce potential impacts associated with expansive soils to **less than significant**.

Impact GEO-E. Sewer collection for the project would be provided by connection to the City's sewer system. The construction or operation of septic tanks or other alternative wastewater disposal systems is not included as part of the project. Therefore, **no impact** regarding the capability of soil to adequately support the use of septic tanks or alternative wastewater disposal systems will occur.

Impact GEO-F. Paleontological resources are the fossil remains or traces of past life forms, including both vertebrate and invertebrate species, as well as plants. The General Plan

EIR evaluated the potential for development facilitated by buildout of the General Plan planning area to result in impacts to unique paleontological resources or sites. As noted therein, no known paleontological sites have not been identified within City Limits.

The project does not include construction activities extending to depths at which unique paleontological resources are typically encountered. As such, there is limited potential for encountering paleontological resources within the project site. Additionally, PRC Sections 5097 to 5097.6, with which the project would be required to comply, prohibit the unauthorized disturbance or removal of paleontological resources. Consistent with General Plan Objective CI-3.4 and Policy P.3.4-2, the project shall comply with **Mitigation Measure GEO-4**, which requires all ground-disturbing activities to halt in the event that paleontological resources are identified until such time that a qualified paleontologist can evaluate the discovery. With implementation of measure GEO-4, impacts to paleontological resources will be **less than significant**.

Mitigation Measure(s)

Implementation of Mitigation Measure GEO-1 will reduce impact GEO-AIV to less than significant; Mitigation Measure GEO-2 will reduce impacts GEO-B and GEO-D to less than significant; Mitigation Measure GEO-3 will reduce impact GEO-B to less than significant; and Mitigation Measure GEO-4 will reduce impact GEO-F to less than significant.

GEO-1: Prior to issuance of grading or construction permits, the applicant shall demonstrate compliance with the recommendations set forth in the Debris Flow Hazard Assessment prepared by Bajada Geosciences, Inc., dated August 8, 2023. As provided therein, to reduce risks associated with debris flows downslope of Lots 2, 4, 9, 10, and 11 (identified as Areas A, B, and C in the Assessment), catchment basins or debris fencing shall be installed to capture debris and prevent displacement downslope. Final design shall be subject to review and approval by the City of Calistoga and ongoing maintenance shall be required to ensure adequate capacity in the event of a debris flow. The location of debris flow areas shall be included in the Final Map and Improvement Plans and a note shall be included related to required ongoing maintenance.

GEO-2: Prior to issuance of grading permits or construction permits for current or future development, the applicant shall provide final design plans prepared and stamped by a licensed engineer that adhere to all engineering recommendations provided in the site-specific Geotechnical Report prepared for the project by KC Engineering Co., and dated April 16, 2021. The recommendations incorporated into the final improvement plans shall include,

but are not be limited to, those related to grading, slopes, surface and subsurface drainage, storm water swales and basins, foundations, slab-on-grade construction, retaining walls, and pavement areas. Proof of compliance with all recommendations set forth in the Geotechnical Report shall be subject to review and approval by the City Engineer.

GEO-3: Prior to issuance of a grading permit, an erosion control plan along with grading and drainage plans shall be submitted to the City's Planning and Building Department. All earthwork, grading, trenching, backfilling, and compaction operations shall be conducted in accordance with the City of Calistoga's Stormwater Runoff Pollution Control Ordinance, Chapter 19.05 of the Calistoga Municipal Code. The erosion control plan shall detail erosion control measures such as site watering, sediment capture, equipment staging and laydown pad, and other erosion control measures to be implemented during construction activity on the project site.

GEO-4: In the event that paleontological resources, including individual fossils or assemblages of fossils, are encountered during construction activities all ground disturbing activities shall halt and a qualified paleontologist shall be procured to evaluate the discovery and make treatment recommendations.

5.8 GREENHOUSE GAS EMISSIONS

Would the project:	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gasses?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion

Impact GHG-A, GHG-B. Greenhouse Gas (GHG) emissions contribute to global climate change and are attributable in large part to human activities associated with the

industrial/manufacturing, utility, transportation, residential, and agricultural sectors. Cumulative global GHG emissions that contribute to global climate change can be attributed to every nation, region, and city, and virtually every individual on Earth. An individual project's GHG emissions are at a micro-scale level relative to global emissions and effects to global climate change; however, an individual project could result in a cumulatively considerable incremental contribution to a significant cumulative impact. As such, impacts related to GHG emissions are inherently considered cumulative impacts.

A number of regulations currently exist related to GHG emissions, predominantly AB 32, Executive Order S-3-05, and Senate Bill (SB) 32. AB 32 sets forth a statewide GHG emissions reduction target of 1990 levels by 2020. Executive Order S-3-05 sets forth a transitional reduction target of 2000 levels by 2010, the same target as AB 32 of 1990 levels by 2020, and further builds upon the AB 32 target by requiring a reduction to 80 percent below 1990 levels by 2050. SB 32 builds upon AB 32 and sets forth a transitional reduction target of 40 percent below 1990 levels by 2030. To implement statewide GHG emissions reduction targets, local jurisdictions are encouraged to prepare and adopt area-specific GHG reduction plans and/or thresholds of significance for GHG emissions.

On April 20, 2022, the BAAQMD Air District Board of Directors adopted the proposed CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects. Consistent with CEQA Guidelines Section 15064 (Determining the Significance of the Environmental Effects Caused by a Project), the thresholds are intended to assist public agencies in determining whether projects would result in a cumulatively considerable contribution to global climate change. The adopted thresholds are intended to evaluate projects based on their effect on efforts to meet the State's long-term climate goals. As determined by the California Supreme Court in *Center for Biological Diversity v. Department of Fish & Wildlife*, a project would be considered to have a less than significant air quality impact under CEQA so long as it contributes its fair share toward achieving long-term climate goals. As such, new land use development projects are required to either; (A) incorporate design elements including replacing natural gas with electric power, eliminating inefficient or wasteful energy usage, reducing project-generated VMT to the recommended 15-percent reduction below existing, and providing sufficient electric vehicle (EV) charging infrastructure to support the shift to EVs, or; (B) comply with a qualified local GHG reduction strategy.

The City of Calistoga Climate Action Plan (CAP) was adopted by the City Council in April 2014 and identifies community-wide GHG emissions from 2010. The analysis includes an evaluation of four major sectors: transportation, built environment, solid waste, and

water/wastewater. The total GHG emissions in 2010 were 33,579 metric tons of carbon dioxide equivalence (CO₂e). Transportation was the largest contributor of emissions (54.5%), followed by residential uses (22.6%), and commercial/industrial uses (19.7%).⁹ The City's CAP seeks to reduce GHG emission through various means and presents goals, objectives and measures targeting transportation, energy efficiency and renewable energy, carbon sequestration, and community engagement and advocacy. The City's CAP is not considered a qualified GHG Reduction Strategy pursuant to the BAAQMD Guidelines, and as such the thresholds set forth in the newly adopted guidelines are used to assess significance.

Buildout of the project will contribute to increases of GHG emissions that are associated with global climate change during construction of the proposed residences, site improvements, and off-site improvements. In addition, during project operations, new vehicle trips associated with the residents of the project will contribute to increases of GHG emissions. As such, the project will generate GHG emissions, either directly or indirectly, that may have a potentially significant impact on the environment, or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. Therefore, impacts related to GHG emissions and global climate change could be cumulatively considerable and considered **potentially significant**.

Further analysis of impacts GHG-A and GHG-B will be included in the Greenhouse Gas Emissions chapter of the Kortum Ranch EIR.

⁹ Calistoga Climate Action Plan, April 2014, Page 18.

5.9 HAZARDS AND HAZARDOUS MATERIALS

Would the project:	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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 the project result in a safety hazard or excessive noise for people residing or working in the project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Would the project:	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
area?				
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g. Expose people or structures, either directly or indirectly, to the risk of loss, injury or death involving wildland fires?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion

Impact HAZ-A. A significant hazard to the public or the environment could result from the routine transport, use, or disposal of hazardous materials. Projects involving such handling of hazardous materials are typically industrial in nature. As a 22-lot residential development, the project will not include activities that involve the routine transport, use, disposal, or generation of substantial amounts of hazardous materials. During operation, hazardous material use would be limited to landscaping products such as fertilizer, pesticides, as well as typical commercially available products such as cleaning agents, degreasers, paints, batteries, and motor oil. Proper handling and use of such materials in accordance with label instructions will ensure that adverse impacts to human health or the environment would not occur. Thus, future operation of the single-family residences that will be facilitated by the project will not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials and impacts will be **less than significant**.

During project construction, the project contractor will be required to comply with all California Health and Safety Codes and local County ordinances regulating the handling, storage, and transportation of hazardous and toxic materials. Pursuant to California Health and Safety Code Section 25510(a), except as provided in subdivision (b),¹⁰ the handler or an

¹⁰ Subdivision (a) does not apply to a person engaged in the transportation of a hazardous material on a highway that

employee, authorized representative, agent, or designee of a handler, must, upon discovery, immediately report any release or threatened release of a hazardous material to the unified program agency (in the case of the project, the Napa County Department of Environmental Management (DEM)) in accordance with the regulations adopted pursuant to Section 25510(a). The handler or an employee, authorized representative, agent, or designee of the handler must provide all State, city, or county fire or public health or safety personnel and emergency response personnel with access to the handler's facilities. In the case of the project, the contractors would be required to notify the Napa County DEM in the event of an accidental release of a hazardous material, who would then monitor the conditions and recommend appropriate remediation measures.

As the project is not industrial in nature and would be required to comply with all California Health and Safety Codes and local County ordinances, the project will not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials during construction, and as such impacts will be **less than significant**.

Impact HAZ-B. A Phase I Environmental Site Assessment (ESA) was prepared for the project by AdvancedGeo on August 26, 2022 (Appendix H) The Phase I ESA was prepared in conformance with the general scope and limitations of the American Society for Testing and Materials (ASTM) Practice E1527-21 standard. Past and current uses of the project site and surrounding properties were evaluated by reviewing available historical aerial photographs and topographic maps; federal, State, and local databases of known storage tank sites and known sites of hazardous materials generation, storage, and/or release; and site conditions through a site reconnaissance.

According to the Phase I ESA, historical aerial images indicate that the project site was predominantly undeveloped, aside from Kortum Canyon Road running through the eastern portion of the site, until 1970, when the central portion of the property was graded for residential development. Between 1970 and 1973, a residence, pool, and access road to Foothill Boulevard were constructed while much of the site remained undeveloped. The subject property remained mostly unchanged until 2006. Between 2006 and 2016, a new small residential building was constructed, and south of the main building storage areas, storage containers, and dirt roads appear. Since 2021, the residences have been demolished and the storage uses have been removed. Currently the site is vacant with retaining walls

is subject to, and in compliance with, the requirements of Sections 2453 and 23112.5 of the Vehicle Code.

and cleared areas where development was previously sited.

The Phase I ESA's review of federal, State, and local databases of known storage tank sites and known sites of hazardous materials generation, storage, and/or release was conducted to determine if the subject property or adjacent sites contain Recognized Environmental Conditions (RECs) that would impact surface and/or subsurface conditions on-site. The database searches encompassed records of known hazardous sites within one mile of the project site. A REC indicates the presence or likely presence of any hazardous substances in, on, or at a property due to any release into the environment, under conditions indicative of a release to the environment, or under conditions that pose a material threat of a future release to the environment. Based upon the Phase I ESA's research and site reconnaissance, the assessment revealed no evidence of RECs in connection with the property. Therefore, potential impacts related to the release of hazardous materials into the environment will be **less than significant**.

