ENVIRONMENTAL ASSESSMENT

Middletown Rancheria of Pomo Indians of California

62.87-Acre Fee-to-Trust Project

Lake County, California

Lead Agency

Bureau of Indian Affairs
Pacific Regional Office
2800 Cottage Way
Sacramento, California 95825

August 2023

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Section 1

INTRODUCTION

1.1 INTRODUCTION

The U.S. Department of the Interior, Bureau of Indian Affairs (BIA) is the federal agency that is charged with reviewing and approving tribal applications pursuant to 25 Code of Federal Regulations (CFR) Part 151 to take land into federal trust status. This Environmental Assessment (EA) has been prepared for the BIA to support the application of the Middletown Rancheria of Pomo Indians of California (Tribe) for land to be placed into federal trust (Proposed Action).

This land consists of approximately 62.87 acres contiguous to the existing boundary of the Middletown Rancheria. The land is currently owned by the Tribe in fee simple status and is intended to be used for residential housing and an RV park. The BIA will use this EA to determine if the Proposed Action would result in adverse effects to the environment.

This document has been prepared in accordance with the requirements of the National Environmental Policy Act (NEPA) of 1969 (42 United States Code [USC] § 4321 et seq.), the Council on Environmental Quality (CEQ) Guidelines for Implementing NEPA (40 CFR Parts 1500-1508), and the BIA NEPA Guidebook (59 Indian Affairs Manual [IAM] 3-H). **Section 2.0** of this EA provides a detailed description of the Proposed Action and Project Alternatives. **Section 3.0** provides a description of the existing environmental conditions on and in the vicinity of the project site, an analysis of the potential environmental consequences associated with the Project Alternatives, and a discussion of impact avoidance and mitigation measures. Consistent with the requirements of NEPA, the BIA will review and analyze the environmental consequences associated with the Proposed Action and Project Alternatives, and either determine that a Finding of No Significant Impact (FONSI) is appropriate, request additional analysis, or request that an Environmental Impact Statement be prepared.

1.2 PROJECT LOCATION

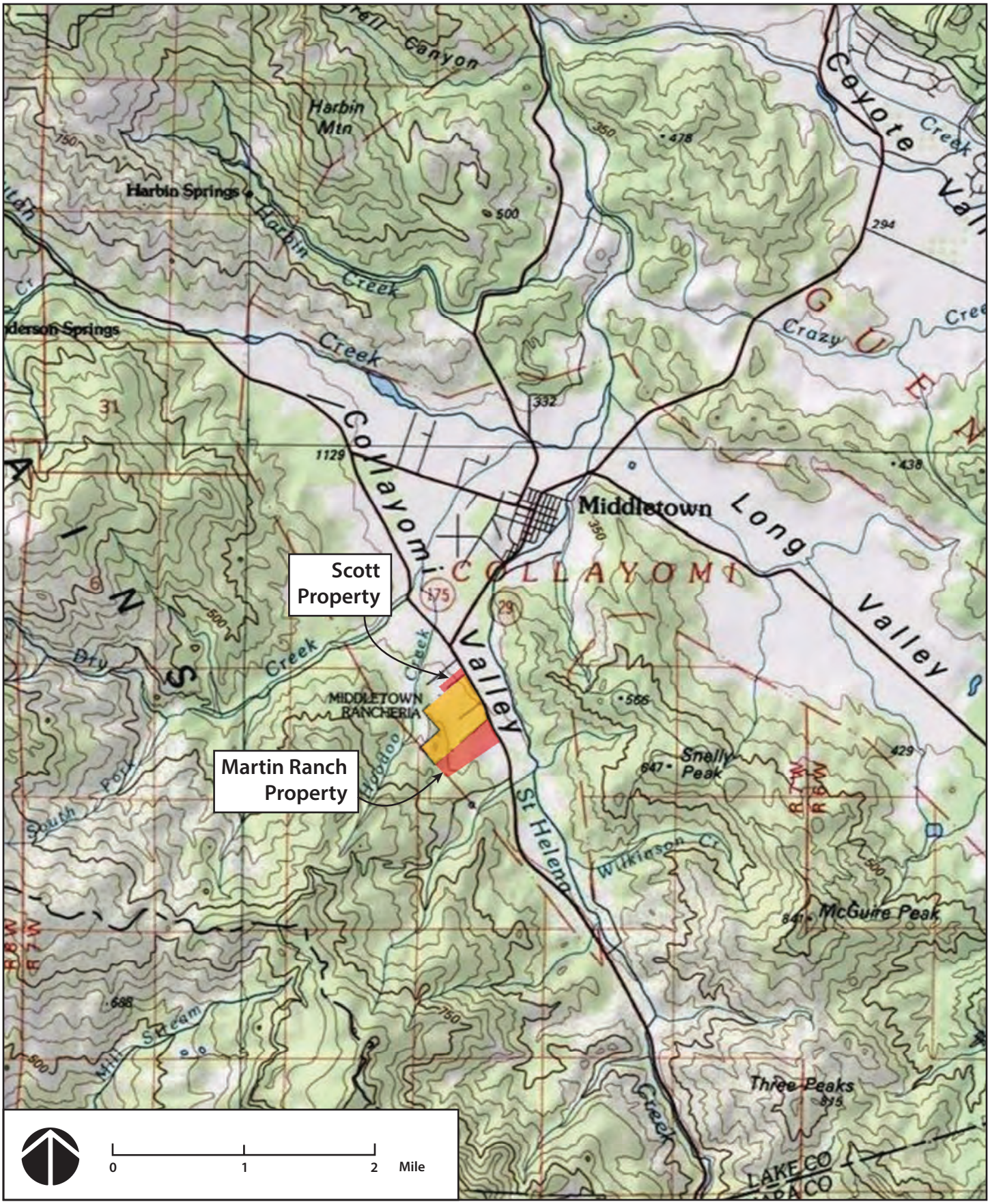
The three proposed fee-to-trust parcels are in southern Lake County, California contiguous with the boundary of the Middletown Rancheria (**Figures 1-1, 1-2, 1-3**) near the unincorporated town of Middletown. The parcels are located within an unsectioned area of the Callayomi Rancho land grant, Township 10 North, Range 7 West (Mount Diablo base line and meridian) as shown on the Mount Saint Helena and Detert Reservoir, California 7.5-minute USGS quadrangles. **Table 1-1** provides parcel information.



MIDDLETOWN RANCHERIA

FIGURE 1-1

REGIONAL LOCATION MAP



MIDDLETOWN RANCHERIA

FIGURE 1-2

VICINITY MAP



MIDDLETOWN RANCHERIA

FIGURE 1-3
PARCEL MAP

Table 1-1
Project Parcel Details

Parcel	APN	Common Name Reference	Acres
1	014-160-050	Scott Property	0.46
2	014-160-090		8.39
3	014-005-340	Martin Ranch	54.02
Total			62.87

1.3 PURPOSE AND NEED FOR THE PROPOSED ACTION

The purpose of the proposed fee-to-trust action would be to facilitate Tribal self-determination and allow the Tribe to exercise sovereignty over lands currently owned in fee-title. Owning the subject lands in fee-title does not allow the Tribe to exercise its complete authority over the land, because with such ownership, the Tribe would have oversite from external local governmental bodies. Additionally, the autonomy provided by the fee-to-trust action would allow for greater self-sufficiency.

There is a current need to alleviate the shortage of on-reservation housing for the Middletown Tribe. The Tribe has 42 residences on the Rancheria. The Tribe has a housing waiting list of over eight Tribal member families. Tribal members that do not live on the Rancheria live in Lake, Napa, Sonoma and Mendicino counties and out of state because of jobs or lack of affordable housing. Living a far distance from the Rancheria leaves these tribal members unable to participate in Tribal and family activities and meetings held on the Rancheria – particularly cultural activities and ceremonies which are vital to the Tribe and its people. To most effectively meet this housing need, the Tribe has determined that housing properties should be located adjacent to the Rancheria. Additionally, the Tribe has a need to diversify and expand accommodation options for its casino, to ensure a sustainable and stable revenue base for the Tribe.

The BIA's role under the Indian Reorganization Act (IRA) is to partner with tribes to help them achieve their goals for self-determination, while also maintaining its responsibilities under the Federal-Tribal trust and government-to-government relationships.

1.4 Overview of the Environmental Review Process

This EA has been prepared to analyze and document the environmental consequences associated with the approval of the fee-to-trust action and the subsequent residential development. The BIA will use this EA to determine if the Proposed Action would result in significant effects to the environment and whether a FONSI is appropriate or an EIS should be prepared and processed. This EA is intended to satisfy the environmental review process of 40 CFR 1501.3, 40 CFR 1508.9, and the BIA NEPA Guidebook (59 IAM 3-H).

1.4.1 Environmental Issues Addressed

Based on a review of the project site and the proposed development, as well as consultation with local and federal agencies, the following environmental issues are evaluated in this EA:

- Land Resources (topography, geology, soils, seismicity, and mineral resources);
- Water Resources (surface water, drainage and flooding, groundwater, and water quality);
- Air Quality;
- Biological Resources;
- Cultural Resources;
- Socioeconomic Conditions;
- Transportation and Circulation,
- Land use and Agriculture);
- Public Services (water supply, wastewater service, solid waste service, electricity/natural gas/telecommunications, law enforcement, fire protection, and emergency medical services);
- Noise;
- Hazardous Materials; and
- Visual Resources.

1.5 Regulatory Requirements and Approvals

The following direct and indirect federal approvals and actions may be required for the Proposed Action or subsequent residential development:

- Transfer of the 3 parcels totaling approximately 62.87 acres into federal trust status for the Tribe by the Secretary of the Interior;
- National Pollutant Discharge Elimination System (NPDES) general permit for stormwater discharges by the U.S. Environmental Protection Agency as required by the Clean Water Act (pursuant to Section 402);
- U.S. Fish and Wildlife Service consultation under the Endangered Species Act;
- American Indian Religious Freedom Act consultation under applicable regulation 43 CFR 7, Archeological Resources Protection Act (ARPA) Permitting; and
- National Historic Preservation Act Section 106 consultation (36 CFR).

Section 2

PROPOSED ACTION AND PROJECT ALTERNATIVES

This section describes the Proposed Action and Project Alternatives. The Proposed Action consists of placing the three parcels totaling approximately 62.87 acres into federal trust status for the Tribe. The Project Alternatives include two development alternatives. This section also identifies the protective measures and best management practices (BMPs) incorporated into the Project Alternatives to avoid or reduce environmental impacts.

2.1 SELECTION OF ALTERNATIVES FOR DETAILED EVALUATION

The Project Alternatives selected for detailed evaluation in this EA consist of:

Alternative A – Proposed Project: 62.87+/- acre trust land acquisition, development of 45 homes, 5 cabins, and a 21-space RV park.

Alternative B – Reduced-Density Alternative: Identical trust land acquisition, development of 26 new homes and a 21-space RV park.

Alternative C – No Action Alternative: The BIA would not take the land into trust and no changes in land use would occur.

2.2 ALTERNATIVE A – PROPOSED PROJECT

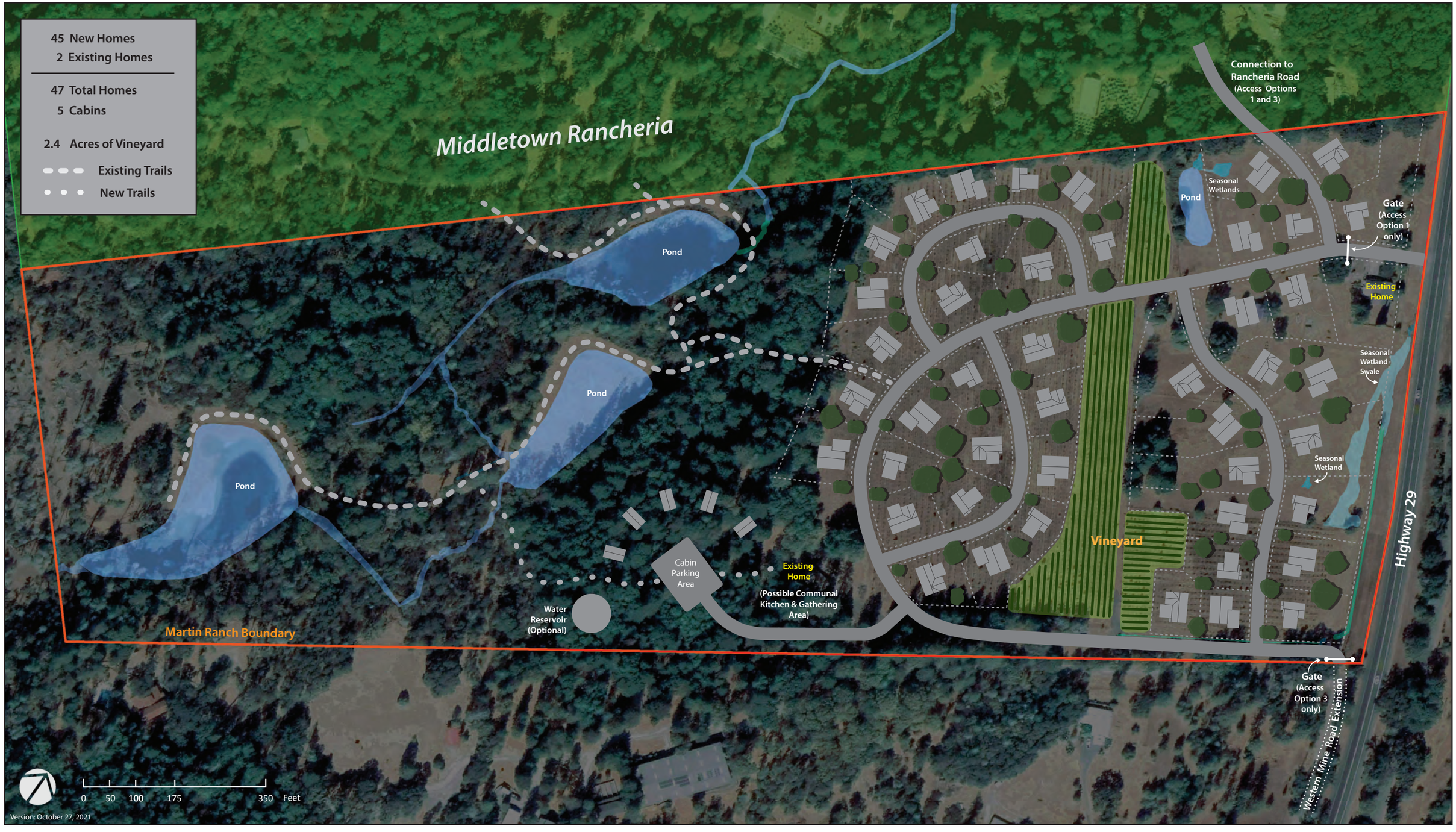
The Proposed Project is the BIA's consideration of a request from the Tribe to take 62.87+/- acres of land into federal trust. A foreseeable consequence of BIA approval of the fee-to-trust request would be the construction of single-family homes, cabins, and an RV park . The discussion provided below addresses the components of the fee-to-trust request and residential development.