Impact HAZ-C. Calistoga Elementary School is located one quarter-mile northeast of the project site and Palisades High School and Calistoga Junior-Senior High School are located approximately one half-mile northeast of the project site. Adherence to existing federal, state and local regulations will ensure that all potentially hazardous materials onsite during construction are properly labeled, transported, and stored. Established policies and programs set forth by the EPA, Department of Toxic Substances Control (DTSC), California Occupational Safety and Health Administration (CAL/OSHA), and other regulatory agencies provide that the presence of potential hazardous materials occur in the safest possible manner by reducing the opportunity for accidental release or spills and ensuring that a response plan is in place. Through compliance with federal, State, and local regulations, impacts associated with emission or handling of hazardous materials within one-quarter mile of a school during construction will be **less than significant**.

As a residential use, the project will not store or handle large volumes of hazardous or potentially hazardous materials, and as such impacts related to the emission or handling of hazardous materials within one-quarter mile of a school at operation will be **less than significant**.

Impact HAZ-D. As set forth in the Phase I ESA prepared for the project, the site is not identified on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. Therefore, the project will not create a significant hazard to the public or the environment, and **no impact** will occur.

Impact HAZ-E. The project is not located within the boundaries of an airport land use plan or located proximate to a private airstrip. The nearest airport is the Angwin Airport, Virgil O. Parrett Field, located approximately 7.5 miles east of the project site. Therefore, the project will have **no impact** associated with airport-related hazards.

Impact HAZ-F. The project will not impair implementation of, or physically interfere with, an adopted emergency response plan. California has developed an emergency response plan to coordinate emergency services by federal, state, and local government, including responding to hazardous materials incidents. The State Office of Emergency Services employs a Hazardous Materials Division, which enforces multiple programs that address hazardous materials. There are no aspects of the proposed project that will interfere with an adopted emergency response plan or conflict with emergency response. Therefore, potential impacts will be **less than significant**.

Impact HAZ-G. Issues related to wildfire hazards are discussed further in Section 5.20, Wildfire, of this Initial Study. As noted therein, the project site is within an area designated as a Very High Fire Hazard Severity Zone (VHFHSZ) within a Local Responsibility Area (LRA).¹¹ Due to the site's location within the VHFHSZ, the project could expose people or structures to the risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands, and a **potentially significant** impact could occur.

Further analysis of impact HAZ-G will be included in the Wildfire chapter of the Kortum Ranch EIR.

¹¹ California Department of Forestry and Fire Protection. FHSZ Viewer. Available at: <https://egis.fire.ca.gov/FHSZ/>. Accessed August 2022.

5.10 HYDROLOGY AND WATER QUALITY

Would the project:	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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 substantial erosion or siltation on- or off-site;	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Would the project:	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
iv. Impede or redirect flood flows?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

The City of Calistoga is located within the Napa River watershed, which encompasses an area of approximately 426 square miles. The Napa River watershed is contained by Mt. St. Helena to the north, the Mayacamas Mountains to the west, Howell Mountain, Atlas Peak, and Mt. George to the east, and the Napa-Sonoma Marsh to the south. The Napa River travels through the center of the watershed on the valley floor, draining numerous tributaries along 55 miles from the headwaters of Mt. St. Helena to the San Pablo Bay.

The Napa County Flood Control and Water District (District) manages flood control facilities throughout the County. The District is responsible for structural repairs to culverts and spillways, grading and reshaping channels, and debris removal to maintain hydraulic capacity of all waterways. The City of Calistoga Planning and Building Director regulates flooding under Title 18 (Floodplain Management) of the Municipal Code.

Dischargers whose projects disturb one or more acres of soil, or whose projects disturb less than one acre, but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity, Construction General Permit Order 2009-0009-DWQ from the State Water Resources Control Board.¹² Construction activity

¹² State Water Resources Control Board, Construction General Permit Order 2009-0009-DWQ, as amended by Order 2010-0014-DWQ, and order 2012-00060DWQ NPDES General Permit No. CAS000002.

subject to this permit includes clearing, grading, and disturbances to the ground such as stockpiling, or excavation. The Construction General Permit requires development of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP includes specifications for Best Management Practices (BMPs) to be implemented during construction activities to control potential discharge of pollutants from the construction area. Additionally, a SWPPP describes measures to prevent pollutants in runoff during project operation and includes a plan for inspection and maintenance of the project facilities to ensure proper operation and maintenance continues throughout the life of the project. The project is greater than one acre and is therefore subject to the requirements of Construction General Permit Order 2009-0009-DWQ.

Impact HYD-A, HYD-CI. Construction activities associated with site development have the potential to result in runoff that contains sediment and other pollutants that could degrade water quality if not properly controlled. Sources of potential pollution associated with construction include fuel, grease, oil, and other fluids, concrete material, sediment, and litter. To ensure that proper controls and treatment are in place to prevent runoff of stormwater, the project will be required to adhere to National Pollutant Discharge Elimination System (NPDES) requirements including preparation and implementation of a Stormwater Pollution and Prevention Plan (SWPPP) and compliance with the Regional Water Quality Control Board (RWQCB) Waste Discharge Requirements. The purpose of the SWPPP is to identify potential sediment sources and other pollutants and prescribe BMPs to ensure that potential adverse erosion, siltation, and contamination impacts would not occur during construction activities. **Mitigation Measure HYD-1**, set forth below requires preparation and implementation of a SWPPP during all construction activities. BMPs identified in measure HYD-1 are designed to protect water quality from potential contaminants in stormwater runoff emanating from construction sites.

The RWQCB has adopted water quality objectives in its Stormwater Quality Management Plan, which is intended to ensure that stormwater achieves compliance with receiving water limitations. The city has adopted a Stormwater Runoff Pollution Control ordinance (Chapter 19.05 of the City's Municipal Code) to ensure new development complies with the Stormwater Quality Management Plan. Consistent with the Municipal Code, the project is subject to **Mitigation Measure GEO-3**, described above, which requires implementation of an Erosion and Sediment Control Plan. With implementation of measures HYD-1 and GEO-3,

http://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.shtml, Accessed February 10, 2020.

potential violations of water quality standards associated with construction activities will be reduced to **less than significant**.

As a residential subdivision within the City of Calistoga, the project will contribute typical, urban, nonpoint-source pollutants to stormwater runoff at operation. The project has prepared a Preliminary Stormwater Control Plan that identifies low impact development, drainage management areas, source control measures, and stormwater facility maintenance for treatment of stormwater runoff from impervious surfaces introduced by the Project. To ensure that post construction stormwater impacts are avoided, **Mitigation Measure HYD-2** shall be implemented, which requires preparation of a Final Stormwater Control Plan to be reviewed and accepted by the City, implementation of all provisions therein, and ongoing maintenance for the life of the project to all stormwater treatment and flow-control facilities. With implementation of measure HYD-2, potential violations of water quality standards associated with ongoing operation of the project will be reduced to **less than significant**.

With respect to potential impacts related to the existing drainage pattern, although the site's natural drainage pattern was altered because of prior development, the majority of the site consists of pervious surfaces such as undeveloped land covered in grasses and trees, and flat graded areas. Development of the project will introduce new impervious surfaces associated with widening of Kortum Canyon Road, development of future single-family dwelling units, paved driveways, and associated access roads. Development of single-family residences will primarily occur on existing flat pad areas where development was previously located, and new access road improvements will follow existing contours. Furthermore, as stated above, the project will be required to implement **Mitigation Measure GEO-3**, which sets forth erosion control requirements consistent with Chapter 19.05 of the Municipal Code. As mitigated, impacts resulting from substantial alteration of the existing drainage pattern of the site and thus causing erosion or siltation on- or off-site will be **less than significant**.

Impact HYD-B. Calistoga is situated above the Napa Valley Subbasin as identified by the California Department of Water Resources Bulletin 118 Groundwater Basins published in 2018. Consistent with the Sustainable Groundwater Management Act (SGMA), adopted in 2014, the Napa County Groundwater Sustainability Agency (GSA) adopted the Napa Valley Subbasin Groundwater Sustainability Plan on January 11, 2022 and submitted the plan for review and comment to the Department of Water Resources (DWR).

As stated in the Plan, the primary sustainability goal is to protect and enhance groundwater quantity and quality for all beneficial uses and users of groundwater and interconnected surface water in the Napa Valley Subbasin both now and in the future. The project will be

served by the city's potable water system. Water demands associated with residential development will be met through municipal water supplies, which is provided by the City of Calistoga. As such, impacts resulting from use of the groundwater supply will be **less than significant**.

Consistent with the BASMAA Post-Construction Manual, a Preliminary Stormwater Control Plan was prepared for the project and includes Low Impact Development (LID) strategies, which are intended to mimic pre-development conditions including recharge to groundwater. Furthermore, as noted in the Geotechnical Report prepared for the project, groundwater was not encountered in the majority of borings, which extended to a depths of 18.5 feet. Based on the project's requirement to implement LID strategies, impacts to groundwater recharge will be **less than significant**.

Additionally, as the project will comply with applicable regulations requiring that development of the site mimic pre-development conditions, including groundwater recharge, impacts resulting from a conflict with the Napa Valley Subbasin Groundwater Sustainability Plan will be **less than significant**.

Impact HYD-CII, HYD-CIII, CIV. The increase in impervious surfaces introduced by the project (e.g. new homes, driveways, access road improvements, retaining walls, etc.) has the potential to change existing drainage patterns. However, as set forth in **Mitigation Measure HYD-2**, a final stormwater control plan will be required demonstrating that development of the site, including new impervious surfaces from driveways, residences, other site improvements, and offsite improvements to widen Kortum Canyon Road, mimics the existing drainage patterns. As required by the City of Calistoga, and as set forth in the BASMAA Post-Construction Manual, the final stormwater control plans will be required to demonstrate that post-construction peak flows match pre-development peak flows for the 100-year, 24-hour storm event.

While development of the project site will introduce new impervious surfaces, implementation of the stormwater control plan will ensure that the project will not substantially alter existing drainage patterns such that on- or off-site flooding will occur. Additionally, the stormwater control plan will be required to demonstrate that runoff resulting from the project will not exceed the capacity of stormwater drainage systems, contribute sources of polluted runoff, or impede or redirect flood flows. With implementation of **Mitigation Measure HYD-2**, impacts to the drainage pattern, storm drain system, and storm drain capacity will be reduced to **less than significant**.

Impact HYD-D. The project site is located outside of a flood hazard area, as delineated on map 06055C0229E¹³, and therefore represents minimal flood hazard risks. As such, the project will not construct housing within a 100-year flood hazard area and there will be **no impact** resulting from location within a flood hazard zone that could risk release of pollutants due to inundation.

The project site is not located within an area that could be affected by seiche, tsunami, or mudflow. Furthermore, according to the California Department of Conservation, no portion of the City of Calistoga is within a tsunami inundation area.¹⁴ Therefore, the project will have **no impact** resulting from location within a seiche, tsunami, or mudflow zone that could risk release of pollutants due to inundation.

The failure of Kimball Creek dam risks temporary inundation within the City of Calistoga. However, as shown in Figure 20 (Projected Kimball Dam Inundation Area) of the General Plan EIR, the project site is not subject to flooding as a result of dam failure and therefore the project will have **no impact** as a result of location within a dam inundation zone that could risk release of pollutants due to inundation.

Mitigation Measure(s)

Implementation of the Mitigation Measures HYD-1, HYD-2, and GEO-3 (above) will reduce impact HYD-A to less than significant.

HYD-1: In accordance with the National Pollution Discharge Elimination System regulation, upon submittal of plans for building permit, a Storm Water Pollution Prevention Plan (SWPPP) shall be submitted for review and approval by the City. The SWPPP shall address erosion and sediment controls, proper storage of fuels, temporary erosion control measures such as fiber rolls, staked straw bales, geofabric, and sandbags, identification, and cleanup of hazardous materials. Sediment shall be retained onsite by a system of sediment basins, traps, or other appropriate measures. A Notice of Intent, fees, and other documentation shall be filed with the Regional Water Quality Control Board.

HYD-2: Upon submittal of plans for building permit, a final stormwater control plan shall be submitted for review and approval by the City. The approved permanent and

¹³ FEMA, National Flood Hazard Layer Viewer, <https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd>, access March 2023

¹⁴ California Department of Conservation, Napa County Tsunami Inundation USGS 24K Quads, <https://www.conservation.ca.gov/cgs/tsunami/maps/napa>, Accessed July 7, 2022

operational runoff pollutant source control BMPs shall be incorporated into construction plans and documents and implemented during construction and after project completion. The project's stormwater treatment and flow-control facilities shall be maintained in perpetuity. As required by the City of Calistoga, and as set forth in the BASMAA Post-Construction Manual, the final stormwater control plans will be required to demonstrate that post-construction peak flows match pre-development peak flows for the 100-year, 24-hour storm event.

5.11 LAND USE AND PLANNING

Would the project:	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion

Impact LUP-A. Division of an established community typically occurs when a new physical feature, in the form of an interstate or railroad, physically transects an area, thereby removing mobility and access within an established community. Division of an established community can also occur through removal of an existing road or pathway, which would reduce or remove access between a community and outlying areas. The project includes a Tentative Subdivision Map to establish 22 lots for future development of 22 single-family residences. The project also proposes roadway improvements including widening of the east-west project right-of-way which will provide access to individual lots, modification of Kortum Canyon Road to widen the existing right-of-way to between 24 and 25 feet, and realignment of the Foothill Boulevard/Kortum Canyon Road intersection. The project does not propose new roadways or other features that would physically divide an established community nor does the project propose removal of existing access. As such, the project will have a **less than significant impact** due to physical division of an established community.

Impact LUP-B. The determination that a project is consistent or inconsistent with the City of Calistoga General Plan policies or other plans and policies is ultimately the decision of the City of Calistoga decisionmakers. Although general consistency with City policies is identified through the CEQA analysis process, the City can also impose additional requirements or conditions of approval on a project, at the time of its approval, to bring a project into more complete conformance with existing policies.

- The proposed project is consistent with the Rural Residential – Hillside General Plan land

use designation for the site which is intended to serve as a buffer between agricultural and urban uses, thereby limiting urbanization of the city and is conditionally permitted within the Rural Residential – Hillside (RR-H) zoning district. The project will result in subdivision of the existing parcels into 22 individual lots to facilitate future construction of 22 single-family dwelling units, roads, and other site improvements. Density and development standards in the RR-H zoning district are set forth in Calistoga Municipal Code Section 17.15.080. As provided therein, the average slope of individual lots shall not exceed 30 percent and the minimum lot sizes shall be between 40,000 and 200,000 square feet, except when a project proposes a clustered development design. As proposed, lot sizes range from approximately 16,550 square feet (0.38 acres) to 265,700 square feet (6.10 acres). As shown in the Kortum Ranch – Neighborhood Cluster Concept plans (Visual Analysis) (Appendix A: Kortum Ranch Subdivision Tentative Map, Adobe Associates, Inc., July 10, 2023

- Appendix B: Slope Analysis Exhibit, Slope Analysis Exhibit, Adobe Associates, Inc., December 20, 2022

Appendix C), the project proposes a clustered design which is intended to preserve areas of the site containing slopes greater than 30 percent while situating single-family residences on existing flat areas, which were established by previous activities associated with the former site use (Busk Estate).

Consistency with other hillside development standards set forth in Chapter 17.15 of the Calistoga Municipal Code such as building height and setbacks will be confirmed through the preliminary and final development plan and design review processes. As such, the project will not result in a conflict with zoning regulations adopted for the purpose of avoiding or mitigating an environmental impact.

In addition to the applicable zoning regulations discussed above, the project is subject to the following General Plan goals, objectives, and policies adopted for the purpose of avoiding or mitigating an environmental impact:

Land Use Element

Goal LU 3 Ensure that new development mitigates significant environmental, design and infrastructure impacts.

- Objective LU 3.1 Prevent development from occurring where the location or the physical or biological characteristics of the site would make the land use inappropriate.
 - ◆ P3.1-5 Clustering of development shall be encouraged, especially in areas of ecological sensitivity including hillside areas and on and around Mount Washington.
- Objective LU 3.2 Ensure that new development complements Calistoga’s small town rural

character and minimizes impacts on the environment.

- ◆ P3.2-1 New development shall be designed to respect and enhance Calistoga's small-town rural character and the natural environment.
- ◆ P3.2-2 The use of "green construction" and land development techniques shall be encouraged as a means to reduce the environmental impacts of construction activity.

Circulation Element

Goal CIR-1 Maintain and enhance Calistoga's street network to serve existing and planned land uses while also maintaining the community's small-town character.

- Objective CIR-1.2 Maintain acceptable Levels of Service on all of Calistoga's streets.
 - ◆ P1.2-1. The City shall seek to maintain LOS C or better for all state highways with the exception of the downtown area, and LOS D or better for all other streets.
 - ◆ P1.2-2. The City shall seek to maintain peak hour LOS D or better at all intersection.
 - ◆ P1.2-3. Since Lincoln Avenue is Calistoga's main street and serves pedestrian and commercial purposes as much as it does motorized vehicles, it is inappropriate to establish any LOS standard for Lincoln Avenue between Foothill Boulevard and Wappo Avenue. Instead, the City shall evaluate traffic on Lincoln Avenue on an on-going basis, seeking to balance vehicular, parking, bicycle and pedestrian needs. This exclusion is not applicable to intersections on Lincoln.

Housing Element

Goal H-1 Maximize opportunities for the development of housing to accommodate anticipated growth and facilitate mobility within the ownership and rental housing markets.

- Objective H-1.3 Provide public services and facilities needed for the development of housing.
 - ◆ P1.3-1 Ensure that new development does not outpace Calistoga's ability to provide services to meet the existing and future needs of its residents.

Goal H-8 Reduce energy use and greenhouse gas production in existing and new residential development.

- Objective H-8.1 Reduce energy demand in new and existing housing through conservation and efficiency.
 - ◆ P8.1-1 Promote the use of energy conservation features in the design of new and remodeled residential structures.
 - ◆ P8.1-2 Encourage sustainable design and construction practices in new residential development projects.

Infrastructure Element

Goal I-1 Provide adequate and safe supplies of water to all types of users.

- Objective I-1.3 Encourage coordination between land use planning and water facilities and service.
 - ◆ P1.3-1 The approval of new development shall be conditional on the availability of sufficient water for the project.
 - ◆ P1.3-3 Structures with plumbing that are located within city limits shall connect to the water system, unless topography, distance from the public water system, or other factors indicate a need for an exemption.

Goal I-5 Collect and dispose of stormwater in a manner that is safe, sanitary and environmentally acceptable.

- Objective I-5.3 Ensure coordination among land use planning, site design and stormwater control.
 - ◆ P5.3-1 The approval of new development shall be conditional on the extension of necessary stormwater infrastructure.
 - ◆ P5.3-2 New development shall be required to incorporate appropriate measures to minimize the impacts of stormwater runoff as specified in federal, state and regional regulations.

Open Space and Conservation Element

Goal OSC-1. Conserve the value and function of Calistoga's open space as a biological resource.

- Objective OSC-1.1 Maintain biodiversity within the Planning Area with special emphasis on species that are sensitive, rare, declining, unique or represent valuable biological resources.
 - ◆ P1.1-1 When reviewing development proposals the City should include assessment of impacts on both individual species and overall biodiversity within the Planning Area.
 - ◆ P1.1-2 Impacts to movement corridors that link wildlife habitat areas should be considered when reviewing development proposals. These corridors should be protected.
- Objective OSC-1.2 Minimize impacts to sensitive natural habitats including riparian forest and scrub, freshwater marsh associated with drainages and geothermal areas, oak woodland and savannah, and native grasslands.
 - ◆ P1.2-3 Prior to approving specific development plans on undeveloped parcels, biological and wetland assessments to determine the presence or absence of populations of special-status species, sensitive natural communities, and wetland resources shall be conducted.

- Objective OSC-1.3 Conserve Calistoga’s native trees and vegetation, which are important biological and aesthetic resources within the Planning Area.
 - ♦ P1.3-1 Continue to implement and enforce the provision of the Tree Preservation Ordinance, particularly with regard to preservation of native trees of significant size.

Goal OSC-6. Protect and improve Calistoga’s existing high standard of air quality.

- Objective OSC-6.1 Minimize air pollution emissions.
 - ♦ P6.1-2 Growth and development types that can inhibit air quality goals should be monitored and controlled, and the approval of development should be conditional on the mitigation of significant adverse impacts to air quality.
 - ♦ P6.1-3 The City shall support the Bay Area Air Quality Management District in the implementation of reasonable and feasible new regulations related to the improvement of air quality throughout the Napa Valley.

Public Safety

Goal SAF-3 Protect lives and property from wildland fire hazard.

- Objective SAF-3.1 Plan new developments with wildland fire hazards in mind.
 - ♦ P1. Plans for development in the Very High Fire Hazard Area shall be reviewed for their incorporation of design measures to reduce wildland fire risk.
 - ♦ P2. New roadways and driveways in the Very High Fire Hazard Area shall be designed and constructed to be adequate in terms of width, radius and grade to facilitate access by fire-fighting apparatus.
- Objective SAF-3.3 Promote fire-wise behavior within the Very High Fire Hazard Area.
 - ♦ P1. Provide opportunities for residents within the Very High Fire Hazard Area to be informed about wildfire prevention and response.
 - ♦ P2. Support efforts to organize residents within the Very High Fire Hazard Area to promote fire-wise practices.

The proposed project has the potential to conflict with General Plan policies, related to Biological Resources, Greenhouse Gas Emissions, and Wildfire. As such, the project could result in a **potentially significant impact** due to a conflict with a land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

Further analysis of impact LUP-B will be included in the respective technical chapters of the Kortum Ranch EIR including, Biological Resources, Greenhouse Gas Emissions, and Wildfire.