2.2.1 Fee-to-Trust Request

The Proposed Action consists of the fee simple conveyance of the three parcels totaling approximately 62.87 acres into federal trust status for the benefit of the Tribe. The land transfer would be in accordance with procedures set forth in 25 CFR § 151.3 and involves numerous steps. This land trust action would shift civil regulatory jurisdiction over the project site from the State of California (State) and Lake County to the Tribe and the federal government; the State and County would continue to exercise criminal jurisdiction under 18 USC § 1162 and other federal laws pertaining to jurisdiction in Indian country.

2.2.2 Development Plans

The foreseeable consequence of an approved fee-to-trust request for the 62.87+/- acres would be the development of 45 new homes for Tribal Members and 5 cabins for visiting Tribal Members on the Martin Ranch property (**Figure 2-1**) and a 21-space RV park on the Scott property. These developments are described below.



MIDDLETOWN RANCHERIA

FIGURE 2-1

MARTIN RANCH SITE PLAN - PROPOSED ACTION

Residential Development

The Tribe has developed preliminary plans for the residential development. Once accepted into trust, the Tribe would complete the final designs of the housing development, including water and wastewater services, access road improvements, and other related infrastructure development in a manner consistent with all applicable laws, agreements, and environmental requirements. Construction of the homes would occur in phases as funds become available. For the purposes of the environmental analysis, it is assumed that up to 10 homes or cabins would be developed each year. The phasing of residential development would be subject to the extension of supporting water and wastewater services and utilities.

Single-Family Homes

The Tribe plans to construct approximately 45 single-family homes. The homes would range in size from two-bedroom units to four-bedroom units and have a total area of approximately 1,200 to 2,000 square feet. Attached and free-standing garages and carports may also be provided. The homes would be situated on lots ranging from approximately 0.2 to 0.6 acres. Maximum lot coverage would not exceed 35 percent. Most homes would be one-story, although some two-story homes may be developed. The maximum height of homes and associated structures would be 35 feet. All single-family residential (R1) setback requirements of the Lake County Zoning Ordinance would be met or exceeded along exterior boundaries of the Martin Ranch parcel. Asphalt-paved driveways would be provided off an asphalt-paved roadway.

Cabins

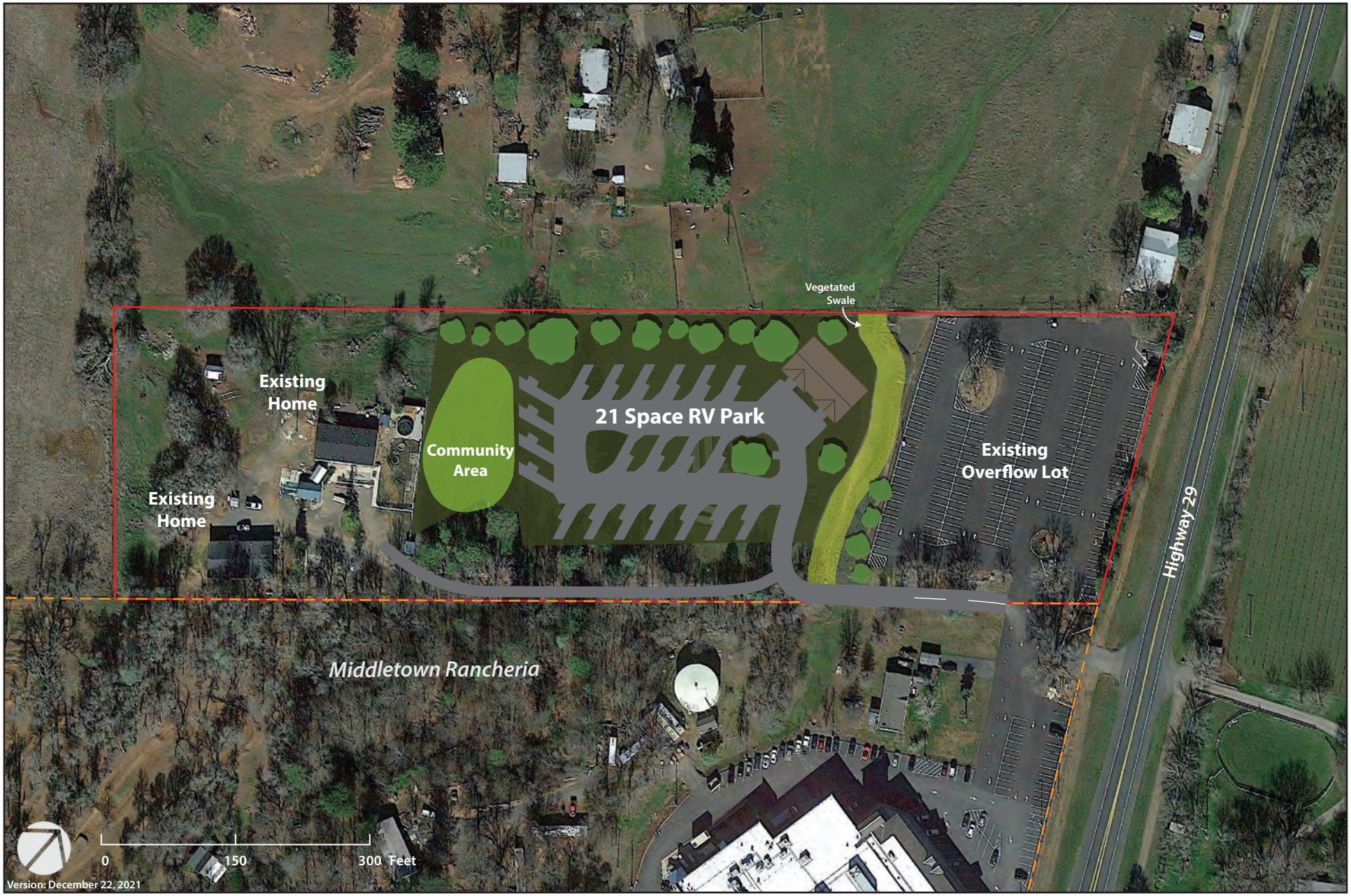
The Tribe plans to build five cabins that would be made available to visiting Tribal Members, the cabins would be located in the south-central portion of the property and accessed from a common asphalt-paved driveway and parking area. The cabins would have 2 to 3 bedrooms with a floor area of approximately 1,200 square feet. The cabins would have a maximum height of approximately 25 feet. All single-family residential (R1) setback requirements of the Lake County Zoning Ordinance would be met or exceeded along exterior boundaries of the Martin Ranch parcel. The layout of the cabins, driveway and parking area would avoid mature trees to the extent feasible.

RV Park

The Tribe plans to develop an RV park on the Scott property west of the existing overflow parking lot (**Figure 2-2**). Approximately 21 spaces would be provided for recreational vehicles. Approximately seven sites would have full hookups (water, sewer and electricity), with the remaining having partial hookups (water, electricity). A dump station would also be provided. The RV Park would have an office building with laundry facilities, restrooms, and showers. The RV Park would be developed with landscaping consistent with the Lake County Community Wildfire Protection Plan. This would include irrigated lawn around the sites and fire-resistant native shrubs and trees surrounding the development. All resort commercial (CR) setback requirements of the Lake County Zoning Ordinance would be met or exceeded along exterior boundaries of the Scott parcel.

Proposed Roadways and Access

All proposed roadways would be developed consistent with Lake County standards with a minimum 22-foot-wide asphalt-paved surface.



MIDDLETOWN RANCHERIA

FIGURE 2-2

SCOTT PROPERTY SITE PLAN

Scott Property Access

Access to the RV park on the Scott property would be provided from Rancheria Road through the existing casino and hotel parking lot. Direct access to Highway 29 would not be provided.

Martin Ranch Property Access

Three points of access are under consideration for the residential development on the Martin Ranch property: connection to the existing roadways on the Rancheria, improving the existing ranch house/vineyard driveway connection to Western Mine Road Extension, and direct access with Highway 29 by improving the existing farmhouse driveway to meet California Department of Transportation (Caltrans) design standards. Three combinations of these access points are evaluated in this document. These options are illustrated in **Figure 2-3** and described below.

Option 1 would provide access through the Rancheria and Western Mine Road Extension. Access to Highway 29 by the farmhouse driveway would be gated and only used for emergency access.

Option 2 would use Western Mine Road Extension and the farmhouse driveway to provide access to Highway 29. A direct connection to Highway 29 via the farmhouse driveway is subject to approval by Caltrans.

Option 3 includes full access via the Rancheria and the farmhouse driveway with gated access to Western Mine Road Extension. The gated access would only be used for emergency access. A direct connection to Highway 29 via the farmhouse driveway is subject to approval by Caltrans.

Grading and Drainage

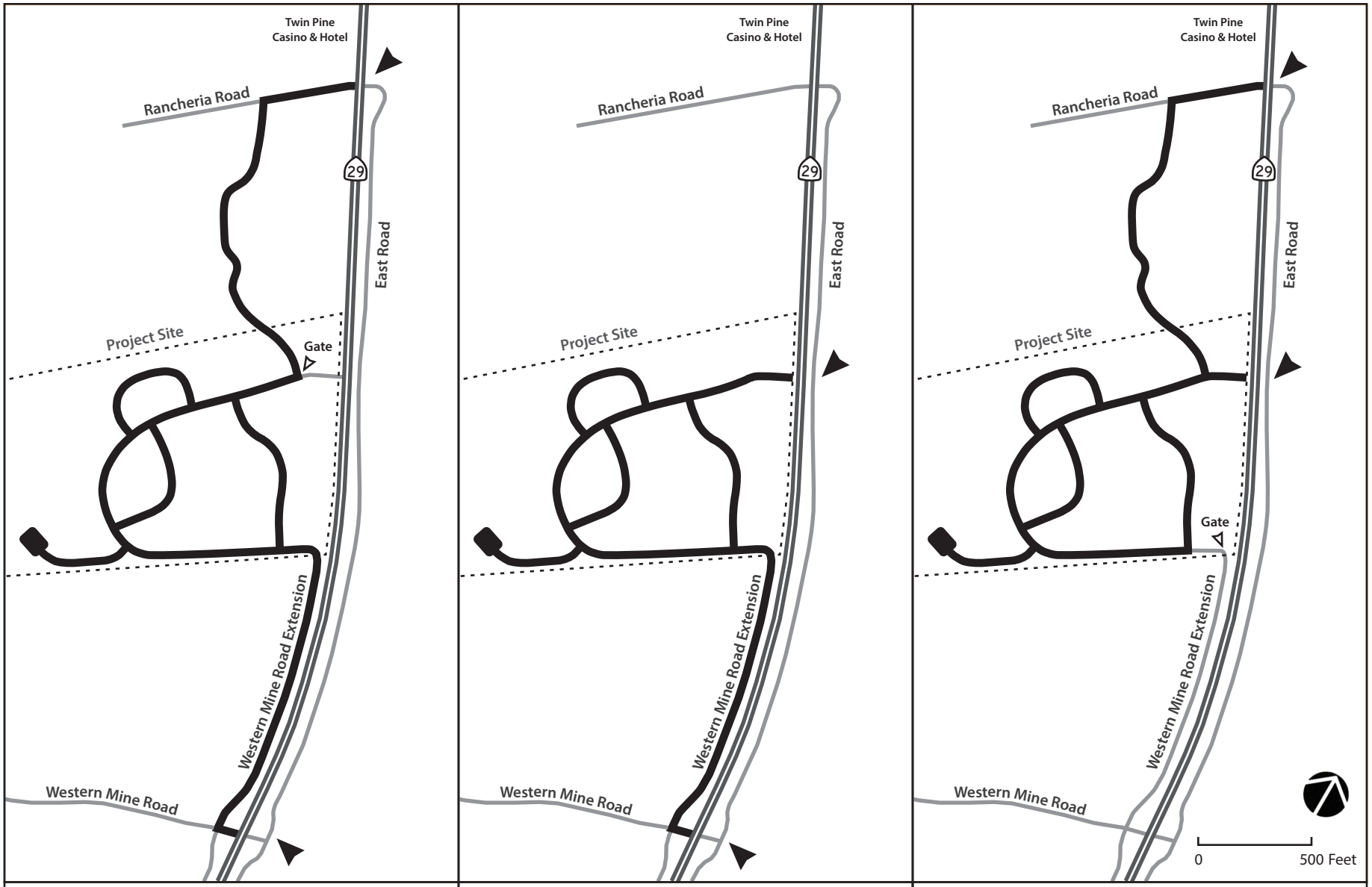
Construction would involve grading and excavation for building pads and roads. Approximately 6,500 cubic yards of fill material would be imported. All areas disturbed during construction would be revegetated and all cut slopes would have a slope ratio of 1.5 to 1 (horizontal to vertical) or flatter, and fill slopes would have a slope ratio of 2 to 1 or flatter. These standards would ensure that slopes are stable and would be revegetated, thereby minimizing long-term erosion potential.

Surface runoff from the proposed roadways would be directed through biofiltration swales (bioswales) to offset the added impervious area. The bioswales, planted with native grasses, would treat 100% of the runoff. Bioswales are specifically designed to remove fine sediment and pollution in water runoff. They are most commonly constructed as vegetated trapezoidal channels which receive and convey storm water flows while providing compliance with water quality and flow criteria. Pollutants are removed by a filtration process involving vegetation, the uptake by plant biomass, sedimentation, adsorption to soil particles, and infiltration through the soil. The bioswales would augment the existing drainage ditches and tie into existing wetland swales to help maintain the current hydrology of the site.