5.12 MINERAL RESOURCES

Would the project:	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

Impact MIN-A, MIN-B. The City of Calistoga 2003 General Plan identifies geothermal resources such as hot springs, cold water aquifers, mineral water, and volcanic ash as significant to the city. The project site has not been delineated as a locally-important mineral resource recovery site on any plans. As noted in the Phase I ESA prepared by AdvancedGeo on August 26, 2022 (Appendix H), volcanic ash deposits were observed in several places onsite. While volcanic ash deposits within City limits have never been comprehensively surveyed, they are believed to be widespread and abundant regionally. As a project proposing subdivision of the existing property to accommodate single-family residences, extraction of volcanic ash for commercial use will not be permitted to occur. According to the General Plan, volcanic ash is abundantly available within the City of Calistoga and regionally, impacts associated with the loss of availability of a known mineral resources as a result of the project will be **less than significant**.

5.13 NOISE

Would the project:	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

Impact NOI-A. The following is a discussion of the existing noise environment on the project site and surrounding vicinity, as well as an evaluation of the project’s construction and operational noise levels. The discussion is based on a Noise and Vibration Assessment (Noise Assessment) prepared for the project by Illingworth & Rodkin, Inc. on May 19, 2023 (Appendix I).

The following terms are referenced in the sections below:

- **Decibel (dB):** A unit of sound energy intensity. An A-weighted decibel (dBA) is a decibel

corrected for the variation in frequency response to the typical human ear at commonly encountered noise levels. All references to decibels (dB) in this section will be A-weighted unless otherwise noted;

- **Day-Night Average Level (DNL or L_{dn}):** The average sound level over a 24-hour day, with a +10 dB weight applied to noise occurring during nighttime (10:00 PM to 7:00 AM) hours;
- **Average or Equivalent Sound Level (L_{eq}):** L_{eq} is the average sound level over the period of measurement;
- **Maximum Sound Level (L_{max}):** L_{max} represents the highest noise level measured;
- **Community Noise Equivalent Level (CNEL):** CNEL is the weighted average noise level over a continuous 24-hour period with a +5.0 dB weight applied during evening hours (7:00 PM to 10:00 PM) and a +10 dB weight applied during nighttime and morning hours (10:00 PM to 7:00 AM); and
- **L_1 , L_{10} , L_{50} , and L_{90} :** The A-weighted noise levels that are exceeded one percent, 10 percent, 50 percent, and 90 percent of the time, respectively, during the measurement period.

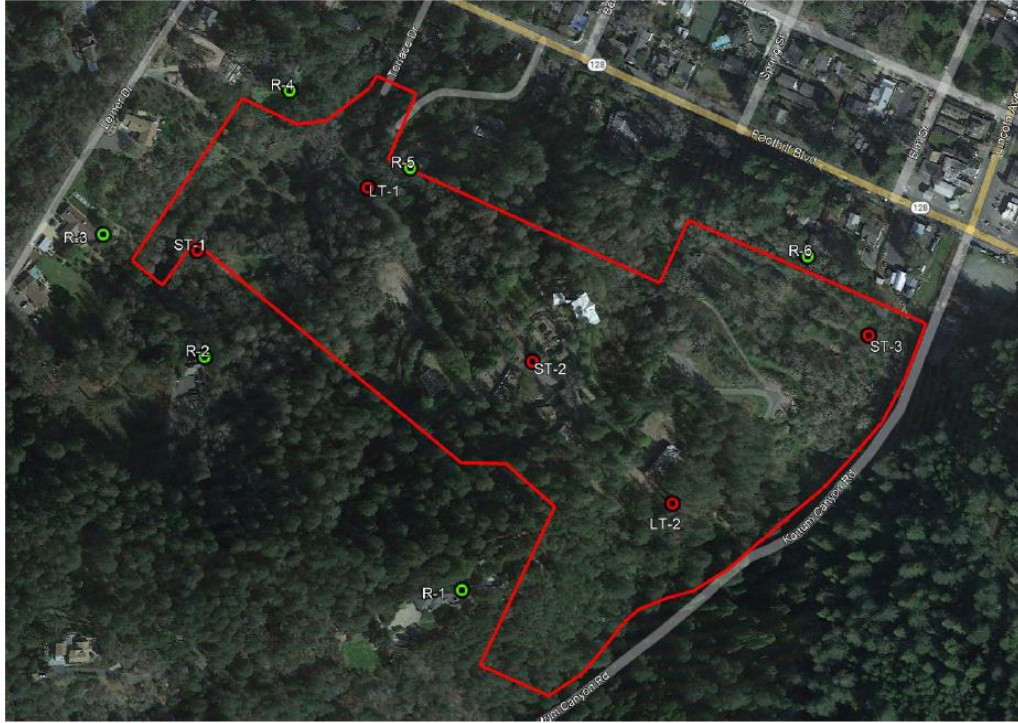
Existing Noise Environment

The existing noise environment at the project site results primarily from local vehicular traffic along SR 128 to the northeast and to a lesser degree vehicles traveling on Kortum Ranch Road to the southeast. To quantify the general existing ambient noise environment within the project vicinity, a noise monitoring survey consisting of two long-term (LT-1 and LT-2) and three short-term (ST-1 through ST-3) noise measurements was conducted between Thursday, March 30, 2023, and Monday, April 3, 2023. The monitoring sites are shown in Figure 5.13-1. The long-term noise measurement sites are identified as LT-1 and LT-2, and the short-term noise measurement sites are identified as ST- 1 through ST-3. The results of the short-term measurements are shown in Table 5.13-1.

TABLE 5.13-1: EXISTING NOISE ENVIRONMENT AT 500 KORTUM RANCH ROAD

Noise Measurement Location	Date, Time	Measured Noise Level, dBA					
		L_{max}	$L(1)$	$L(10)$	$L(50)$	$L(90)$	L_{eq}
ST-1: Southwest corner of site	3/30/2023, 9:50-10:00 a.m.	48	45	44	42	41	42
ST-2: Center of site	3/30/2023, 10:10-10:20 a.m.	45	44	41	39	37	39
ST-3: Northeast corner of site	3/30/2023, 10:40-10:50 a.m.	61	59	56	50	47	52

FIGURE 5.13-1: NOISE MEASUREMENT AND SENSITIVE RECEPTOR LOCATIONS



Source: Google Earth, 2022.

Source: *Noise and Vibration Assessment*, Illingworth & Rodkin, May 19, 2023, Figure 1, Page 12

Noise Standards and Significance Criteria

A project would be considered to result in significant noise impacts if noise levels would conflict with adopted environmental standards or plans or if noise generated by a project would substantially increase existing noise levels at sensitive receivers on a permanent or temporary basis. The Noise Element of The City's 2003 General Plan aims to "minimize problems from intrusive sound and to ensure that the new development does not expose people to unacceptable noise levels." The City of Calistoga does not establish noise level thresholds for construction activities. For the analysis, noise limits established by the Federal Transit Administration (FTA) were used to identify the potential for impacts from construction noise. The FTA identifies construction noise limits in the Transit Noise and Vibration Impact Assessment Manual which sets an exterior threshold of 80 dBA Leq during daytime hours at residential land uses. While the City does not specify acceptable interior noise levels, the California Building Code does. The applicable General Plan and California Building Code policies inform the project's operational noise thresholds as follows:

- The City's acceptable exterior noise level standard is 60 dBA Ldn or less for proposed residential land uses.

- The California Building Code requires interior noise levels to be maintained at 45 dBA Ldn or less for the proposed residential land uses.

Project Construction Noise

The construction schedule assumes that construction would begin in January 2024, and the project would be completed by the end of March 2025. The total construction duration is expected to last for a period of approximately 15 months. Construction phases would include demolition, site preparation, grading, trenching, road construction, building construction, architectural coating, and paving. During each phase of construction, there would be a different mix of equipment operating, and noise levels would vary by phase and vary within phases, based on the amount of equipment in operation and the location at which the equipment is operating.

Noise impacts resulting from construction depend upon the noise generated by various pieces of construction equipment, the timing and duration of noise-generating activities, and the distance between construction noise sources and noise-sensitive areas. Construction noise impacts primarily result when construction activities occur during noise-sensitive times of the day (e.g., early morning, evening, or nighttime hours), the construction occurs in areas immediately adjoining noise-sensitive land uses, or when construction lasts over extended periods of time.

Section 8.20.025 of the City's Municipal Code requires that all construction operations near residential uses occur between 7:00 a.m. and 7:00 p.m. Monday through Saturday.

The typical range of maximum instantaneous noise levels for a project of this size would be 70 to 90 dBA L_{max} at a distance of 50 feet from the equipment (Table 5.13-2), and the hourly average noise levels generated by residential building construction would be 72 to 88 dBA L_{eq} , measured at a distance of 50 feet from the center of a construction site. Construction-generated noise levels drop off at a rate of about 6 dBA per doubling of the distance between the source and receptor. Equipment expected to be used in each construction stage and the associated noise levels are summarized in Table 5.13-2. Shielding by buildings or terrain often results in lower construction noise levels at distant receptors. Noise reductions due to intervening terrain were not included in the noise study.

TABLE 5.13-2 :ESTIMATED CONSTRUCTION NOISE LEVELS FOR THE PROPOSED PROJECT AT 50 FEET

Phase of Construction	Total Workdays	Construction Equipment (Quantity)	Estimated Construction Noise Level at 50 feet

			(dBA Leq)
Demolition	20	Concrete/Industrial Saw (1) ^a Excavator (3) Rubber-Tired Dozer (2) ^a	84
Site Preparation	10	Rubber-Tired Dozer (3) ^a Tractor/Loader/Backhoe (4)	81
Grading/Excavating	20	Excavator (1) Grader (1) ^a Rubber-Tired Dozer (1) ^a Tractor/Loader/Backhoe (3)	83
Trenching/ Foundation	20	Tractor/Loader/Backhoe (1) ^a Excavator (1) ^a	78
Building-Exterior	230	Crane (1) Forklift (3) Generator Set (1) ^a Tractor/Loader/Backhoe (3) ^a Welder (1)	79
Building – Interior/ Architectural Coating	20	Air Compressor (1) ^a	74
Paving	20	Paver (2) Paving Equipment (2) ^a Roller (2)	77

^a Denotes two loudest pieces of construction equipment per phase.

The Federal Highway Administration's (FHWA's) Roadway Construction Noise Model (RCNM) was used to calculate the hourly average noise levels for each phase of construction, assuming the two loudest pieces of equipment would operate simultaneously. Construction noise impacts at existing noise-sensitive receptors were assessed using the worst-case hourly average noise level, which would result in the noise levels summarized in Table 5.13-3 for building construction and Table 5.13-4 for road construction.

TABLE 5.13-3 : ESTIMATED RESIDENTIAL BUILDING CONSTRUCTION NOISE LEVELS AT NEARBY NOISE-SENSITIVE RECEPTORS

Phase of Construction	Calculated Hourly Average Noise Levels, Leq (dBA)					
	R-1	R-2	R-3	R-4	R-5	R-6
Location						
Distance from Construction	410 ft	520 ft	430 ft	160 ft	140 ft	315 ft
Site Preparation	62	60	62	71	72	65
Grading/Excavation	64	62	64	73	74	67
Trenching/Foundation	60	58	60	68	70	63

Building-Exterior	61	59	60	69	70	63
Building-Interior/ Architectural Coating	55	53	55	64	65	58

Note: Table excludes reductions from intervening terrain

TABLE 5.13-4 : ESTIMATED DEMOLITION AND PAVING NOISE LEVELS DURING CONSTRUCTION OF PROPOSED ACCESS ROAD

Location	Distance (ft)	Calculated Hourly Ave Noise Levels	
		Demolition Leq (dBA)	Paving Leq (dBA)
R-1	440	65	58
R-2	550	63	56
R-3	480	64	58
R-4	115	77	70
R-5	120	76	70
R-6	360	67	60

As demonstrated by Tables 5.13.2 - 5.13.4, construction noise levels would intermittently range from 74 to 84 dBA Leq at 50 feet and would typically range from 53 to 77 dBA Leq at nearby residential land uses. Construction noise levels are not projected to exceed the exterior threshold of 80 dBA Leq at nearby residents given sound attenuation the distance between the source and receiver. Construction will occur at various locations throughout the property for short periods of time. Nonetheless, to ensure that construction noise levels are minimized, **Mitigation Measure NOI-1** is imposed to ensure that best management practices for construction noise are implemented during all stages of project construction. NOI-1 requires all contractors/builders to implement Construction Best Management Practices to attenuate noise from construction. As mitigated, construction noise generated by the project would result in a **less than significant impact**.

Project Operational Noise

There are two primary sources of potential noise that would be generated by operation of the project, mechanical noise from new onsite equipment and traffic noise. While project plans for individual homes are not available, the analysis assumes one heating ventilation and air conditioning (HVAC) unit will be provided per unit, and that mechanical equipment will be located at the ground level and expected to be shielded by property line noise barriers and/or terrain, which will contain the noise on the property where it is generated. Noise levels produced by a typical residential air conditioning condenser are approximately 66 dBA at 3 feet during operation. Based on the above assumptions and preliminary project plans,

air conditioning condensers would be at least 100 feet or more from residential receptors in the vicinity and would not generate perceivable noise at existing nearby residences. No equipment is anticipated for this project that would make meeting the applicable noise limits with standard noise control measures difficult.

Single-family residences closest to SR 128 would have future exterior noise levels ranging from 47 to 57 dBA Ldn depending on the amount of shielding from SR 128 traffic by variations in the intervening terrain. Likewise, the property lines shared with the neighboring properties along SR 128 would have future exterior noise levels in the same range. The residences closest to Kortum Canyon Road would have future exterior noise levels ranging from 45 dBA Ldn furthest from SR 128, to 57 dBA Ldn closest to SR 128. Residences centrally located on the project site, along the new road would have future exterior noise levels ranging from 46 to 50 dBA Ldn.

The City's acceptable exterior noise level standard is 60 dBA Ldn or less for the proposed residential land uses. The new residential buildings would be exposed to future exterior noise levels ranging from 45 to 56 dBA Ldn. The California Building Code requires interior noise levels to be maintained at 45 dBA Ldn or less for residential land uses. As this uniform standard is applied to all projects as a requirement during the building permit process, the project would not expose new residences to excessive noise and the project would have a less than significant impact on interior noise.

Project Traffic Noise

The noise environment at the project site would be influenced by traffic along SR 128 and Kortum Canyon Road, as well as from the new access road traversing the project site. The Transportation Impact Study for the Kortum Ranch Subdivision provided for the project states that the project will generate 207 daily vehicle trips, with 15 occurring during the a.m. peak hour and 21 occurring during the p.m. peak hour.

The roadways in the project site vicinity include Kortum Canyon Road and SR 128. Kortum Canyon Road is a very low volume roadway, with approximately 200 vehicles per day. The project would roughly double the volume of vehicles along Kortum Canyon Road between the site and SR 128. The project would result in a 1 dBA increase over current conditions at Kortum Canyon Road.

Compared to the existing volumes along SR 128, these peak hour trips would not result in a measurable or detectable noise level increase (0 dBA Ldn increase). The construction of the new access road through the site and resulting project traffic will increase noise levels at

nearby noise-sensitive receptors by 1 dBA Ldn or less. Therefore, the project would have a less than significant impact.

Conclusion

Operation of the Project will result in noise from the mechanical equipment and traffic but would not substantially increase the noise environment at sensitive noise receptors located within 500 feet of the site by more than 1 decibel. During construction, noise levels are projected to fall below the City's threshold. Nonetheless, in order to minimize construction noise **Mitigation Measure NOI-1** shall be implemented, which requires that all contractors use Construction Best Management Practices. As mitigated, the Project would have a **less than significant impact** during construction and at operation.

Impact NOI-B. Similar to noise, vibration involves a source, a transmission path, and a receiver. However, noise is generally considered to be pressure waves transmitted through air, whereas vibration usually consists of the excitation of a structure or surface. As with noise, vibration consists of an amplitude and frequency. A person's perception of the vibration depends on their individual sensitivity to vibration, as well as the amplitude and frequency of the source and the response of the system which is vibrating.

Vibration is measured in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration in terms of peak particle velocities (PPV) in inches per second (in/sec). Standards pertaining to perception as well as damage to structures have been developed for vibration levels defined in terms of PPV. Human and structural response to different vibration levels is influenced by several factors, including ground type, distance between source and receptor, duration, and the number of perceived vibration events. For structural damage, the California Department of Transportation recommends a vibration limit of 0.5 in/sec PPV for buildings structurally sound and designed to modern engineering standards, 0.3 in/sec PPV for buildings that are found to be structurally sound but where structural damage is a major concern, and a conservative limit of 0.08 in/sec PPV for historic buildings or buildings that are documented to be structurally weakened. No known historic buildings or buildings that are documented to be structurally weakened adjoin the project area. Therefore, conservatively, groundborne vibration levels exceeding 0.3 in/sec PPV would have the potential to result in a significant vibration impact.

The construction of the project may generate vibration when heavy equipment or impact tools (e.g., jackhammers, hoe rams) are used. Construction activities would include grading, foundation work, paving, and new building framing and finishing. According to the

equipment list provided at the time of this study, impact or vibratory pile driving activities, which can cause excessive vibration, are not expected for the proposed project.

Project construction activities, such as drilling, the use of jackhammers, rock drills and other high-power or vibratory tools, and rolling stock equipment (tracked vehicles, compactors, etc.), may generate substantial vibration in the immediate vicinity. Jackhammers typically generate vibration levels of 0.035 in/sec PPV, and drilling typically generates vibration levels of 0.09 in/sec PPV at a distance of 25 feet. Vibration levels would vary depending on soil conditions, construction methods, and equipment used. Table 5.13-5 summarizes the vibration levels at each of the surrounding buildings in the project vicinity. Vibration levels are highest close to the source and then attenuate with increasing distance.

While construction noise levels increase based on the cumulative equipment in use simultaneously, construction vibration levels would be dependent on the location of individual pieces of equipment. That is, equipment scattered throughout the site would not generate a collective vibration level, but a vibratory roller, for instance, operating near the project site boundary would generate the worst-case vibration levels for the receptor sharing that property line. Further, construction vibration impacts are assessed based on damage to buildings on receiving land uses, not receptors at the nearest property lines (as used in noise).

TABLE 5.13-5 : VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT

Equipment	PPV (in/sec) at location					
	R-4 (100 ft)	R-5 (120 ft)	R-6 (280 ft)	R-1 (375 ft)	R-3 (395 ft)	R-2 (490 ft)
Clam shovel drop	0.044	0.036	0.014	0.010	0.010	0.008
Hydromill (slurry wall)	0.002	0.001	0.001	0.000	0.000	0.000
Hydromill (slurry wall)	0.004	0.003	0.001	0.001	0.001	0.001
Vibratory Roller	0.046	0.037	0.015	0.011	0.010	0.008
Hoe Ram	0.019	0.016	0.006	0.005	0.004	0.003
Large bulldozer	0.019	0.016	0.006	0.005	0.004	0.003
Caisson drilling	0.019	0.016	0.006	0.005	0.004	0.003
Loaded trucks	0.017	0.014	0.005	0.004	0.004	0.003
Jackhammer	0.008	0.006	0.002	0.002	0.002	0.001
Small bulldozer	0.001	0.001	0.000	0.000	0.000	0.000

Source: Transit Noise and Vibration Impact Assessment Manual, Federal Transit Administration, Office of Planning and Environment, U.S. Department of Transportation, September 2018, as modified by Illingworth & Rodkin, Inc., April 2023.

Project construction activities would potentially generate vibration levels up to 0.05 in/sec

PPV at the nearest building to the construction area boundary. No minor or major damage would be expected at the buildings immediately adjoining the project site. According to the National Register of Historic Places, the nearest historical structure is located at 1403 Myrtle Street, which is approximately 750 feet from the project site. This building would not be exposed to measurable vibration due to construction of the proposed project.

Neither cosmetic, minor, or major damage would occur at historical or conventional buildings located 20 feet or more from the project site. At these locations, and in other surrounding areas where vibration would not be expected to cause cosmetic damage, vibration levels may still be perceptible. However, as with any type of construction, this would be anticipated and would not be considered significant, given the intermittent and short duration of the phases that have the highest potential of producing vibration.

Construction of the Project would not generate vibration levels exceeding the 0.3 in/sec PPV threshold at conventional properties adjoining the project site, or 0.08 in/sec PPV at any nearby history buildings. As such, project construction will not generate excessive groundborne vibration or groundborne noise levels at the nearest existing sensitive receptors. Therefore, the project will result in a **less than significant** impact.

Impact NOI-C. The nearest airport to the site is the Angwin Airport, Virgil O. Parrett Field, which is located approximately 8 miles east of the site (measured as straight-line distance). The project site is not located within two miles of a public airport, nor is it located near a private airstrip. As such, residents will not be exposed to excessive noise levels generated by nearby airport uses as there are no such uses in the site vicinity. Therefore, the project will have no impact associated with airport noise and **no impact** due to excessive noise exposure will occur.

Mitigation Measure(s)

NOI-1: The following Construction best management practices shall be included as a note on the Final Map and Improvement Plans and implemented by all contractors during all construction activities:

- Construct temporary noise barriers, where feasible, to screen stationary noise-generating equipment. Temporary noise barrier fences would provide a 5 dBA noise reduction if the noise barrier interrupts the line-of-sight between the noise source and receptor and if the barrier is constructed in a manner that eliminates any cracks or gaps.
- At a minimum, the construction contractor shall implement the following control

measures: improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically-attenuating shields or shrouds.

- Equipment used for project construction shall be hydraulically or electrically powered impact tools (e.g., jack hammers) wherever possible to avoid noise associated with compressed air exhaust from pneumatically-powered tools. Where use of pneumatically-powered tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used. A muffler could lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used where feasible; this could achieve a reduction of 5 dBA. Quieter procedures shall be used (such as drilling rather than impact equipment) wherever feasible.
- The construction contractor shall not allow any construction equipment, trucks, or vehicles to idle while not in active use.
- Locate stationary noise-generating equipment, such as air compressors or portable power generators, as far as possible from sensitive receptors as feasible. If they must be located near receptors, adequate muffling (with enclosures where feasible and appropriate) shall be used to reduce noise levels at the adjacent sensitive receptors. Any enclosure openings or venting shall face away from sensitive receptors.
- Construction staging areas shall be established at locations that will create the greatest distance between the construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction.
- Locate material stockpiles, as well as maintenance/equipment staging and parking areas, as far as feasible from residential receptors.
- Route construction-related traffic along major roadways and as far as feasible from sensitive receptors.
- Control noise from construction workers' radios to a point where they are not audible at existing residences bordering the project site.
- The contractor shall prepare a detailed construction schedule for major noise-generating construction activities. The construction plan shall identify a procedure for coordination with adjacent residential land uses so that construction activities can be scheduled to minimize noise disturbance.
- Designate a "disturbance coordinator" who would be responsible for responding to any complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., bad muffler, etc.) and will require that reasonable measures be implemented to correct the problem. Conspicuously post a telephone number for the disturbance coordinator at the construction site and include in it the notice sent to neighbors regarding the construction schedule.