Water Supply

Annexation to Callayomi County Water District

The Callayomi County Water District (CCWD) currently provides water supply to the Rancheria and the Scott property and is the preferred water supply source for the proposed development. CCWD has allocated 45 connections to the Rancheria, 40 of which may be used for homes on the Martin Ranch



Option 1 Access at Rancheria Road and Western Mine Road

Option 2 Access at Project Driveway and Western Mine Road

Option 3 Access at Project Driveway and Rancheria Road

MIDDLETOWN RANCHERIA

FIGURE 2-3

MARTIN RANCH ACCESS OPTIONS

property (**Appendix A**). The Rancheria and the Scott property are within the CCWD service area boundary, however the Martin Ranch property is not within CCWD's service area. Because the Martin

Ranch property is located outside of the current CCWD service area boundary, water service cannot be provided to the parcel until the CCWD's water service area boundary is amended to include the Martin Ranch parcel. Amending the boundary and extension of service would require approvals from CCWD and the Local Agency Formation Commission for Lake County (Lake LAFCO). This process has been initiated and CCWD has provided a will-serve letter that is conditioned on the approval of the annexation (Appendix A). This Environmental Assessment addresses the proposed annexation to the CCWD service area and extension of CCWD water service to the Martin Ranch property.

Water service from CCWD would be provided as an extension of the existing water system on the Rancheria. Currently, CCWD service is provided from a 6-inch water main along Highway 29. A booster pump station located at the northeast corner of the Rancheria delivers water to a 44,000-gallon water tank located on the Rancheria. A gravity-fed pipeline system distributes water from the tank to individual homes on the Rancheria. To serve the proposed residential development, improvements to the existing system would be required. These improvements would include replacement of the existing booster pump station, a new water main, and the extension of pipelines to the project site. An additional water storage tank would be required to provide adequate operational reserve and fire flow for the proposed homes. The water storage tank would be located near the existing water tank on the Rancheria. Water service would be extended to the Martin Ranch property through the Rancheria via a new six-inch water main. The new water line would be installed along existing roadways within the Rancheria and along proposed roadways on the Martin Ranch site. Fire hydrants would be provided throughout the development, consistent with all applicable local and state standards.

Alternative Water Supply Sources

As an alternative to CCWD water supply, the Tribe has identified onsite water sources and water trucking as potential short-term or long-term supply options.

Onsite Water Supply

A combination of surface water and groundwater has historically been used to supply water to the Martin Ranch property. The Tribe has the right established under California's State Water Resources Control Board to divert up to 14 acre-feet annually from the unnamed stream on the property. Permitted uses for the water right are currently limited to stock watering and recreation, although the water has been used for residential uses and irrigation by previous landowners. This water right could be amended to allow for residential use.

Groundwater has been historically used on the project site. Several wells exist on the project site, none of which is currently in operation. The Tribe may develop one or more groundwater wells on the project site to provide a water supply.

Use of surface water or groundwater may require filtration and disinfection as well as routine monitoring. If an onsite water supply system serves more than 15 connections (homes) or 25 people, the system would be required to comply with the requirements of the Safe Drinking Water Act.

This option would include development of a water storage tank to provide adequate water supply for fire protection. Fire hydrants would be provided throughout the development, consistent with all applicable local and state standards.

Water Trucking

Delivery of potable water by truck may be used as an interim or supplemental water supply. Water would be delivered to a water storage tank incorporated into the distribution system. The water storage tank would be sized to provide adequate operational reserve and fire flow for the proposed homes. Fire hydrants would be provided consistent with all applicable local and state standards.

Wastewater Service

Wastewater service would be supplied by the Lake County Special Districts, which operates the Middletown Wastewater Collection and Treatment System that provides service to the Rancheria and the Scott property. Wastewater generated from the homes and RV park would be conveyed via pipeline to an existing 8-inch sewer line that extends from Dry Creek Cutoff Road to the Rancheria. All plumbing and connections would comply with the California Plumbing Code (Title 24, Part 5) and would be coordinated with Lake County Special Districts. A conditional will-serve letter is provided in **Appendix B**.

Development Standards

The trust acquisition would eliminate the need for building permits to be issued from Lake County for the proposed homes. The Tribe, however, would ensure that equivalent housing standards are maintained for the health, safety, and comfort of the residents. Specifically, the residences and road/utility improvements would be constructed consistent with building code standards applicable in unincorporated Lake County at the time of construction (excepting any requirements affording jurisdiction to the State of California or Lake County, such as permit issuance or plan review). Applicable building code standards include the following:

California Building Code

The California Building Code (CBC) as set forth in Title 24 of the California Code of Regulations (CCR) contains general building design and construction requirements relating to fire and life safety, structural safety, and access compliance. The CBC includes the Energy, Electrical, Mechanical, Plumbing and Fire Codes. The CBC also includes the California Green Building Standards.

Lake County Code

Fire Protection Standards (Chapter 17, Article XI)

This ordinance identifies fire protection standards for subdivisions, including required fuel breaks, emergency access, and water distribution standards (e.g., fire flow, firefighting reserve, and hydrants).

Grading Ordinance (Chapter 30)

This ordinance regulates grading, excavation, and earthwork to maintain slope stability, protect against erosion, protect drainage courses, avoid water pollution, and minimize fugitive dust and release of naturally occurring asbestos.

Other Development Standards

Minimum building setbacks would be maintained for property boundaries between trust property and properties in Lake County's jurisdiction. The developer would utilize the Underground Service Alert (USA) service and would coordinate with Pacific Gas and Electric Company and phone/cable providers regarding excavation and extension of services.

Outdoor residential lighting would be hooded/screened to direct light downward onto the subject parcel and would not negatively impact adjacent parcels. Site lighting would not cause excessive glare or shine onto the roads in a manner which causes excessive glare or cause a traffic hazard. The layout of the homes and driveways would avoid wetlands and mature trees to the extent feasible.

The Tribe would require construction contractors to limit exterior construction to between the hours of 7 a.m. and 7 p.m.

Best Management Practices

Air Quality BMPs

The following construction requirements would be included as part of the Proposed Project through contractual requirements to reduce temporary construction emissions:

- For any earth moving that is more than 100 feet from all property lines, watering shall be conducted as necessary to prevent visible dust emissions from exceeding 100 feet in length in any direction.
- For all disturbed surface areas, dust suppression shall be applied in a sufficient quantity and frequency to maintain a stabilized surface; any areas that cannot be stabilized, as evidenced by wind driven dust, shall receive an application of water at least twice per day to at least 80 percent of the unstabilized area.
- For all unpaved roads used for any construction vehicular traffic, the roads shall be watered as often as necessary to minimize dust or chemical stabilizer shall be applied to all unpaved road surfaces in sufficient quantity and frequency to maintain a stabilized surface.
- Track-out control shall be provided to minimize tracking of soil onto neighboring roadways.

The following dust suppression BMPs would be implemented by the Tribe to control the production of fugitive dust and prevent wind erosion of bare and stockpiled soils:

- Dust emissions during transport of fill material or soil shall be minimized by wetting down loads, ensuring adequate freeboard (space from the top of the material to the top of the truck bed) on trucks and/or covering loads.
- Spills of transported material on public or private roads shall be promptly cleaned.
- On-site traffic shall be restricted to reduce soil disturbance and the transport of material onto roadways.
- Construction equipment and truck staging areas shall be located away from sensitive receptors, as practical and in consideration of potential effects on other resources.
- Dirt, gravel, and debris piles shall be covered as needed to reduce dust and wind-blown debris.

The following BMPs would be implemented by the Tribe to reduce emissions of criteria air pollutants (CAP), greenhouse gases (GHG), and diesel particulate matter (DPM):

- All diesel-powered equipment shall be properly maintained, and idling time shall be minimized to 5 minutes when construction equipment is not in use, unless per engine manufacturer's specifications or for safety reasons more time is required.
- Engines shall be kept in good mechanical condition to minimize exhaust emissions.
- All construction equipment with a horsepower rating of greater than 50 will be equipped with engines that meet or exceed US EPA or CARB Tier 2 off-road emission standards and have engines that are retrofitted with an CARB Level 3 Verified Diesel Emissions Control Strategy (VDECS), if one is available for the equipment being used (equipment with engines meeting Tier 4 Interim or Tier 4 Final emission standards automatically meet this requirement, therefore a VDECS would not be required).

Water Quality BMPs

The following construction requirements would be included as part of the Proposed Project through contractual requirements to minimize the risk of water quality impacts during construction:

- A spill prevention and countermeasure plan will be developed that identifies proper storage, collection, and disposal measures for potential pollutants (such as fuel, fertilizers, pesticides, solvents, etc.) used on site.
- Petroleum products will be stored, handled, used, and disposed of properly in accordance with provisions of the CWA (33 USC § 1251 to 1387).
- Construction materials, including topsoil and chemicals, will be stored, covered, and isolated to prevent runoff losses and contamination of surface and groundwater.
- Fuel and vehicle maintenance areas will be designed to control runoff.

Hazard Avoidance BMPs

The following construction requirements would be included as part of the Proposed Project through contractual requirements to minimize the risk of fire during construction:

- Any construction equipment that normally includes a spark arrester shall be equipped with an arrester in good working order. This includes, but not be limited to, vehicles, heavy equipment, and chainsaws.
- During construction, staging areas, welding areas, or areas slated for development using spark-producing equipment would be cleared of dried vegetation or other materials that could serve as fire fuel. To the extent feasible, the contractor shall keep these areas clear of combustible materials in order to maintain a firebreak.

Fire Management

Currently, the Tribe manages its forested lands, including the Rancheria and Martin Ranch, under the 2019 Integrated Resource Management Plan (IRMP). The IRMP provides goals and objectives for forest protection and management. The IRMP includes firesafe clearance recommendations consistent with

local recommendations. The IRMP also identifies the establishment and maintenance of fire breaks around the Rancheria and Martin Ranch.

In addition to the IRMP, the Tribe is cooperating with the Lake County Community Wildfire Protection Plan. The purpose of the Wildfire Protection Plan is to identify priority projects that reduce risks and hazards from wildfire while protecting conservation values in Lake County. The Tribe would construct and manage the proposed improvements in a manner consistent with the IRMP and Wildfire Protection Plan. This would include establishing and maintaining fuel reduction zones, including fire-free zones around homes and RV sites, structural protection zones, defensible space zones, and wildland fuel reduction zones. Landscaping would use fire-resistant native species such as ponderosa pine, California black oak, and Oregon white oak. The proposed homes and buildings would incorporate fire-safe construction materials and features.

The proposed development would be supplied with hydrants supplied by water storage reservoirs on the Rancheria.

2.2.3 Other Land Uses

Vineyards

Approximately 2.4 acres of existing vineyards on the Martin Ranch would be preserved on the slope between the lower and upper residential areas. These wine-grape vines would be managed for commercial production and sale.

Recreational Trails

The forested western portion of the Martin Ranch property has existing trails that provide access to the three ponds. These trails would be maintained for Tribal use and a new walking trail would be constructed from the cabin parking area to the existing trails. The trails would be unpaved with footbridges for stream crossings. The footbridges would be constructed to avoid any fill or disturbance within stream channels.

Overflow Parking

The eastern portion of the Scott property is developed with an overflow parking lot that accommodates additional vehicles during casino special events and peak periods. No change in the overflow parking lot is proposed as part of the Proposed Action.

Other Residential

Two existing homes on Martin Ranch would be retained – a farmhouse located near Highway 29 and a ranch house located in the south-central portion of the property. The farmhouse would be renovated and used as a single-family residence. The ranch house would be renovated as either a single-family home or as a communal kitchen and gathering area for Tribal Members staying at the proposed cabins.

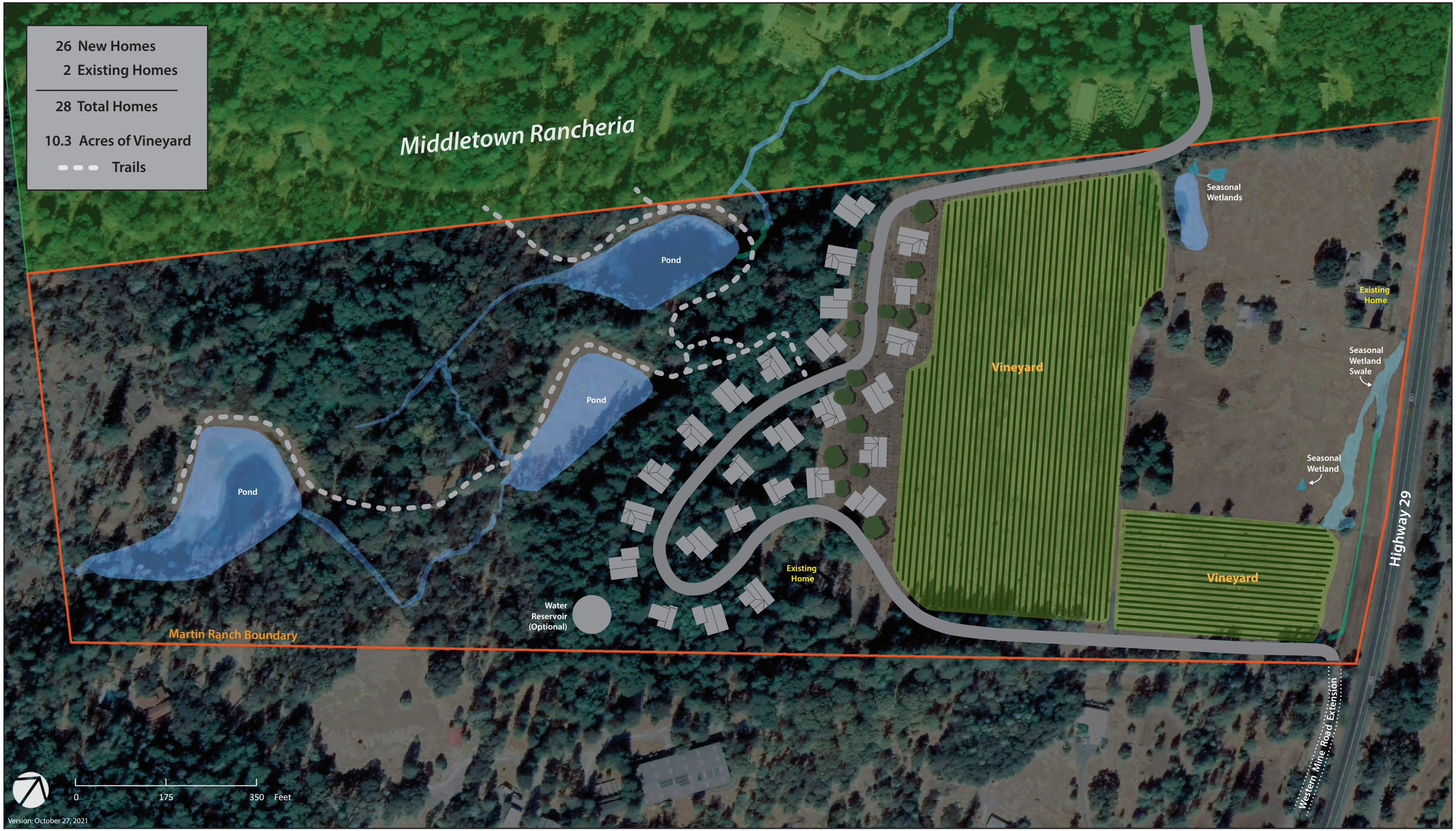
The western portion of the Scott property is developed with two single-family homes. No change in these existing residential units is proposed as part of the Proposed Action.