5.14 POPULATION AND HOUSING

Would the project:	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (e.g., through projects in an undeveloped area or extension of major infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

Impact POP-A. Development of the proposes 22 unit single family residential project will result in the introduction of new residents to the site consistent with the Rural Residential – Hillside land use designation and the RR-H zoning district’s conditionally permitted uses.

According to the U.S. Census Bureau 2020 Decennial Census, the City of Calistoga has 2,392 housing units and a population of 5,228 people. As detailed in the Development Impact Fee Study prepared for the City of Calistoga by Economic & Planning Systems, Inc. in 2014, the city is expected to grow to a population of approximately 6,200 people by 2040 and assumes construction of up to 302 dwelling units.

The project would not substantially induce growth directly or indirectly. Assuming a household size of 2.7 persons per household¹⁵, the increased population associated with the project will be approximately 62 people, which represents less than 10 percent of the city’s projected population increase. The installation of utilities associated with the project will be limited to the capacity necessary to accommodate the proposed project . As such, the project will not result in direct or indirect unplanned population growth and impacts will be **less**

¹⁵ Economic & Planning Systems, Development Impact Fee Study, 2017, pg.8 and Table 5

than significant.

Impact POP-B. The project site is currently vacant and unoccupied and as such subdivision and future development of the site will not result in the displacement of a substantial number of existing housing units or people. As proposed, the project will widen Kortum Canyon Road south of Foothill Boulevard. As shown on Sheet C3.3 of the Tentative Subdivision Map, widening of Kortum Canyon Road will encroach onto parcel 011-310-009 which is currently developed with an occupied apartment building containing 5-9 dwelling units.¹⁶ As proposed, the encroachment of the public right-of-way will necessitate demolition of a portion of one unit that overlaps with the public right-of-way for Kortum Canyon Road. The project includes renovation of an existing detached accessory structure located along the southern boundary of 1101 Foothill Blvd (APN 011-310-009) which will be converted to a dwelling unit to offset the loss of one residential unit associated with the road widening. As such, impacts associated with displacement of a substantial number of existing housing units or people and will be **less than significant**.

¹⁶ Napa County Online Public Map, APN 011-310-009, <https://gis.countyofnapa.org/portal/apps/webappviewer/index.html?id=0bbafe490c58430da719ff851c78b7fa>, accessed February 2023.

5.15 PUBLIC SERVICES

Would the project:	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
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:				
a. Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Other Public Facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

With respect to public services, the analysis under CEQA must determine whether new or physically altered facilities are needed to meet response times or other performance objectives, the construction of which could cause environmental impacts. The discussions below evaluate the project’s potential to necessitate such facilities.

Impact PUB-A, PUB-B. Fire and police protection are provided by the City’s Fire and Police Departments, respectively. The project, which includes subdivision of the existing parcels into 22 individual lots to accommodate single-family residences, will not necessitate a significant increase in demand for fire or police services.

Fire protection measures are required to be integrated into the project pursuant to Chapter 15.36 of the Calistoga Municipal Code. The project includes installation of a 350,000 gallon water tank that will connect via an eight-inch water main and six-inch lateral lines to five new fire hydrants. Furthermore, the subdivision will be designed so that firefighting and emergency equipment and personnel access is not obstructed, as required per the Fire Code. As proposed, the project will re-align the intersection of Foothill Boulevard/Kortum Canyon Road; widen Kortum Canyon Road; install a 12-foot emergency vehicle access (EVA) with a 10-foot vehicle turnout; and will install fire hydrants throughout the site to ensure adequate fire access and facilities are provided.

Standard conditions of approval require that the applicant pay one-time public safety impact fees to maintain acceptable levels of service related to fire suppression and law enforcement facilities. The funds generated by the impact fees will ensure sufficient services are maintained and potential impacts to fire and police services will remain at levels below significance. Thus, the project will not require the provision of new or physically altered fire or police protection facilities, the construction of which could cause environmental impacts. As such impacts will be **less than significant**.

Impact PUB-C. The Calistoga Joint Unified School District serves approximately 860 students from Calistoga and the surrounding area.¹⁷ The three schools that make up the school district include Calistoga Elementary School, Calistoga Junior/Senior High, and Palisades High School.

As set forth in the Level I Developer Fee Study prepared for the Calistoga Joint Unified School District in July 2020, the student generation rate for single-family residences is 0.407.¹⁸ Based on the student generation rate, development of 22 single-family residences will result in a student population of approximately 9 students, which will have negligible effect on the overall student population and is well within the planned growth of the City and school district. The project is consistent with the uses allowed within the Rural Residential – Hillside zoning designation and will be required to comply with applicable General Plan policies, regulations set forth by the Calistoga Municipal Code, and developer fees assessed by school districts in the city. Therefore, the project will not result in substantial adverse physical impacts associated with the provision of new or physically altered school facilities and

¹⁷ Calistoga Joint Unified School District, https://www.calistogaschools.org/about_us/about_the_district, Accessed January, 2023.

¹⁸ Jack Schreder & Associates, Inc., Level I Developer Fee Study, Calistoga Joint Unified School District, July 21, 2020, Table 3

impacts will be **less than significant**.

Impact PUB-D. The City's Recreation Services Department operates, manages, and maintains indoor and outdoor recreational facilities. City-owned recreational facilities include Fireman's Park, Heather Oak Park, Little League Field, Pioneer Park, Logvy Community Park, Monhoff Center, and Myrtle Street pocket park. Other recreational facilities include facilities at the Napa County Fairgrounds, Calistoga Elementary School, and Calistoga High School.

As established by General Plan Policy P4.1-2, the City of Calistoga maintains a park standard of three acres per 1,000 residents. The city's park space to resident ratio is approximately 17.36 acres per one thousand residents when the Fairgrounds and school facilities are accounted and approximately 2.73 acres per thousand residents when only accounting for city-owned facilities. As such, the parkland ratio is currently slightly below the City's target. However, the project will have a negligible affect on the park standard and will contribute impact fees for the development and acquisition of parklands.

As discussed further in Section 5.16 of this Initial Study, the project will be subject to the Cultural/Recreational Development impact fee which will contribute to development of cultural and recreational facilities including those identified in Objective OSC-4.1, Action A1 of the General Plan. Through payment of applicable development impact fees, the project will not result in substantial adverse physical impacts associated with the provision of new or physically altered parks and impacts of the project will therefore be **less than significant**.

Impact PUB-E. To offset the cost of improving or expanding City services to accommodate the demand generated by new development, the City charges one-time impact fees on new development. The impact fees finance public service improvements by charging new development's fair share of the costs necessary to maintain acceptable facilities and services. Revenues generated through the project's payment of the City Administrative Facilities Development Impact Fee will pay the project's fair share toward establishing and maintaining City facilities. Through payment of applicable development impact fees, the project will result in a **less than significant** impact to public facilities.

5.16 RECREATION

Would the project:	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

Impact REC-A, REC-B. As established by General Plan Policy P4.1-2, the City of Calistoga maintains an interim park standard of three acres per 1,000 residents. The project proposes subdivision into 22 individual lots to facilitate development of 22 single-family dwelling units, which would result in an estimated 62 new residents. Calistoga provides approximately fourteen acres of city-owned land dedicated to recreational activities at seven locations within city limits, including Fireman’s Park, Heather Oak Park, Little League Field, Logvy Community Park, Monhoff Center, Myrtle Street pocket park, and Pioneer Park.

In addition, approximately seventy-six acres of recreational facilities owned by other public agencies are also available within the city limits, including the Napa County Fairgrounds, Calistoga Elementary School, and Calistoga High School. The city’s park space to resident ratio is approximately 17.36 acres per one thousand residents when the Fairgrounds and school facilities are accounted and approximately 2.73 acres per thousand residents when only accounting for city-owned facilities.

The project proposes development that is within the range anticipated by the General Plan and will be required to pay its fair share of development impact fees set forth in Section 3.28.040 of the municipal code, including the Cultural/Recreational Development Impact Fee

which is intended to cover the costs associated with new cultural and recreational facilities required to serve future growth in the city. Revenues generated through the project's payment of the fee will contribute to development of cultural and recreational facilities including those identified in Objective OSC-4.1, Action A1 of the General Plan. Through payment of applicable development impact fees, the project will not result in substantial deterioration of existing parks nor will it require construction or expansion of recreational facilities that would result in an adverse physical effect on the environment. As such impacts to recreational resources as a result of the project will be **less than significant**.

5.17 TRANSPORTATION

Would the project:	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

Impact TRA-A. The City of Calistoga’s Active Transportation Plan does not include any planned pedestrian or bicycle facilities on Kortum Canyon Road and the proposed project, which does not include pedestrian or bike facilities is consistent with this plan and associated City policies that recognize the rural nature of some development areas. VINE Transit provides service along Foothill Blvd with routes that stop at Lincoln, within a half mile of the project. The Project would create little to no additional demand for transit and would not impact transit facilities. As such, the project would have a **less than significant** impact to pedestrian, bicycle and transit facilities.

The proposed project also includes the development of an internal access road, which would be a private street with two 10-foot travel lanes to provide access to individual lots. The proposed internal roadway would be a “rural/hillside street” which requires 12-foot-wide travel lanes, except when the street is restricted by topography over “short distances” and

has been approved by the City Engineer.

Further, Section 16.16.030(B) of the City of Calistoga Municipal Code requires that new streets become public streets unless otherwise approved by the Planning Commission or City Council. The code requires that justification shall be based on topography or other natural features and the subdivider must provide a reasonable method for maintenance that has been approved by both the Director of Public Works and the City Attorney. Although the new internal access road would be private and would not meet the 12-foot-wide lane requirement, the project is requesting approval under Section 16.16.030(C)(4), which provides for exceptions to the standard as recommended by the Public Works and Planning and Building Directors and subject to approval by the Planning Commission. The Public Works and Planning and Building Directors as well as the City Engineer and Fire Marshall have reviewed the proposed site access and have preliminarily found the design to be acceptable given the site topography, constraints, and development. Therefore, the project would not result in a conflict with a City policy and impacts would be **less than significant**.

Impact TRA-B. Pursuant to Section 15064.3 of the CEQA Guidelines, analysis of vehicle miles travelled (VMT) attributable to a project is considered the most appropriate measure of transportation impacts for CEQA purposes. Other relevant considerations may include the effects of the project on transit and non-motorized travel. A Traffic Impact Study was prepared for the project by W-Trans on April 23, 2023 (Appendix J).

The project will generate approximately 207 new daily trips at operation associated with development of 22 new single-family residences. Fifteen of these trips would occur during morning peak hour and 21 during afternoon peak hour.

The Solano Napa Activity-Based Model (SNBM) is used to analyze travel patterns and estimate VMT based on geographic areas known as transportation analysis zones (TAZs). The project parcels are located within TAZ 185, which was determined to have a per capita VMT of 10.87 while the Countywide VMT per capita per the model is 14.18. The significance threshold is 15% below this level (14.18) or 12.05 vehicle miles traveled per capita. The VMT for the project is estimated at 10.87 which is less than the 15% requirement and as such, the project would have **a less than significant** impact.

Impact TRA-C, TRA-D. Access to the project site will be provided from Kortum Canyon Road to the project driveway, approximately 0.25-mile south of the intersection of Kortum Canyon Road/Foothill Boulevard. As part of the project, the internal access road will be widened to approximately 20 feet, providing 10-foot travel lanes in each direction with a two-

foot shoulder on either side. New single-family residences introduced by the project will be accessed from the improved internal access road.

Emergency vehicle access will be available from the improved internal access road via Kortum Canyon Drive and a secondary emergency vehicle access only will be provided from Terrace Drive via a 12 ft wide driveway connecting to the improved internal access road. The Calistoga Fire Chief has given preliminary approval of the reduced minimum width for the emergency access lane and emergency access is expected to be acceptable. In addition, roadway hazards are not anticipated. As such, the proposed project would have a **less than significant** impact on emergency response times and access for emergency responders.

Based on existing daily traffic volumes, Kortum Canyon Road is classified as a very low volume street. Addition of project-generated traffic (207 daily trips) will result in traffic volumes slightly exceeding 400 daily trips and would therefore be considered a low volume street. As noted in the Transportation Impact Study prepared for the project, the American Association of State Highway and Transportation Officials (AASHTO) Guidelines for Geometric Design of Very-Low Volume Roads discourage widening of lanes and shoulders, changes in horizontal and vertical alignment, and other roadway improvements except where such improvements will result in substantial safety benefits. Given that the project will introduce new daily trips only slightly exceeding the very low volume street classification, and as it is assumed that all trips to the project site will come from SR 128, resulting in no vehicles performing left hand turns from Kortum Canyon Road onto the east/west project roadway, widening of the existing right-of-way or other roadway improvements were not recommended by the Transportation Impact Study. Additionally, sight distances at the intersection of Kortum Canyon Road and the east/west project roadway would meet the safety criteria as long as vegetation is appropriately managed. Overgrown vegetation could impact sight distances and result in unsafe conditions that would have a potentially significant impact. Therefore, **Mitigation Measure TRA-1** shall be implemented to either dedicate the road to the City for ongoing maintenance or prepare a long-term maintenance plan for approval by the Director of Public Works and the Fire Chief prior to issuance of the construction permit for the proposed access road. As mitigated, the project would have a **less than significant impact**.

Mitigation Measures:

TRA-1: The applicant shall either make an irrevocable dedication of the proposed access road to the City upon completion of construction or prepare a long-term maintenance plan that includes maintaining vegetation adjacent to the project to less than three feet in height and

trimming branches and hanging limbs of trees to have a minimum height of 7 ft to ensure safety for emergency vehicles and daily trips. The maintenance plan shall be approved by the Director of Public Works. .

returned results indicating the site does not contain any known tribal cultural resources.

In compliance with AB 52 (PRC Section 21080.3.1), on January 6, 2023, a project notification letter was distributed to all Tribes identified on the Native American Heritage Commission Tribal Consultation List, dated December 29, 2022. The Lytton Rancheria Tribe responded on March 1, 2023 stating that the Tribe acknowledged receipt of the notification letter and was not requesting consultation. The Mishewal-Wappo Tribe of Alexander Valley submitted a response on April 7, 2023 requesting consultation with the lead agency, and in response, the City, as the lead agency, initiated consultation with the tribe.

Based on information available to date it is expected that with identified mitigation measures and ongoing Tribal coordination, consultation will be satisfied. Therefore, potential impacts to Tribal Cultural Resources will be reduced to **less than significant** with mitigation.

Mitigation Measure(s)

Implementation of the following mitigation measure will reduce impact TCUL-A and TCUL-B to less than significant.

TCUL-1 To protect buried tribal cultural resources that may be encountered during ground disturbing activities, the project shall implement **Mitigation Measure CUL-1**.

5.19 UTILITIES AND SERVICE SYSTEMS

Would the project:	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

The project is located within the City of Calistoga on a previously developed property where utility infrastructure already exists. The project site and vicinity are served by the following service providers:

- Water supply and distribution: City of Calistoga
- Wastewater collection and treatment: City of Calistoga
- Recycled water treatment and distribution: City of Calistoga
- Storm drainage: City of Calistoga
- Solid waste service: Upper Valley Disposal and Recycling
- Electrical and natural gas power: Pacific Gas and Electric and/or Marin Clean Energy

Potable Water Supplies

The City of Calistoga provides domestic water service to 1,566 accounts, including the project site. The City acquires potable water supplies from two main sources including the Kimball Reservoir and the State Water Project through the North Bay Aqueduct connection pipeline via the City of Napa. The City's water system includes storage tanks with a capacity of 2.5 million gallons, 30 miles of distribution, and 20 miles of transmission mains.

Wastewater and Recycled Water

Wastewater generated in the City of Calistoga is conveyed for processing at the City of Calistoga's Dunaweal Wastewater Treatment Plant (WWTP), a 0.84 million gallon per day (mgd) average dry weather flow activated sludge tertiary treatment plant. Some tertiary treated effluent may be discharged to the Napa River from October 1st through May 15th (per NPDES Permit No. CA0037966, Order 00-1312). During the remainder of the year, effluent is distributed for recycled water use or stored for future use in effluent storage ponds.

Storm Drainage

Within the City of Calistoga, storm drains convey runoff from impervious surfaces such as streets, sidewalks, and buildings to gutters that drain to creeks, the Napa River, and ultimately to the San Pablo Bay. This water is untreated and carries with it any contaminants picked up along the way such as solvents, oils, fuels and sediment. The City's Stormwater Ordinance establishes standard requirements and controls related to the storm drain system to which all existing and proposed development must comply. As noted in the Preliminary Stormwater Control Plan for Regulated Projects prepared by Adobe Associates, Inc. (Appendix K), the site drains to the northeast toward Highway 128.

Solid Waste

Solid waste (debris, construction waste, recyclable materials, and green waste/compost) generated in the City of Calistoga is collected by Upper Valley Disposal and Recycling and delivered to the Clover Flat Landfill for disposal. The landfill is permitted to receive 600 tons per day and as of July 2020 had a remaining capacity of 2,240,000 cubic yards.¹⁹

Impact UTI-A, UTI-C. The project site is currently served by well water, electricity, natural gas, and telecommunication facilities. New electric power, natural gas, and telecommunication lines will be connected to the existing facilities onsite and in the immediate site vicinity. Utility improvements proposed by the project include the installation and extension of pipelines, scaled to serve to the proposed 22 lot single-family residential development.

A new 12-inch water main at the intersection of Foothill Blvd. and Kortum Canyon Rd. that will extend underground for a length of approximately 250 feet along Kortum Canyon Road, within the proposed internal access road, and connect to a new water pump on the southeast corner of Lot 2. A new 8-inch water main will extend west on Kortum Canyon Road for another 200 feet and then connect to a 350,000 gallon water storage tank via the utility easement on Lots 1, 2, and 3. This tank will provide water for fire suppression using five new fire hydrants. An additional 20,000 gallon tank will be placed next to the larger tank and will serve the parcels with domestic water via a six-inch water main. Three-inch water lines will provide water for irrigation purposes. Beyond the extension of water mains, pipelines, and laterals, the project is not expected to necessitate the expansion or construction of water treatment or conveyance facilities.

The existing water supplies, facilities, and infrastructure are sufficient to meet the demands of the project without the need for expansion or new construction of water supply facilities. Water demand of the project will be limited through efficient irrigation of landscaping, compliance with California's Model Water Efficient landscape regulation, and water-efficient fixtures and appliances, consistent with requirements established by the CalGreen Building Code. Landscaping introduced by the project will be irrigated by an existing onsite groundwater well. The proposed project's water demands are estimated in the Preliminary Utilities Study and are within the available capacity of the City's water system. Therefore, the

¹⁹ CalRecycle Clover Flat Resource Recovery Park, <https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/2681?siteID=2015>, Accessed July 2022.

project will result in a **less than significant** impact related to the adequacy or capacity of water supply facilities and water treatment facilities.

Wastewater generated by the project will be conveyed via two separate sewer mains. A new 780 foot long eight-inch sewer main will extend from the project entry at Kortum Canyon Road to the tie in at Foothill Boulevard and will serve Lots 1-10 and 19-22. A second eight-inch sewer main will connect with lots 11-18 to the City's sewer main at Foothill Blvd via the proposed emergency access road and Terrace Drive. The projected wastewater generation of the project falls within the capacity of the City's wastewater treatment plant. The increase in wastewater generated by the proposed uses, as estimated in the Preliminary Utilities Study prepared by Adobe Associates, Inc, (Appendix L) for the Kortum Ranch Development, is within the operating capacity of the wastewater treatment plant. As such, the proposed project will not cause or exceed wastewater treatment requirements set forth by the Regional Water Quality Control Board. Further, beyond the extension of wastewater mains and laterals, the project is not expected to necessitate the expansion or construction of wastewater treatment facilities.

New storm drainage infrastructure will be installed to accommodate the increase in impervious surfaces resulting from construction of the internal access road, driveways, and residences. Onsite improvements would capture storm water runoff via new storm drains within the site, convey flows towards new storm drain lines, and discharge runoff east of the site to sheet flow to regional storm drain facilities.

The Preliminary Storm Water Control Plan identifies proposed storm drain facilities onsite and in the project vicinity and demonstrates sufficient capacity to accommodate increased surface flows generated by the project. Installation of the proposed bioretention areas and onsite subsurface storage chamber will ensure no net-increase in flows emanating from the project site occurs.

The project will not significantly increase utility demands. The 22 new single-family homes will generate demand for utilities at levels previously anticipated by the General Plan and are within the available capacity of existing services. The project is well served by existing and adjacent infrastructure and all other utilities including electricity, natural gas, and telecommunication facilities. Therefore, impacts related to the relocation, construction, or expansion of utilities as a result of the project will be **less than significant**.

Impact UTI-B. During construction, water will be used primarily for dust suppression and soil compaction. Construction water volumes will be minimal and will not require new

or expanded water supplies or entitlements.

At operation, new single-family residential units will generate water demand for indoor and outdoor uses and will rely on municipal supplies to meet potable demands. Irrigation for landscaping will be provided via the existing groundwater well onsite, which is capable of delivering approximately 22.5 gallons per minute. Water demand associated with the project will be greater relative to the existing vacant site conditions. As presented in the Water Demand Calculations prepared for the project (Appendix M), average daily water use is anticipated to be 11,086 gallons per day (gpd), and annual water use is anticipated to be 12.42-acre feet/year (afy).

As noted in the Infrastructure Element of the General Plan, under normal conditions the City's total water demand in 2035 is estimated to be 953 afy with a remaining water supply of approximately 296 to 335 afy. As of 2019, the City of Calistoga's annual water demand was 656 afy with a firm yield supply of 1,249 to 1,288 afy. The project will be required to comply with the California's Model Water Efficient Landscape Ordinance as well as the latest plumbing code requirements for water efficiency. As the project's water demand is consistent with the water demand anticipated by the General Plan and through compliance with applicable regulations governing water use, the City's current and projected water supplies will be adequate to accommodate the project's water demand while meeting existing water demands during normal, dry, and multiple dry years. Therefore, impacts to water supplies as a result of the project will be **less than significant**.