2.3 ALTERNATIVE B – REDUCED RESIDENTIAL ALTERNATIVE

This alternative includes the fee-to-trust action but with fewer homes provided. The Tribe would develop 26 new homes and would restrict development to the upper portion of the current vineyards and adjacent forest (**Figure 2-4**). Approximately 10.3 acres of vineyards would be maintained. This alternative would be developed consistent with the development standards, infrastructure and landscape and vegetation management standards described for the Proposed Action in Sections 2.1.2 above; however, no cabins would be developed. The proposed development of an RV park on the Scott property would be developed as described under the Proposed Action. The water supply options and would be the same as described for the Proposed Action. Wastewater service would be supplied by the Lake County Special Districts as described under the Proposed Action. Access for this alternative would be provided by Western Mine Road Extension and by extension to Rancheria Road as described for Access Option 1 under the Proposed Action.

2.4 NO ACTION ALTERNATIVE

Under the No Action Alternative, the land would not be taken into trust and no homes, cabins or roads would be developed. The current development on the site (two homes and approximately 13 acres of vineyards) is assumed to remain.



MIDDLETOWN RANCHERIA

FIGURE 2-4

MARTIN RANCH SITE PLAN - REDUCED RESIDENTIAL ALTERNATIVE

Section 3.0

AFFECTED ENVIRONMENT, IMPACTS, AND MITIGATION FOR THE ALTERNATIVES CONSIDERED

This section presents relevant information about existing resources and other values that may be affected by the development/operation of the proposed facilities. Resources that are described include Land Resources, Water Resources, Air Quality, Biological Resources, Cultural Resources, Socioeconomic Conditions, Transportation, Land Use/Agriculture, Public Services, Noise, Hazardous Materials and Visual Resources.

3.1 LAND RESOURCES

3.1.1 Topography

The project properties are situated in the Collayomi Valley at the headwaters of Putah Creek within the Coast Ranges. The region is defined by low mountain ranges and valleys that trend northwest-southeast. St. Helena Creek, located east of Highway 29 drains the Collayomi Valley, flowing north past Middletown to join Putah Creek.

Martin Ranch

The eastern portion of the Martin Ranch property lies within the floor of the Collayomi Valley. From the valley floor, the property slopes up into hillsides cut by an unnamed drainage. Three ponds were constructed along the drainage by previous landowners. West of the ponds, the hillsides become steep toward the Mayacmas Mountains. Elevations on Martin Ranch range from about 1,175 feet on the east side to about 1,370 feet on the west side.

Scott Property

The Scott property lies within the floor of the Collayomi Valley. The property has a gentle sloping topography with elevations ranging from approximately 1,160 to 1,170 feet.

3.1.2 Geology

The rocks of the Coast Ranges (referred to as the Franciscan Formation) formed as a massive pile of rock and sediment in an ancient subduction zone. The bulk of the formation is a sheared matrix with large blocks of various rock types (mélange) (CGS, 2015). The Franciscan Formation was originally deposited 125 million years ago at the edge of the Pacific Ocean, and the fluctuating sea levels caused alternating deposition of shale and sandstone. After the formation was deposited, it was uplifted and squeezed by movement of tectonic plates, forming most of the Coast Ranges as they are today. The Franciscan Formation forms the bedrock in most mountains and under valleys in Lake County (CDM, 2006a). Locally, the terrain transitions from alluvium terraces near St Helena Creek to mountainous hillsides made up of the Franciscian Formation.

3.1.3 Seismicity

Earthquakes on regional fault systems are expected to produce a wide range of ground shaking intensities within the Middletown area. Extensive fault zones have been mapped in the region. The closest faults to the project site are older faults that have not been active in the Holocene (the last 11,700 years). These older faults include the Collayomi Fault Zone, the Cobb Mountain Fault, and several unnamed faults that are located within 2.5 miles of the project site (**Figure 3-1**). No faults are located on the project site.

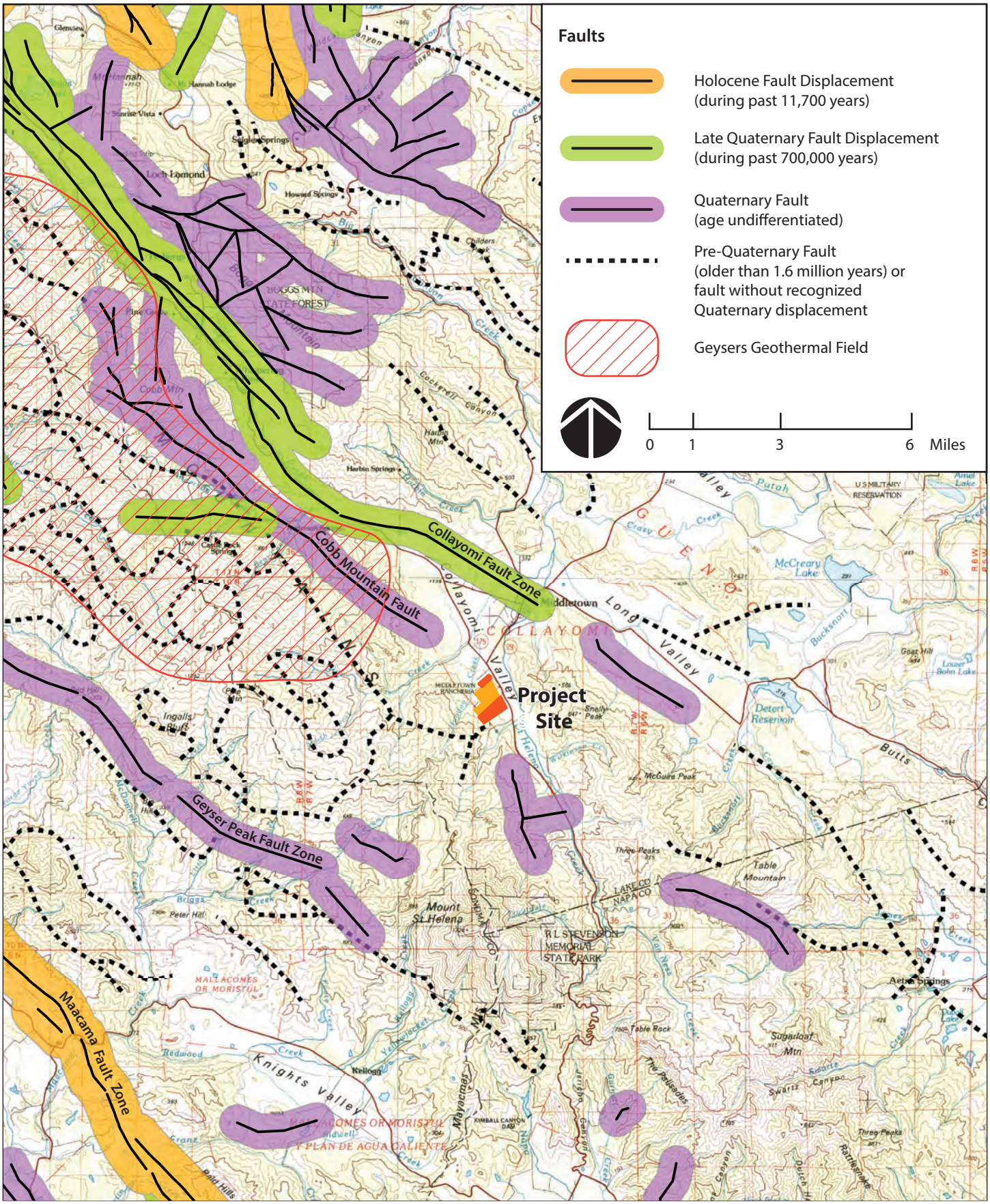
Seismic events in the region are generally low intensity events. Most of the local seismic activity is associated with the Geysers Geothermal Field located approximately five miles northwest of the project site in the Mayacamas Mountains. This seismic activity is not located along a fault and is typically low magnitude. The largest events in the last decade were a 4.5 magnitude event in 2014 and a 5.0 magnitude event in 2016 that produced mild shaking in the Middletown area (USGS, 2022). The closest major fault zone, the Maacama Fault Zone, is located approximately 12 miles from the project site. **Table 3-1** describes the location of nearby faults and provides information, where available, on the estimated maximum magnitude of seismic events along the faults.

Table 3-1
Active and Potentially Active Regional Faults

Fault/Zone	Distance from Middletown Rancheria	Recency of Faulting [a]	Maximum Moment Magnitude [b]
Cobb Mountain Fault	2.5 Miles NW	Quaternary	n/a
Collayomi Fault Zone	2.5 Miles N	Late Quaternary	6.5
Geyser Peak Fault Zone	5 Miles SW	Quaternary	n/a
Maacama Fault Zone	12 Miles SW	Holocene	7.1
Hunting Creek Fault	13 Miles E	Quaternary	6.9
Alexander Fault	15 Miles SW	Quaternary	n/a
Healdsburg Fault Zone	17 Miles W	Late Quaternary	n/a
Rodgers Creek Fault	20 Miles SW	Quaternary	n/a

Sources:
a) Jennings & Bryant 2010. Holocene: evidence of displacement during the last 11,700 years; Quaternary: evidence of displacement during the last 1.6 million years; Late Quaternary: evidence of displacement during the last 700,000 years.
b) CDMG, 1996.

Surface ground rupture during an earthquake is unlikely due to the distance of active faults from the project site. The primary earthquake hazards for the project site are the effects of ground shaking. Ground shaking may affect areas for hundreds of miles around a fault. Typical effects of maximum ground shaking include moderate structural damage to ordinary buildings, but negligible damage to buildings of good design and construction.



MIDDLETOWN RANCHERIA

FIGURE 3-1

FAULT MAP

3.1.4 Soils

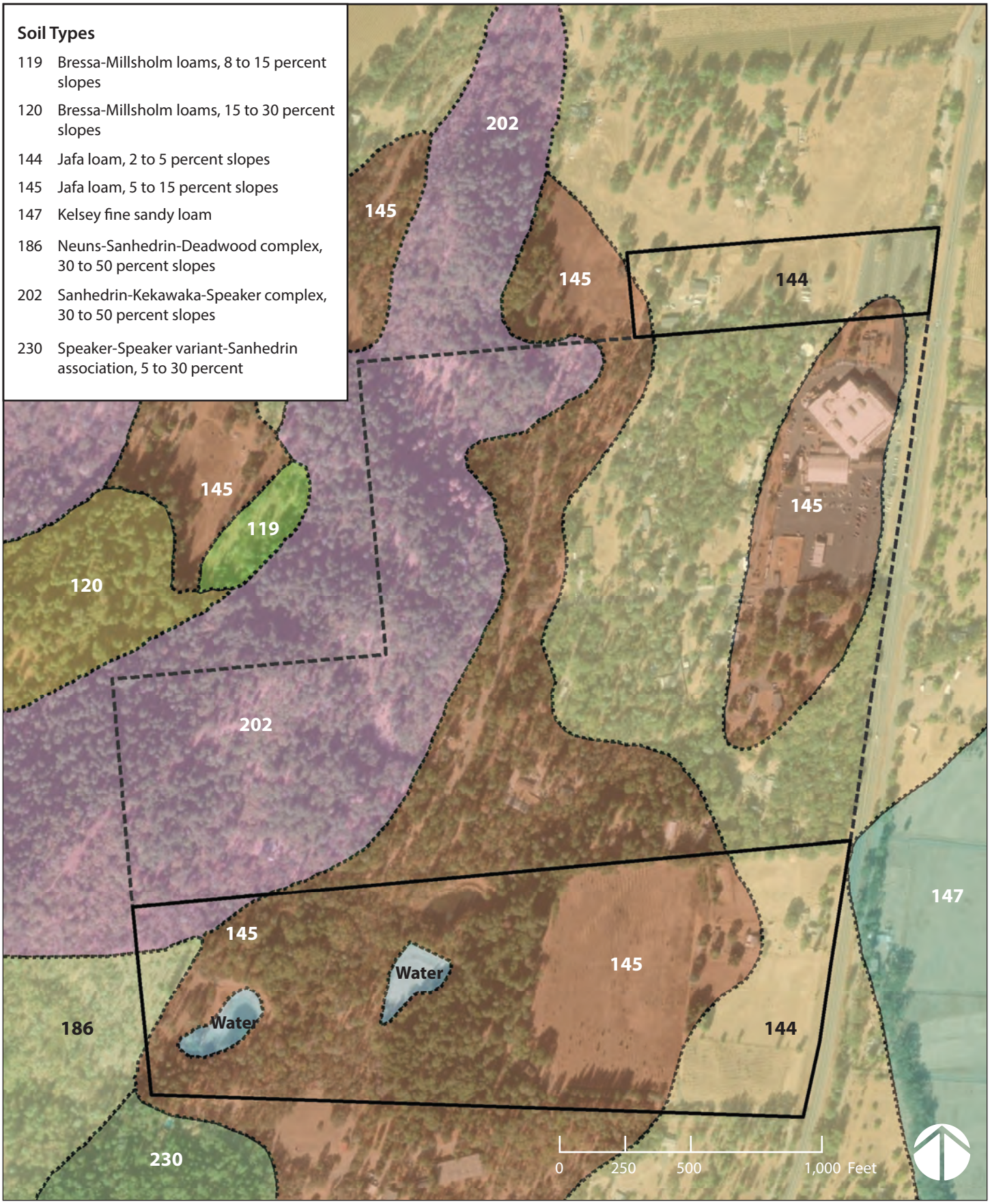
The NCRS Soil Survey identifies four soils within the project site. **Table 3-2** summarizes the properties of the soils mapped on the project properties. The location of the soil units is shown in **Figure 3-2**. None of the soils mapped on the project site are categorized as serpentinite soils.

Table 3-2
Onsite Soil Properties

Soil Properties	**Soil Types**		
Soil Name	**144 – Jafa loam** 2 to 5 percent slopes	**145 – Jafa loam** 5 to 15 percent slopes	**186 – Neuns-Sanhedrin -Deadwood complex** 30 to 50 percent slopes
Landform	Terraces	Terraces	Mountains
Parent material	Alluvium	Alluvium	Residuum weathered from sandstone
Profile	0 to 16 in: loam 16 to 88 in: gravelly clay loam	0 to 16 in: loam 16 to 88 in: gravelly clay loam	0 to 4 in: gravelly loam 4 to 31 in: very gravelly sandy loam 31 to 41 in: unweathered bedrock
Depth to water table	More than 80 in.	More than 80 in.	More than 80 in.
Drainage	Well drained	Well drained	Well drained
Infiltration Rate	Slow	Slow	Slow
Runoff class	Low	Medium	Medium to high
Erodibility (K factor)	Moderate (.28)	Moderate (.28)	Low (.17)
Hydric soil	No	No	No
Shrink-swell potential	Low to moderate	Low to moderate	Low to moderate
Source: NRCS, 2021.			

3.1.5 Mineral Resources

In the 1800s and continuing into the 1900s, mining was an important industry in Lake County. Area mines supplied mercury, borax and chromite. The Great Western Mine, one of the largest quicksilver (mercury) ore mines in the County, was located one mile southwest of the project site and operated continuously from 1873 to 1911 and sporadically till 1962 (Averill, 1947; USGS, 2018). In the years between 1875 and 1900, the Great Western Mine became one of the most important and longest producing mercury mines in California (USGS, 2018). Currently, only rock, sand and gravel are quarried in Lake County. St. Helena Creek located just east of the project site has been a source of aggregate in the past, but no active quarries currently exist.



MIDDLETOWN RANCHERIA

FIGURE 3-2
SOILS MAP

3.1.6 Paleontological Resources

Paleontology is the study of the remains, typically fossilized, of various plant or animal species such as dinosaurs and early mammals and not the traces of human cultural activity or human remains themselves. Paleontological remains are found in sedimentary rock formations. A search of the University of California Museum of Paleontology (UCMP) collections database identified a total of 224 specimens at 28 locations in Lake County. Paleontological resources include the fossilized remains of horses, snails, mollusks, and brachiopods. Most of the fossils have been found in the Cache and Martinez geological formations. The Cache Formation is characterized by sandstone and conglomerate which was deposited in streams and lakes in the Clear Lake basin and in the North Fork of Cache Creek area. The Martinez Formation is characterized by marine sandstone, conglomerate and shale near Clearlake and Lower Lake (UCMP, 2021).

The geology of the project area is underlain by the Franciscan Formation, which includes Cretaceous (79 to 145 million years ago) and Jurassic (145 to 201 million years ago) sandstones, mudstones, conglomerates, chert and a mixture of other rock types (CGS, 2010). Chert found within this formation frequently includes tiny fossils of marine zooplankton that are smaller than one millimeter in size. Vertebrate fossils in the Franciscan Formation are rare, and while none have been reported from Lake County, Mesozoic (66 to 252 million years ago) marine reptiles have been found in the Franciscan Formation elsewhere in California.

The age of the alluvium mapped in the project area is Pleistocene (11,700 to 2.58 million years ago) to Holocene (within the last 11,700 years) (CGS, 2010), and the soil types found the site are formed from alluvium terraces. While Holocene alluvium is too young to hold fossils (which take millions of years to form), Pleistocene aged alluvium does have the potential to contain fossils. Most of the soils on the project parcels (with the exception of the steep slopes) are described as loam and gravelly clay loam. Because the soils are extensively weathered, the potential for fossils is greatly diminished in upper soil levels.

Based on the description of geologic units in the project area and the lack of significant fossils found in similar geologic formations in Lake County, the potential for significant paleontological resources to occur on the project site is considered low.

3.1.7 Impacts to Land Resources

Alternative A

Topography

Development of the new residential homes and roadways would involve grading and the cutting and filling of slopes. These activities are not anticipated to result in significant impacts to topography. The homes and roadway would be located in areas of the project site with gentle to moderate (0 – 20 percent) slopes. No construction would occur in the portions of the site that have steep (over 30 percent) slopes. Accordingly, cut and fill slopes are expected to be less than 10 feet in elevation and

restricted to the immediate areas around the homes and road. Construction of the homes and road would have a less-than-significant effect to topography.

Geology and Soils

Geology of the project site consists of alluvium and a mélange of various rock types, including sandstone and other sedimentary rocks associated with the Franciscan Formation. Grading activities deeper than three feet have the potential to encounter weathered and un-weathered bedrock. However, no unstable geologic units or steep slopes have been identified on the sites that could present a landslide or subsidence hazard. Any fills needed to level building sites would be engineered and compacted to provide a stable foundation. All construction, including fill and foundation work would comply with the California Building Code (CBC). Due to the stable geology of the project site, compliance with the CBC, and avoidance of the steep slopes, geological hazards are expected to be less than significant.

Construction can lead to soil erosion as unprotected soils are eroded by stormwater runoff. Soils in the development area are loams and gravelly loams with moderate erodibility factors. To ensure the reduction in soil erosion potential, the steeper slopes on the project site would be avoided; these steeper areas include the western portion of the project site and the slope between the lower and upper vineyards. As described in **Section 2.2**, all disturbed areas would be revegetated and all cut slopes would have a slope ratio of 1.5 to 1 (horizontal to vertical) or flatter, and fill slopes would have a slope ratio of 2 to 1 or flatter. These standards would ensure that slopes are stable and would be revegetated, thereby minimizing long-term erosion potential.

The disturbance footprint of the project site would exceed the one-acre threshold that triggers the National Pollutant Discharge Elimination (NPDES) requirement to prepare and implement a storm water pollution prevention plan (SWPPP). In compliance with the NPDES requirements, appropriate erosion-control measures would be incorporated into the SWPPP and implemented during site grading and construction. These measures would include but are not limited to control of surface flows over exposed soils and use of sediment traps such as straw wattles and silt fencing. The Tribe would would be required under the Clean Water Act to submit an application for a NPDES General Permit for Construction Activities issued by the EPA (Region IX) and adhere to all guidelines therein.

Based on avoidance of steep slopes, incorporation of slope design and revegetation standards, and implementation of SWPPP erosion control measures, potential soil erosion effects are expected to be less than significant.

Seismicity

The project site is not located within a fault zone and surface rupture is not expected. The seismic events in the Middletown area are generally small quakes associated with the Geysers Geothermal Field and result in mild shaking. The potential for strong shaking does exist, primarily from regional faults particularly those southwest of the project site. The potential for structural damage is greatest for old masonry buildings and buildings built on unconsolidated alluvium. Structural damage of buildings can be minimized by avoiding areas of geologic hazards such as soils with high shrink-swell characteristics and areas of slopes greater than 30 percent.

The homes and roadway would be located in areas of the project site that have soils identified as having low to moderate shrink-swell potential. Development would be located on areas with gentle to moderate (0 – 20 percent) slopes, and slopes greater than 30 percent would not be developed.

As identified in **Section 2.2.2**, all homes and road/utility improvements would be constructed in compliance with building code standards applicable in unincorporated Lake County at the time of construction, including the seismic design standards of the California Building Code. Accordingly, the homes and roadways would be designed and constructed to withstand seismic shaking. Therefore, seismic shaking hazards are expected to be less than significant.

Mineral Resources

Construction of the residential development would not result in the loss of any mineral resources. The only mineral resources quarried in Lake County are rock, sand and gravel. The closest known resource of aggregate is St. Helena Creek located just east of the project; however, no active quarries exist in the vicinity. No known mineral resources have been identified within the project site; therefore, no significant impacts would result.

Paleontological Resources

Geology of the project sites consists of Holocene and Pleistocene alluvium overlying sedimentary bedrock of the Franciscan Formation. Chert found within this formation frequently includes fossils of marine zooplankton that are smaller than one millimeter in size, but rarely contains vertebrate fossils. In addition, older (Pleistocene) alluvium that may occur on the project site has the potential to contain fossil remains. Grading activities required for the formation of building pads and roadways on the project site would require excavations that have the potential to encounter un-weathered bedrock or alluvium with intact fossil remains. While the potential for significant paleontological resources to occur on the project site is low, it cannot be ruled out entirely. This potentially significant impact would be reduced to a level of insignificance by implementing inadvertent discovery measures.

Mitigation

If, during the course of project implementation, paleontological resources (e.g., fossils) are discovered, the BIA shall be notified. All work within 50 feet of the find shall be halted until a professional paleontologist can assess the significance of the find. If the find is determined to be significant by the paleontologist, then representatives of the BIA shall meet with the paleontologist to determine the appropriate course of action, including the development of an evaluation report and/or mitigation plan, if necessary. All significant paleontological materials recovered shall be subject to scientific analysis, professional curation, and a report prepared by the professional paleontologist according to current professional standards.

Alternative B

Under Alternative B, impacts to land resources related to topography, seismicity, soils, and mineral resources would be similar to those under Alternative A; however, with the development of fewer Tribal homes, the impacts to land resources would be reduced accordingly.

Mitigation

The mitigation measures identified for Alternative A would also be required for Alternative B. With implementation of these measures, impacts to water resources from development of the Reduced Residential Alternative would be reduced to a less-than-significant level.

Alternative C

The No Action Alternative would not result in any alterations to the project site. No homes or RV park would be developed and no land clearing or grading would occur on the site. The topography, geology, soils, mineral resources and paleontological resources would not be affected. No land resource impacts would occur.

Mitigation

No mitigation measures would be required for Alternative C.

3.2 WATER RESOURCES

3.2.1 Regional Climate

The climate is classified as Mediterranean; summers are hot and dry, and winters are cool and moist. Average annual precipitation for the region is approximately 44 inches per year, and the average annual snowfall for the region is approximately 1.2 inches per year[1] (WRCC, 2021). A majority of the annual precipitation falls between October and April. The hottest month is July, which had an average high temperature of 96° F and an average low temperature of 55° F in 2021. The coolest month is January, which had an average high temperature of 55° F and an average low temperature of 28° F in 2021 (Wunderground, 2021).

3.2.2 Surface Water, Drainage, Flooding

Watershed

The project properties are located within the Upper Putah Creek watershed, which drains to Monticello Dam and eventually to the Yolo Bypass of the Sacramento River. The upper watershed encompasses 576 square miles. The project properties are located within the sub-watershed of St. Helena Creek, which drains to Putah Creek north of Middletown. The lower portion of Putah Creek is listed as impaired for boron and mercury under Section 303(d) of the Clean Water Act. Mercury and borax (a boron compound) naturally occur in the upper watershed. These elements enter surface waters as the result of natural weathering, leaching of mining waste and venting of geothermal springs. Boron is an essential nutrient for some plants, but elevated levels can be toxic to plants. Mercury accumulates in fish as methylmercury, which is highly toxic and may expose people who eat fish to a wide range of health hazards.

[1] Measured in depth of snow, not the water equivalent of snow.

Martin Ranch

Most of Martin Ranch is within a smaller sub-watershed of an unnamed drainage that crosses the western portion of the site. This sub-watershed drains approximately 300 acres and is located between the watersheds of St. Mary's Creek to the south and Hoodoo Creek to the north, all of which drain to St. Helena Creek. The historic Great Western Mine site is located within the Hoodoo Creek watershed.

The hydrology of the unnamed drainage was altered around the 1960s to 1970s when three ponds were developed on the property. Two of the ponds were developed within the drainage by the construction of earthen dams. The third pond was developed within a smaller side drainage by the construction of two ditches and excavation of the pond. The diversion and use of water within the ponds is permitted by the State of California State Water Resources Control Board for stockwatering and recreation. A fourth pond is located on the eastern side of the project site. This pond is fed by a spring located on the north side and has been used for watering livestock.

Scott Property

The Scott property drains north to St. Helena Creek. A shallow north-flowing swale bisects the site west of the existing parking lot.

Flooding

The applicable Flood Insurance Rate Maps (FIRM) for project properties are Community Panel Numbers 06033C0951D and 06033C0932D. These maps were published by the Federal Emergency Management Agency (FEMA) in 2005. The project properties are not located in a floodplain. The properties are mapped Zone X. This area is classified by FEMA as an area determined to be outside the 0.2% annual chance floodplain. The area currently has no drainage problems and no downstream drainage impediments.

3.2.3 Groundwater

Groundwater basins in Lake County are primarily shallow alluvial deposits within valleys and within volcanic deposits around Clear Lake. Groundwater also occurs within the fractured rock of the Franciscan Formation. Locally, the Collayomi Valley Groundwater Basin consists of alluvium along Putah, Dry and St. Helena Creeks. The Collayomi Valley Basin is the source of water supply for Middletown and adjacent agricultural areas. The California Department of Water Resources (DWR) identifies no groundwater level declines (DWR, 2022). The Scott Property and eastern margin of Martin Ranch are located within the Collayomi Valley Basin as mapped by the California Department of Water Resources (DWR).