Impact UTI-D, UTI-E. During construction, the project will generate solid waste from demolition of retaining walls, concrete and asphalt removal, and vegetation/tree removal. Consistent with CalGreen Mandatory Measures, and as a standard requirement for building permits, the applicant will be required to recycle or salvage at least 65 percent of nonhazardous construction and demolition waste and prepare a Construction Waste Management Plan that documents the diversion of materials as required by CalGreen. Accordingly, impacts associated with construction waste will be **less than significant**.

At operation, the project will generate solid waste including debris, recyclables, and compostables. The City is under contract with Upper Valley Disposal & Recycling for hauling, sorting, and disposal of waste. Solid waste is collected and transferred to landfill sites with remaining capacity. Although the waste stream generated by the project is expected to increase during construction and operation, it is not expected to exceed existing landfill capacity and is not expected to result in violations of federal, state, and local statutes and regulations related to solid waste. Therefore, the disposal of solid waste resulting from

project construction and operation will result in a **less than significant** impact.

5.20 WILDFIRE

Would the project:	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones:				
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. 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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. 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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. 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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion

Impact FIR-A, FIR-B, FIR-C, FIR-D.

CAL FIRE designates the project site as a Very High

Fire Hazard Severity Zone within a Local Responsibility Area.²⁰ Data available from CAL FIRE indicates that the site has not previously been directly impacted by wildfires, but has been under threat from past wildfires including the Hanly Fire (1964), Tubbs Fire (2017), and Glass Fire (2020), the closest of which came within one mile of the project site.²¹ Evacuation of the site in the event of a wildfire may be challenging as Kortum Canyon Road is primarily a rural, unpaved, narrow roadway that provides limited access and therefore requires lower vehicular speeds, that may result in delays during an evacuation scenario.

As set forth in the Public Safety Element of the Calistoga General Plan Foothill Boulevard and Lincoln Avenue are designated as emergency evacuation routes. The City of Calistoga's Office of Emergency Services communicates disaster preparedness as well as evacuation procedures via Nixle, an internet communication platform used to release important information to the community, and ZoneHaven, which provides evacuation zone delineations. Notifications may include severe weather warnings, wildfire alerts, and road closures/detours.

Based on the site's location within a VHFHSZ, limited access into and out of the project site, rural nature of Kortum Canyon Road, and history of wildland fires surrounding the site, the project may result in **potentially significant** impacts associated with impairment of an adopted emergency response plan or emergency evacuation plan, exacerbation of wildfire risks and exposure of project occupants to pollutant concentrations from a wildfire, and exposure of people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes.

Further analysis of impacts FIR-A, FIR-B, FIR-C, and FIR-D will be included in the Wildfire chapter of the Kortum Ranch EIR.

²⁰ California Department of Forestry and Fire Protection. FHSZ Viewer. Available at: <https://egis.fire.ca.gov/FHSZ/>. Accessed August 2022.

²¹ California Department of Forestry and Fire Protection, California Fire Perimeters (1898-2020), <https://databasin.org/datasets/bf8db57ee6e0420c8ecce3c6395aceeb/>, accessed March 2023.

5.21 MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion

Impact MAN-A. As discussed in Section 5.4, Biological Resources, of this Initial Study, development of the project has the potential to result in substantial adverse effects to special-status species, riparian habitats, or other sensitive natural communities, and/or State or federally protected wetlands. Therefore, further analysis is required to ensure that the project will not substantially degrade the quality of the environment, substantially reduce the habitat of wildlife species, cause a wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or substantially reduce the number or restrict the range of a rare or endangered plants or animals. As such, the project could result in a **potentially significant** impact.

Further analysis of impact MAN-A will be included in the Biological Resources chapter of the Kortum Ranch EIR.

Impact MAN-B, MAN-C. The project, in conjunction with other development within the city and surrounding region, could incrementally contribute to cumulative impacts in the project area. In particular, the project could contribute to increases of GHG emissions that are associated with global climate change during construction of the proposed residences, site improvements, and off-site improvements. In addition, during project operations, new vehicle trips associated with the future residents of the project would contribute to increases of GHG emissions associated with global climate change. Additionally, based on the sites location within an area designated as a VHFHSZ, the project could result in impacts associated with impairment of an adopted emergency response plan or emergency evacuation plan, exacerbation of wildfire risks and exposure of project occupants to pollutant concentrations from a wildfire, and exposure of people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes. As such, the project could result in a **potentially significant** impact.

Further analysis of the impacts MAN-B and MAN-C will be included in the GHG and Wildfire chapters of the Kortum Ranch EIR.

6.0 REFERENCES AND APPENDICES

6.1 APPENDICES

- Appendix A: Kortum Ranch Subdivision Tentative Map, Adobe Associates, Inc., July 10, 2023
- Appendix B: Slope Analysis Exhibit, Slope Analysis Exhibit, Adobe Associates, Inc., December 20, 2022
- Appendix C: Kortum Ranch Neighborhood Cluster Concept, Kortum Ranch, LLC, January 23, 2022
- Appendix D: Kortum Ranch Subdivision Construction Health Risk & Greenhouse Gas Assessment, Illingworth & Rodkin, May 19, 2023
- Appendix E: Kortum Canyon Arborist Report, Macnair & Associates Consulting Arborists and Horticulturalist, November 1, 2022
- Appendix F: Cultural Resources Evaluation, Archeological Resource Services, April 12, 2022 (CONFIDENTIAL)
- Appendix G: Geotechnical Exploration Report, KC Engineering Company, April 16, 2021 and updated August 8, 2023.
- Appendix H: Phase I Environmental Site Assessment (ESA), AdvancedGeo, August 26, 2022
- Appendix I: Noise and Vibration Assessment, Illingworth & Rodkin, May 19, 2023
- Appendix J: Transportation Impact Study, W-Trans, April 25, 2023
- Appendix K: Preliminary Stormwater Control Plan, Adobe Associates, Inc., July 10, 2023
- Appendix L: Preliminary Utilities Study, Adobe Associates, Inc, July 10, 2023
- Appendix M: Water Demand Calculations, April 28, 2022

6.2 REFERENCES

The following information sources were referenced in the preparation of this initial study and are available for review online or at the Planning & Building Department, City of Calistoga, 1232 Washington Street, Calistoga:

1. BAAQMD Justification Report: CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans, April 2022.
2. BAAQMD, 2023, Appendix E of the 2022 BAAQMD CEQA Guidelines. April, 2022.
3. BAAQMD, California Environmental Quality Act Air Quality Guidelines, May 2017.
4. BASMAA Post-Construction Manual, Design Guidance for Stormwater Treatment and Control for Projects in Marin, Sonoma, Napa, and Solano Counties, January 2019.
5. Bay Area Clean Air Plan, prepared by the Bay Area Air Quality Management District, April 2017.

6. California Department of Conservation, California Important Farmland Finder, <https://maps.conservation.ca.gov/dlrp/ciff/>.
7. California Department of Conservation, Earthquake Zones of Required Investigation, <https://maps.conservation.ca.gov/cgs/EQZApp/app/>.
8. California Department of Conservation, Farmland of Local Importance Definitions, http://www.conservation.ca.gov/dlrp/fmmp/Documents/Farmland_of_Local_Importance_2016.pdf
9. California Department of Conservation, Napa County Tsunami Inundation USGS 24K Quads, <https://www.conservation.ca.gov/cgs/tsunami/maps/napa>.
10. California Department of Forestry and Fire Protection, California Fire Perimeters (1898-2020), <https://databasin.org/datasets/bf8db57ee6e0420c8ecce3c6395aceeb/>.
11. California Department of Forestry and Fire Protection, FHSZ Viewer, <https://egis.fire.ca.gov/FHSZ/>.
12. California Department of Transportation, California Scenic Highway Mapping System, <https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways>.
13. California Energy Commission, 2017 Integrated Energy Policy Report, https://www.energy.ca.gov/2017_energypolicy/
14. California Energy Commission, Final Adopted State Alternative Fuels Plan, Adopted December 2007, <https://ww2.energy.ca.gov/2007publications/CEC-600-2007-011/CEC-600-2007-011-CMF.PDF/>
15. California Energy Commission, Supply and Demand of Natural Gas in California, http://www.energy.ca.gov/almanac/naturalgas_data/overview.htm
16. California Energy Commission, Total System Electric Generation (2018), https://ww2.energy.ca.gov/almanac/electricity_data/total_system_power.html
17. California Regional Water Quality Control Board San Francisco Bay Region Municipal Regional Stormwater NPDES Permit, Order No. R2-2015-0030, NPDES Permit No. CA0025054, October 8, 2015, https://www.waterboards.ca.gov/northcoast/board_decisions/adopted_orders/pdf/2015/151008_0030_phaselpermitrenewal.pdf
18. Calistoga Climate Action Plan, April 2014.
19. Calistoga Joint Unified School District, https://www.calistogaschools.org/about_us/about_the_district.
20. CalRecycle Clover Flat Resource Recovery Park, <https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/2681?siteID=2015>.
21. City of Calistoga 2003 General Plan Update and as amended, including 2012 Community

- Identity Element, 2014 Circulation Element, 2014 Public Safety Element, 2020 Infrastructure Element, and 2023 Housing Element.
22. City of Calistoga 2003 General Plan Update Draft Environmental Impact Report, prepared by Design, Community and Environment, May 2003.
 23. City of Calistoga 2003 General Plan Update Final Environmental Impact Report (SCH #2003012009), prepared by Design, Community and Environment, September 10, 2003.
 24. City of Calistoga Active Transportation Plan, adopted October 21, 2014 (City Council Resolution 2014-089).
 25. City of Calistoga Climate Action Plan, adopted by the Calistoga City Council April 1, 2014.
 26. City of Calistoga Municipal Code. <https://www.codepublishing.com/CA/Calistoga/>
 27. County of Napa, Geographic Information Systems, Calveg, updated 01/14/11, https://gis.napa.ca.gov/giscatalog/catalog_xml.asp.
 28. County of Napa, Geographic Information Systems, Williamson Act Parcels, updated 01/13/23, https://gis.napa.ca.gov/giscatalog/catalog_xml.asp.
 29. Economic & Planning Systems, Development Impact Fee Study, 2017.
 30. FEMA, National Flood Hazard Layer Viewer, <https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd>.
 31. Jack Schreder & Associates, Inc., Level I Developer Fee Study, Calistoga Joint Unified School District, July 21, 2020.
 32. Napa County Online Public Map, <https://gis.countyofnapa.org/portal/apps/webappviewer/index.html?id=0bbafe490c58430da719ff851c78b7fa>.
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 34. Napa Valley Subbasin Groundwater Sustainability Plan, January 2022
 35. Nonresidential Development Housing Linkage Fee Nexus Study, prepared by Economic & Planning Systems, Inc., July 1, 2014.
 36. State of California, Energy Commission, 2022 Building Energy Efficiency Standard Summary, August 2021.
 37. State Water Resources Control Board, Construction General Permit Order 2009-0009-DWQ, http://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.shtml
 38. Technical Advisory on Evaluating Transportation Impact in CEQA, prepared by Office of Planning and Research, November 2017.
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40. Vision 2040 Moving Napa Forward, prepared by the Napa County Transportation and Planning Agency, September 16, 2015.