Beyond the alluvium deposits, groundwater is limited to fractured bedrock. The occurrence and geometry of the fractures dictate the flow patterns within the rocks. Some precipitation will infiltrate the soil and a portion will reach the lower permeability rock layer beneath the soils. At this point, the water will flow through the soil along the soil-rock boundary until a rock fracture conducts the water into the underlying rock or until the soil becomes too thin to support the flow, forming a seasonal

spring. The availability of groundwater in these fractured rock formations is variable and can be quite limited.

3.2.4 Water Quality

Surface water quality data is not available for St. Helena Creek. As identified in the watershed section above, the lower portion of Putah Creek is listed as impaired for boron and mercury under Section 303(d) of the Clean Water Act. Mercury and borax (a boron compound) naturally occur in the upper watershed.

Groundwater in the Collayomi Valley Basin is magnesium bicarbonate (alkaline) type waters. Total dissolved solids (TDS) range from 150 to 255 mg/L. Groundwater impairments include locally high iron and manganese. Boron levels in the groundwater may also limit irrigation use for some crops (DWR, 2004).

In 2005, a tanker truck overturned on the east side of Highway 29 east of the Scott Property. The tanker spilled 3,300 gallons of unleaded, MtBE-free gasoline into the ditch along the east side of the highway. Emergency cleanup recovered approximately 750 gallons of gasoline. Approximately 400 cubic yards of soil were removed from a 250-foot section of the ditch. Six monitoring wells were constructed around the spill location and groundwater was monitored from 2005 to 2013; one of the wells (MW-5) was constructed within the Highway 29 right-of-way adjacent to the Scott Property. By 2013, total petroleum hydrocarbons as gasoline (TPH-G) were not detectible in all of the monitoring wells except one located directly north of the spill site. TPH-G in this well was shown to have a declining trend and was expected to meet the State's water quality objective (for taste and odor threshold) in 5-11 years (approximately 2018 to 2024). In 2014, Central Valley Regional Water Quality Control Board, the State agency responsible for overseeing clean up of the site, determined that no further action was required at the site. The determination was based on residual soil contamination levels being below the State's human health screening levels for residential and commercial use (CVRWQCB, 2013; CVRWQCB, 2014; Taber Consultants, 2013). In 2020, the Tribe developed a new monitoring well on property east of the Scott Property close to the spill site. Water from the monitoring well was tested for in 2021 and TPH-G was not detected.

3.2.5 Impacts to Water Resources

Alternative A

Surface Water and Drainage

The construction of homes and roadways would increase impervious surfaces, and have the potential to increase stormwater runoff during wet weather events. Increases in the peak flow of runoff could impact adequate drainage on the project sites, or contribute to drainage and erosion hazards downstream. As described in **Section 2.2.2**, to offset the impervious conditions, bioswales would be constructed to treat 100% of the equivalent net increase impervious area of the roadway. The bioswales would reduce site runoff into the adjacent drainage and ensure a reduction in mobile pollutants and sediments. Some of the runoff from the roofs and other impervious surfaces around the homes would be collected in the bioswales along the roadway; other runoff would be dispersed and would not represent a substantial increase over existing conditions. Based on the avoidance of steep slopes, and incorporation of bioswales, potential drainage effects would be less than significant.

Flooding

All development areas are outside of FEMA designated flood hazard zones, with a less than 0.2% chance of annual flooding. The incorporation of bioswales as described in **Section 2.2.2** will reduce site runoff from impervious surfaces developed on the project site (i.e., homes and roads) and therefore the increased stormwater discharge from the project site is not expected to be significant. The proposed development would not expose residents directly to floods, restrict or redirect flood waters, or significantly increase stormwater runoff. The development of the homes and roadways are not expected to increase the likelihood of either an on-site or off-site flooding event. Potential flooding effects would be less than significant.

Groundwater

Water delivery to the homes would be provided by the Callayomi County Water District (CCWD), surface water, or water trucking as described in **Section 2.2.2**. CCWD currently supplies the Rancheria and 40 connections are available for use on the Martin Ranch property. CCWD supply is conditioned on approval of annexation of the Martin Ranch Property to the CCWD service area. Upon annexation, the Tribe would be able to request additional connections to provide for the ten additional connections to provide for the total number of homes and cabins. Alternatively, the Tribe could develop one or more wells to supply water to some of the homes. The use of groundwater would be conditioned on developing one or more wells with sustained yields that provide adequate capacity. According to DWR, no groundwater level declines have been identified in the Collayomi Valley Groundwater Basin. CCWD has indicated that despite recent drought conditions, CCWD has abundant groundwater supplies to meet expected demand (Todd Fiori, pers. comm., 2023). Based on available information of groundwater conditions and the limited additional water supply demand of the proposed development, the Proposed Project is not expected to affect groundwater conditions in the area.

Wastewater service would be provided by the Lake County Sanitation District. No on-site wastewater treatment and disposal would occur. Incorporation of bioswales in the site design would ensure that no

significant changes in groundwater infiltration rates would occur on the project site. Therefore, a less-than-significant effect on groundwater is expected.

Water Quality

The potential for soil erosion and impacts on water quality are greatest during construction, when removal of vegetation for initial clearing, grubbing, and grading activities exposes soil and makes it more susceptible to erosion. While the construction of homes would be phased, the initial construction to construct the roadways, water storage reservoir, utilities and initial site grading would be approximately five acres. Because the project site is over an acre in size, the Tribe would be required to adhere to the provisions of the Clean Water Act. The Tribe would submit an application for a National Pollutant Discharge Elimination System (NPDES) General Permit for Construction Activities issued by the EPA (Region IX) and adhere to all guidelines therein. As required by the Permit, the Tribe would create and implement a Storm Water Pollution Prevention Program (SWPPP) that outlines Best Management Practices (BMP's). An erosion control plan would be developed as part of the final design.

No construction would occur within drainages, swales, or wetlands. Any construction near drainages, swales and wetlands would be undertaken in accordance with the SWPPP. The Tribe would comply with all NPDES permit conditions identified by the U.S. EPA to prevent any discharges that could adversely impact water quality. During operation of the project, water quality would be protected by the incorporation of bioswales, which would reduce site runoff into the adjacent drainage and ensure a reduction in mobile pollutants and sediments. Due to the incorporation of these provisions, potential water quality effects would be less than significant.

Mitigation

No mitigation measures would be required for Alternative A.

Alternative B

Under Alternative B, impacts to water resources related to surface water and drainage, flooding, groundwater, and water quality would be similar to those under Alternative A; however, with the development of fewer Tribal homes, the impacts to water resources would be reduced accordingly.

Mitigation

No mitigation measures would be required for Alternative B.

Alternative C

Under the No Action Alternative, the land would not be taken into trust and no homes, RV park, roads or other improvements would be developed. No impacts to water and drainage, flooding, groundwater, and water quality would occur.

Mitigation

No mitigation measures would be required for Alternative C.

3.3 AIR QUALITY/GREENHOUSE GASES

3.3.1 Regulatory Context

Criteria Pollutants

Certain air pollutants have been recognized to cause notable health problems and consequential damage to the environment either directly or in reaction with other pollutants, due to their presence in elevated concentrations in the atmosphere. Such pollutants have been identified and regulated as part of the overall endeavor to prevent further deterioration and facilitate improvement in air quality. The pollutants regulated by the United States Environmental Protection Agency (EPA) and California Air Resources Control Board (CARB) and subject to emissions control requirements adopted by federal, state and local regulatory agencies include ozone (O_3), volatile organic compounds (VOCs), nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), particulate matter (PM10 and PM2.5), and lead (Pb). These pollutants are referred to as "criteria air pollutants" because of the specific standards, or criteria, which have been adopted for them. The National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) have been set at levels considered safe to protect public health, including the health of sensitive populations such as asthmatics, children, and the elderly with a margin of safety, and to protect public welfare, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings.

Federal

The EPA is responsible for implementing and enforcing the federal Clean Air Act (CAA) and developing the NAAQS. As part of its implementation responsibilities, the EPA requires each state to prepare and submit a state implementation plan (SIP) that demonstrates the means to attain and/or maintain the federal standards. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution in nonattainment areas, using a combination of performance standards and market-based programs. EPA responsibilities under the CAA includes regulating mobile sources, such as cars, trucks, buses, and planes. The provisions of Title II of the CAA have resulted in tailpipe emission standards for vehicles, which have generally strengthened over time to improve air quality

General Conformity

The 1990 Amendment to CAA Section 176 requires the federal EPA to promulgate rules to ensure that federal actions conform to state efforts to control emissions of pollutants. These rules, known as the General Conformity Rule (40 C.F.R. Parts 51.850–51.860 and 93.150–93.160), require any federal agency responsible for an action in a federal nonattainment/maintenance area to demonstrate conformity to the applicable State Implementation Plan (SIP), by either determining that the action is exempt from the General Conformity Rule requirements or subject to a formal conformity determination.

Actions would be exempt, and thus conform to the SIP, if an applicability analysis shows that the total direct and indirect emissions of nonattainment/maintenance pollutants from project construction and operation activities would be less than specified emission rate thresholds, known as *de minimis* levels. If not determined exempt, a formal conformity determination would be required. The General Conformity Rule is applicable only for project criteria pollutants and their precursors for which an area is designated nonattainment or that is covered by a maintenance plan.

Climate Change

On February 19, 2021, Secretary of the Interior Deb Haaland issued Secretarial Order (SO) 3399 to prioritize action on climate change throughout the Department and to restore transparency and integrity in the Department's decision-making processes. SO 3399 specifies that when considering the impact of GHG emissions from a proposed action, Bureaus/Offices should use appropriate tools, methodologies, and resources available to quantify GHG emissions and compare GHG quantities across alternatives. SO 3399 acknowledges that identifying the interactions between climate change and the environmental impacts of a proposed action in NEPA documents can help decision makers identify opportunities to reduce GHG emissions, improve environmental outcomes, and contribute to protecting communities from the climate crisis.

On January 9, 2023, the Council on Environmental Quality (CEQ) issued National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and Climate Change (88 Fed. Reg. 1196). This interim guidance directs agencies to consider the potential effects of a proposed action on climate change and the effects of climate change on a proposed action and its environmental impacts. CEQ recommends that agencies quantify a proposed action's projected GHG emissions for the expected lifetime of the action and provide additional context for GHG emissions, including the use of the best available social cost of GHG (SC–GHG) estimates, to translate climate impacts into the more accessible metric of dollars. This guidance does not propose a specific, quantitative threshold of significance; however, it states that agencies should consider the potential for mitigation measures to reduce or mitigate GHG emissions and climate change effects when those measures are reasonable and consistent with achieving the purpose and need for the proposed action. CEQ recommends that agencies explain how the proposed action and alternatives would help meet or detract from achieving relevant climate action goals and commitments, including federal goals, international agreements, state or regional goals, Tribal goals, agency-specific goals, or others as appropriate.

State

CARB is the state agency responsible for coordinating both state and federal air pollution control programs in California. It is primarily responsible for ensuring implementation of the 1988 California Clean Air Act (CCAA), for responding to the federal CAA requirements, and for regulating emissions from motor vehicles and consumer products within the state. CCAA requirements include annual emission reductions, development and use of low emission vehicles, establishment of the CAAQS, and submittal of air quality attainment plans by air districts for incorporation into the California SIP. The CCAA and other California air quality statutes invest local air districts, such as the El Dorado County Air Quality Management District (AQMD), with the responsibility for regulating most stationary sources, and to a certain extent, area sources.

The Global Warming Solutions Act of 2006 (Assembly Bill [AB] 32) is the overarching law that requires the State to set statewide GHG reduction targets. AB 32 required CARB to develop a Climate Change Scoping Plan that describes the approach California will take to reduce GHGs to achieve emission reduction goals, and to update the plan every five years. CARB approved the first Scoping Plan in 2008, and the first update was approved in 2014. The second update was approved by CARB in December 2017. The largest proposed GHG reductions recommended are from improving emission standards for light-duty vehicles, implementation of the Low-Carbon Fuel Standard, employing energy efficiency

measures in buildings and appliances, the widespread development of combined heat and power systems, and applying a renewable portfolio standard for electricity production.

3.3.2 Existing Air Quality

Criteria Air Pollutant Standards

CARB has established 15 air basins in California according to geographical and meteorological features. The Lake County Air Basin includes all of Lake County and does not include any surrounding areas. The basin includes extensive areas of national forest, state parks and open space. As a result of the rural nature of the county and its distance from major urban centers, the air quality in the basin is typically ranked among the best in California and the nation. The air basin has met all Federal Clean Air Standards and California Standards for the past 30 years (LCAQMD, 2021). Exceptions only occur during major wildfire events. Sources of pollution in Lake County include smoke from wildfires and agricultural burning, dust from unpaved roads, fuel combustion, and operation of motor vehicles and equipment.

Hazardous Air Pollutants

Hazardous air pollutants (HAP) are a group of pollutants of concern that are a specific group of airborne chemicals designated by the USEPA. Sources of HAPs include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. Cars and trucks release at least 40 different HAPs. The most important, in terms of health risk, are diesel particulate matter (DPM); benzene; formaldehyde; 1,3-butadiene; and acetaldehyde.

HAPs are less pervasive in the urban atmosphere than CAPs but are linked to short-term (acute) or long-term (chronic or carcinogenic) adverse human health effects. There are different types of HAPs, with varying degrees of toxicity. The EPA currently lists over 188 HAPs. The majority of the estimated health risk from HAPs can be attributed to relatively few compounds, the most important being DPM. Diesel engines emit a complex mixture of air pollutants composed of gaseous and solid material. The visible emissions in diesel exhaust are particulate matter that includes carbon. Diesel exhaust also contains a variety of harmful gases and over 40 other cancer-causing substances.

Naturally Occurring Asbestos

Portions of Lake County are underlain by ultramafic rock formations which contains naturally occurring asbestos. Asbestos is a health hazard when friable asbestos-containing materials become airborne. Inhalation of asbestos can cause fibrotic lung disease (asbestosis) and changes in the lining of the chest cavity (pleura). These diseases can lead to reduced respiratory function and death. Long-term inhalation of asbestos fibers also increases the risk of lung cancer and mesothelioma.

Naturally occurring asbestos is commonly found in ultramafic rock formations, including serpentine, and in the soils where these rock types are located. Several types of asbestos are found in California, with chrysotile, “white asbestos,” being the most common. Chrysotile is a soft, fibrous silicate mineral that is easily crumbled to fibrous strands. Other types of asbestos include tremolite and actinolite, which are crystal-forming minerals. Tremolite can occur in a variety of crystal shapes and sometimes occurs as asbestiform fibers. Actinolite can occur in multiple forms as dense and compact or brittle and fibrous.

The project site is not located in areas mapped as being likely to contain serpentinite and/or ultramafic rock. The closest serpentinite soils are mapped as being 0.5 mile from the project site (Lake County GIS Portal, 2018). Serpentinite bedrock was observed during a site survey in the western portion of the Martin Ranch property, on a steep hillside (NIC, 2023). The likelihood for naturally occurring asbestos to exist on the project site is limited to the steep western portion of Martin Ranch.

3.3.3 Federal Class I Areas

The project site is not located within or adjacent to a federal Class I area. The nearest federal Class I area is Point Reyes National Seashore, about 39 miles southwest of the project site.

3.3.4 Sensitive Receptors

Sensitive receptors are people that have an increased sensitivity to air pollution or environmental contaminants. Sensitive receptor locations include schools, parks and playgrounds, day care centers, nursing homes, hospitals, and residences.

The closest existing sensitive receptors are the existing homes on the Martin Ranch and Scott properties. Several homes on the Rancheria are located within approximately 50-100 feet of the project site. Two homes are located within 100 feet of the southern property boundary of Martin Ranch. Other homes are located approximately 200-300 feet east of the project site across Highway 29 and north of the Scott property.

3.3.5 Impacts to Air Quality

Methodology

Adverse impacts to ambient air quality could result if either construction or operation would result in violations of the CAA provisions, or if emissions would impede the ability of a state to meet NAAQSs. Construction and operation emissions were calculated using the USEPA-approved 2020 California Emissions Estimator Model, Version 2020.4.0 (CalEEMod).

Conformity regulations apply to federal actions that would cause emissions of CAPs above certain levels to occur in locations designated as nonattainment or maintenance areas for the emitted pollutants. As discussed in **Section 3.3.2**, the project site is in an area that is classified as being in attainment for all NAAQS. Accordingly, General Conformity regulations do not apply to the Proposed Action.

Consistent with SO 3399 and CEQ Guidance on Consideration of Greenhouse Gas Emissions and Climate Change (2023), GHG emissions were calculated using CalEEMod. The social cost of GHG emissions was estimated using cost estimates provided by the Interagency Working Group on Social Cost of Greenhouse Gases (IWG, 2021), consistent with CEQ guidance. GHG emissions are reported by individual greenhouse gases and by carbon dioxide equivalent (CO2e), which is a measurement of total greenhouse gases emitted expressed in terms of the equivalent global warming potential of carbon dioxide, and is typically expressed in metric tons (MT).

The Lake County Air Quality Management District (LCAQMD) has jurisdiction over air quality in the Lake County Air Basin and regulates most air pollutant sources except for motor vehicles, locomotives, aircraft, agriculture equipment, and marine vessels. The Lake County Air Basin is currently classified by the federal EPA and CARB as being unclassified or in attainment for all criteria pollutants regulated

under the National and California Ambient Air Quality Standards. Accordingly, LCAQMD has not adopted air quality plans to meet air quality standards. LCAQMD rules are focused on limiting particulate matter and industrial emissions.

Alternative A

Construction Emissions

Construction of the proposed residential development would result in the temporary generation of emissions resulting from excavation, grading, material hauling, and worker trips. Fugitive dust, the dominant source of PM10 and PM2.5 emissions, is generated when vehicles and equipment disturb soil and other friable materials. Uncontrolled dust from construction can become a nuisance and potential health hazard to those living and working nearby. Off-road construction equipment is often diesel-powered and can be a substantial source of NOx emissions, in addition to PM10 and PM2.5 emissions. Worker commute trips and asphalt paving are dominant sources of ROG emissions. Such air quality effects generally would be temporary and localized.

Construction emissions were estimated using the California Emissions Estimator Model (CalEEMod), version 2020.4.0. The detailed output CalEEMod files generated for this analysis are included in **Appendix C.** The estimated construction emissions are summarized in **Table 3-3**.

TABLE 3-3
ESTIMATED CONSTRUCTION EMISSIONS - ALTERNATIVE A

	ROG	NOx	CO	PM2.5	PM10
Maximum Emissions (tons/year)	1.6	2.4	2.5	0.2	0.4
Source: Appendix C					

Because Lake County is classified as attainment or unclassified for all pollutants under the National and State Ambient Air Quality Standards, no air quality plans have been adopted by the regional air quality district. Accordingly, construction emissions do not have the potential to violate air quality standards or any air quality management plans.

Implementation of construction BMPs identified in **Section 2.2.2** is expected to control the production of fugitive dust (PM_{10} and $PM_{2.5}$) and to reduce emissions of criteria pollutants and DPM. This would reduce the overall quantity of these emissions and dust that could disperse off-site and negatively affect neighboring areas. Air quality impacts from construction of the residential development would be less than significant.

Operational Effects

Operational emissions were estimated using CalEEMod program. The analysis assumes the full buildout the proposed 45 homes, 5 cabins and RV park. Air quality effects associated with the operation of the proposed residential development and RV park would include emissions from vehicle traffic and area sources (e.g., landscape equipment, wood stoves and consumer products).

The detailed output CalEEMod files generated for this analysis are included in **Appendix C**. The estimated operational emissions are summarized in **Table 3-4.** The estimated emissions are typical of residential development and would not adversely impact surrounding land uses. The Proposed Action does not have the potential to violate air quality standards or any air quality management plans. Air quality impacts from operation of the residential development would be less than significant.

TABLE 3-4
ESTIMATED OPERATIONAL EMISSIONS – ALTERNATIVE A

	ROG	NOx	CO	PM2.5	PM10
Maximum Emissions (tons/year)	4.1	0.7	7.7	0.7	1.0
Source: Appendix C					

Naturally Occurring Asbestos

Lake County contains soil and geologic units that contain naturally occurring asbestos. The soils mapped on the project site are not associated with varieties of serpentine that constitute a potentially harmful form of asbestos. However, serpentine rock and associated vegetation was identified in the steep western hillsides of the project site. Soils mapped in this area are identified as being formed from weathered sandstone on mountain hillsides. The area where the serpentine rock and associated vegetation was observed is separated from the development area by the seasonal creek and ponds. The soil type mapped in the development area is Jafa loam, which forms on alluvial terraces and is not an identified source of naturally occurring asbestos. Because the development area is limited to alluvial terraces and avoids the steep hillsides where serpentine rock has been observed, it is unlikely that naturally occurring asbestos would be encountered during site grading and construction. Accordingly, potential health impacts from naturally occurring asbestos would be less than significant.

Greenhouse Gas Emissions/Climate Change

Climate change has global impacts, such as more erratic weather patterns, more frequent droughts, and rising sea levels, as well as regional and local impacts. Climate change for California has the potential to reduce the snowpack in mountainous regions, increase drought periods, increase wildfire frequency and intensity, and reduce water availability in general (USEPA, 2016).

Consistent with interim CEQ guidance, this EA includes a quantification of GHG emissions resulting from Alternative A and a discussion of reduction measures. GHG emissions were estimated using CalEEMod (**Appendix A**). Estimated construction and operation GHG emissions are shown in **Table 3-5**. As shown, construction GHG emissions are estimated at 681 tons of CO2e. Annual GHG emissions from operation of Alternative A is estimated at 679 tons of CO2e. Of this annual amount, 500 tons would be indirect emissions generated by mobile sources (cars and trucks).

TABLE 3-5
ESTIMATED GREENHOUSE GAS EMISSIONS – ALTERNATIVE A

Emission Source	MT of CO2e/year
Construction (Total)	
Construction	681
Operation (Annual)	
Area	76
Energy	67
Mobile	500
Waste	28
Water	8
Operation Total	679
Source: Appendix C	

The Interagency Working Group on Social Cost of Greenhouse Gases (IWG) has developed estimates of the social cost of GHGs (SC-GHG) (IWG, 2021). The SC-GHG is the monetary value of the net harm to society associated with adding an amount of that GHG to the atmosphere in a given year. In principle, it includes the value of all climate change impacts, including (but not limited to) changes in net agricultural productivity, human health effects, property damage from increased flood risk natural disasters, disruption of energy systems, risk of conflict, environmental migration, and the value of ecosystem services. Discount rates are used to account for the present value of future costs. Using a low discount rate increases the present value of future costs, whereas using a high discount rate decreases the present value of future costs. The IWG cost estimates are provided for 2.5, 3 and 5 percent discount rates. The cost estimates for carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O) used in this analysis are based on the 3 percent discount rates provided by IWG (2021). **Table 3-6** presents the social cost of the GHG emissions from construction, annual operations, and the lifetime of the project alternatives (lifetime costs include construction and 30 years of operation).

As shown in **Table 3-5**, approximately 74 percent of the operational GHG emissions would come from indirect mobile emissions from vehicles. The State and federal governments are adopting measures to transition the transportation sector to zero emission vehicles. Through Executive Order N-79-20, California has adopted the goal that 100 percent of in-state sales of new passenger cars and trucks will be zero-emission by 2035. In 2022, the federal Inflation Reduction Act was passed, which provides incentives to promote the transition to zero-emission vehicles and to increase energy efficiency in homes. Because the proposed housing would be of new construction and would meet the current CBC, the homes would use energy efficient construction and appliances. As such, the proposed housing would be consistent with current efforts to improve energy efficiency and reduce GHG emissions. To reduce project related GHG emissions, BMPs have been provided in **Section 2.2**. Therefore, with the implementation of BMPs, implementation of Alternative A would not result in significant GHG emissions.

TABLE 3-6
SOCIAL COST OF GHG EMISSIONS

GHG/Cost per metric ton		Alternative A	
		Tons	Cost
Construction (2024-2025)			
CO_2	$56	675.00	$37,800
CH_4	$1,700	0.15	$255
N_2O	$21,000	0.01	$210
Total Cost			$38,265
Operation (2040)			
CO_2	$73	646.26	$47,177
CH_4	$2,500	0.90	$2,262
N_2O	$28,000	0.04	$1,120
Total Cost			$98,865
Lifetime			
CO_2		20,062.80	$1,453,109
CH_4		27.29	$68,115
N_2O		1.21	$33,810
Total Cost			$1,555,034

Source: Appendix C; costs from IWG, 2021 (3% discount rate).

Alternative A includes components that would reduce exposure to the ongoing impacts from climate change. On-site heating and air conditioning will lessen the effects of increasing temperatures and frequency of extreme heat days or extreme weather conditions. The project site is not located near the sea and is therefore not susceptible to sea level rise risks. The project site is not located within or adjacent to a flood zone and is therefore not at risk of flooding impacts. Emergency services sufficiently service the project site and surrounding area due to the proximity of Highway 29. While wildfire risks exist and would be exacerbated by climate change, the Tribe has incorporated fire management measures to reduce the susceptibility to this risk (refer to **Section 2.2.2**). These measures include the use of fire-free zones and fuel reduction zones around homes and RV sites, use of fire-resistant landscaping, and use of fire-safe construction materials and features.

Mitigation

The development standards and BMPs identified in **Section 2.2.2** would reduce potential impacts to air quality to a less-than-significant level. No mitigation measures would be required for Alternative A.

Alternative B

Under Alternative B, impacts to air quality would be similar to those under Alternative A; however, with the development of fewer Tribal homes, the air quality impacts would be reduced accordingly.

Mitigation

The development standards and BMPs identified in **Section 2.2.2** would reduce potential impacts to air quality to a less-than-significant level. No mitigation measures would be required for Alternative B.

Alternative C

Under the No Action Alternative, the land would not be taken into trust and no homes, RV park, roads or other improvements would be developed. No impacts to air quality would occur.

Mitigation

No mitigation measures would be required for Alternative C.

3.4 BIOLOGICAL RESOURCES

A Biological Resources Assessment was completed for the project site and is provided as **Appendix D**.

3.4.1 Regulatory Setting

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) of 1918, as amended, is designed to protect birds that migrate and cross state lines to provide management of migratory birds at a federal level.

Federal Endangered Species Act

The United States Fish and Wildlife Service (USFWS) administers the Endangered Species Act (ESA – 16 United States Code [U.S.C.] Section 153 et seq.) and thereby has jurisdiction over federally-listed threatened, endangered, and proposed species. Projects that may result in "take" of a listed species must consult with the USFWS.

Section 404 of the Clean Water Act

The U.S. Army Corps of Engineers (USACE) is the agency responsible for regulating the discharge of dredged or fill material into jurisdictional wetlands and other waters of the U.S. under Section 404 of the CWA. The federal government defines wetlands as "areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support (and do support, under normal circumstances) a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR Section 328.3(b) and 40 CFR Section 230.3). "Other waters of the U.S." refer to aquatic features that are regulated by the Clean Water Act but are not wetlands (33 CFR Section 328.3).

Regional Habitat Conservation Plans

The project area does not fall within the boundaries of any adopted habitat conservation plan (HCP) or natural community conservation plan.

3.4.2 Environmental Setting

Regional Setting

The project site is located within the Inner North Coast Range geographic subregion, which is contained within the Northwestern California geographic subdivision of the larger California Floristic Province (Baldwin et al. 2012). This region has a Mediterranean-type climate, characterized by distinct seasons of hot, dry summers and wet, moderately-cold winters. The project site is characterized by the transition of habitat from the gently sloping toe of the eastern slope of the Mayacamas Mountains to the Collayomi Valley. At higher elevations, forest and woodlands are the primary vegetation type. These transition to vineyards and grasslands in the valley.

Vegetative Communities and Wildlife Habitats

Vegetative communities found on the project site are summarized below. **Figure 3-3** summarizes the locations of each vegetation type found on the project site.

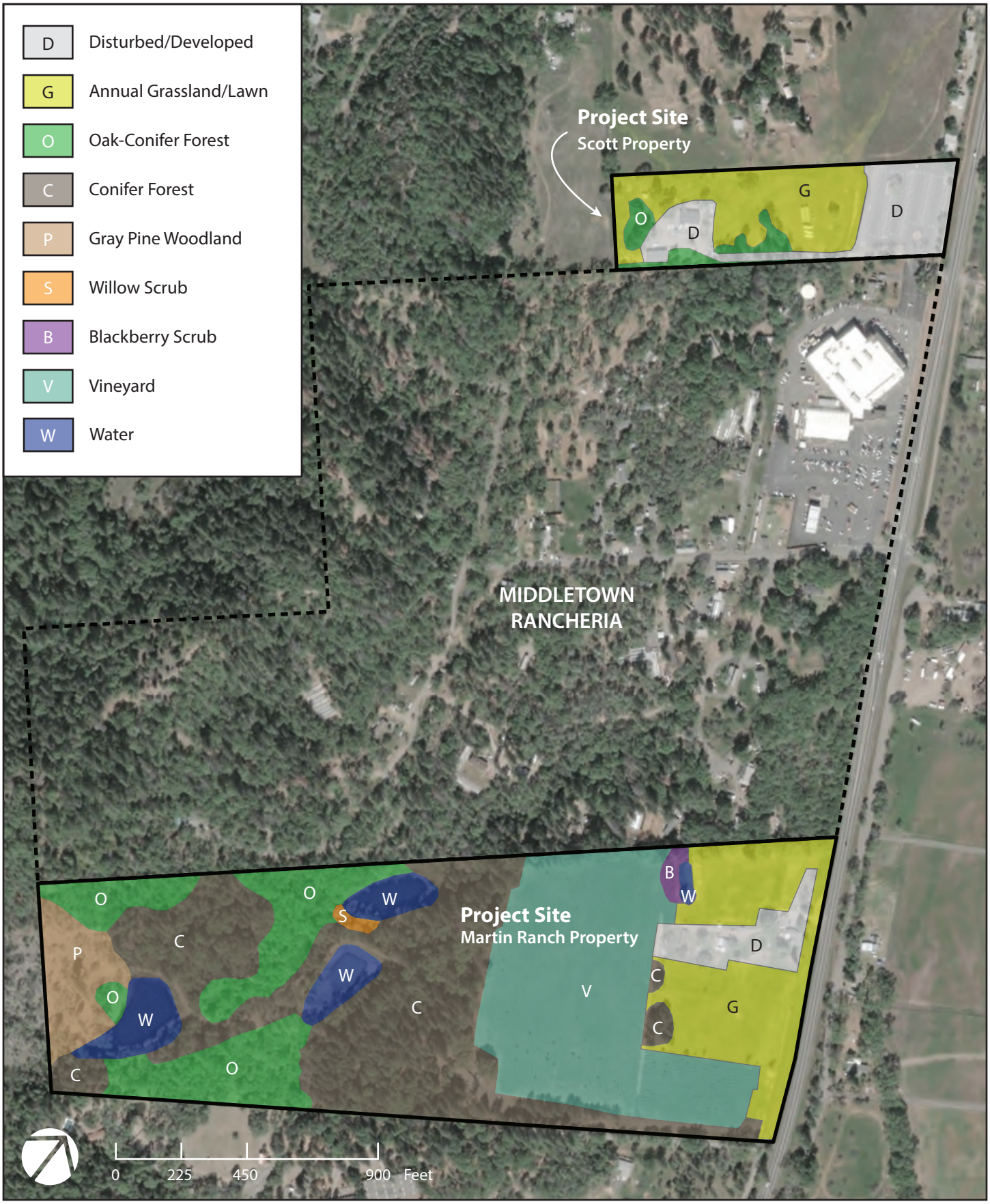
Disturbed/Developed. These areas consist of disturbed or converted natural habitat that is now either in ruderal state, graded, or urbanized with gravel roads. Vegetation within this habitat type consists primarily of nonnative weedy or invasive species lacking a consistent community structure. This habitat type provides limited resources for wildlife and is utilized primarily by species tolerant of human activities. The disturbed and altered condition of these lands greatly reduces their habitat value and ability to sustain rare plants or diverse wildlife assemblages.

Vineyard. These areas of converted natural habitat are in agricultural production as vineyard. The understory in vineyards usually consist of bare soil (controlled by tillage and/or herbicides) or a cover crop of herbaceous plants. Some species of birds and mammals have adapted to the vineyard habitats. However, many have become "agricultural pests". Similar to the ruderal/developed habitat type, the disturbed and altered condition of these lands greatly reduces their habitat value and ability to sustain rare plants or diverse wildlife assemblages.

Blackberry Scrub. A large patch of blackberry brambles is found along the margin of the easternmost pond. Vegetation within this lacustrine habitat consists of a monoculture of Himalayan blackberry (*Rubus armeniacus*). This vegetation can be classified as the Holland Type “Great Valley Riparian Scrub” or as “63.906.01 Rubus armeniacus – Himalayan Blackberry Riparian Scrub” (CDFW, 2021).

Annual Grassland. The annual grassland habitat is comprised largely of non-native annual grasses and native herbs with some native perennial grasses also important. This vegetation has been heavily grazed. Plants common in this habitat type include slender wild oat (*Avena barbata*), California horkelia (*Horkelia californica*), ripgut brome (*Bromus diandrus*) and English plantain (*Plantago lanceolata*). This vegetation can be classified as the Holland Type “Non-native Grassland” or as “44.150.02 Avena barbata Wild Oats Grasslands” (CDFW, 2021).

Black Oak Forest. Portions of the Study Area are characterized by a tree canopy dominated by oak. The black oak forest consists of closed canopy of California black oak (*Quercus douglasii*) with occasional Douglas fir (*Pseudotsuga menziesii*), ponderosa pine (*Pinus ponderosa*), madrone (*Arbutus menziesii*), French broom (*Genista monspeliensis*), common manzanita (*Arctostaphylos manzanita* ssp. *manzanita*) and toyon (*Heteromeles arbutifolia*). Recognition of understory plants within the oak forest was difficult



MIDDLETOWN RANCHERIA

FIGURE 3-3
HABITAT MAP

because this vegetation layer was masticated during the summer. This vegetation can be classified as the Holland Type "Black Oak Forest" or as "71.010.26 Quercus kelloggii – Pinus ponderosa (California Black Oak Forest)" (CDFW, 2021).

Gray pine woodland. Found along the hills and slopes in the western portion of the Study Area is habitat dominated by gray pine. The pine woodland consists of an open canopy of gray pine (*Pinus sabiniana*) and occasional blue oak (*Quercus douglasii*) with an understory of toyon, whiteleaf manzanita (*Arctostaphylos viscida*) and poison oak (*Toxicodendron diversilobum*). This vegetation can be classified as the Holland Type "Non-Serpentine Gray Pine Woodland" or as "87.130.00 Pinus sabiniana Foothill Pine Woodland (CDFW, 2021).

Ponderosa pine forest. Conifer-dominated forest habitat is found throughout the western half of the Study Area. This forest habitat consists of a dense canopy of ponderosa pine, Douglas fir, California black oak, madrone, common manzanita and French broom. As with the black oak forest, the understory of the ponderosa pine forest has been masticated. The pine forest can be classified as the Holland Type "Coast Range Ponderosa Pine Forest" or as "87.400.04 Ponderosa pine – Douglas Fir Forest (CDFW, 2021).

Willow scrub/Riparian. Riparian (or lacustrine) habitat can be found along the margin of one of the ponds. The riparian vegetation consists of a narrow canopy of red willow (*Salix laevigata*), arroyo willow (*Salix lasiolepis*), valley oak (*Quercus lobata*) and Himalayan blackberry. The riparian forest can be classified as the Holland Type "Great Valley Mixed Riparian Forest" or as "61.205.02 Salix laevigata/Salix lasiolepis Red Willow Riparian Woodland and Forest (CDFW, 2021).

Freshwater Marsh. Two areas of freshwater marsh are mapped in the eastern half of the Study Area. The freshwater marsh vegetation is found within the annual grassland habitat, and has been heavily grazed to the point where species identification was not possible. This vegetation can be classified as the Holland Type "Coastal and Valley Freshwater Marsh."

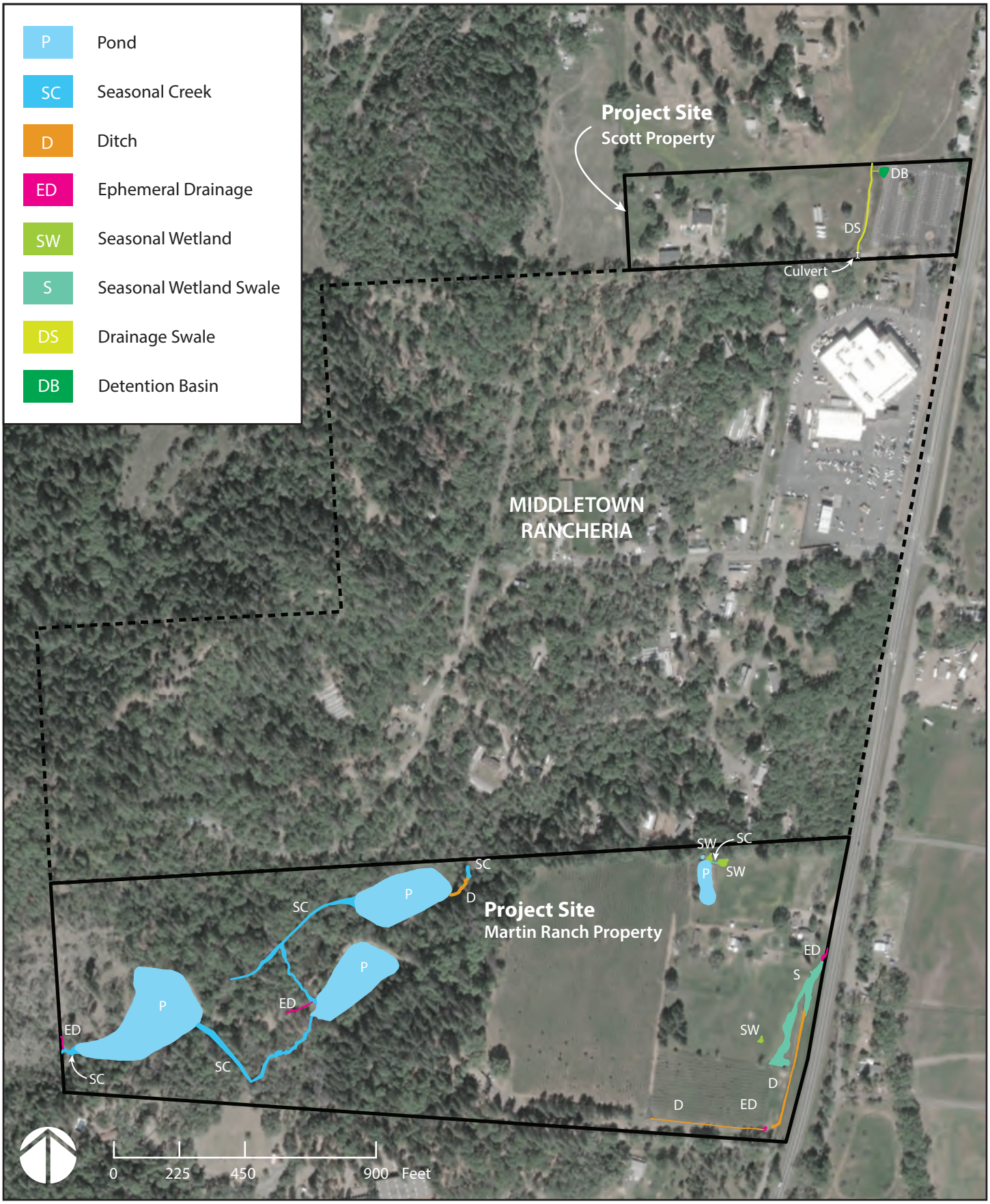
Wetlands and Waters of the U.S.

The project site contains ponds, ephemeral channels, and wetlands. Some of these features may be considered wetlands and waters of the U.S. under the jurisdiction of the Clean Water Act, while other features are likely not under the jurisdiction of the Clean Water Act. The potentially jurisdictional and potentially non-jurisdictional features are described below. **Figure 3-4** shows the locations of each wetland/water feature on the project site.

Potentially Jurisdictional Features

Ponds and Associated Lacustrine Wetlands

Ponds are depressional areas that are permanently or semi-permanently inundated and support areas of open water during the growing season. Ponds exhibit an Ordinary High Water Mark (OHWM) but may or may not support hydrophytic vegetation and hydric soils. A modified groundwater spring forms two ponds in the northeastern portion of the Martin Ranch property which are connected by surface water at peak inundation. The smaller of these two features is dominated by a floating canopy of water lily (*Nymphaea* sp.). The larger of these two ponds functions as a stock pond for horses, and is primarily



MIDDLETOWN RANCHERIA

FIGURE 3-4

WETLAND MAP

unvegetated. Vegetated portions of this pond are dominated by water starwort, pennyroyal (*Mentha pulegium*), common spikerush (*Eleocharis macrostachya*), and iris leaved rush (*Juncus xiphioides*).

Three additional ponds occur in the western portion of the Martin Ranch property as impoundments of the ephemeral channels. These ponds are primarily unvegetated due to their steep sides, depth, and seasonally fluctuating water levels. Vegetated portions of these ponds are dominated by red willow, broad leaf cattail (*Typha latifolia*), water starwort, and bog rush.

Lacustrine wetland habitat can be found along the margin of one of the ponds. The vegetation consists of a narrow canopy of red willow (*Salix laevigata*), arroyo willow (*Salix lasiolepis*), valley oak (*Quercus lobata*) and Himalayan blackberry (*Rubus armeniacus*).

A large patch of blackberry brambles is found along the margin of the easternmost pond. Vegetation within this lacustrine habitat consists of a monoculture of Himalayan blackberry.

Channels

Ephemeral drainages and seasonal creeks are linear features that exhibit a bed and bank and an OHWM. These features typically convey runoff for short periods of time during and immediately following rain events and are not influenced by groundwater sources at any time during the year. Ephemeral drainages and seasonal creeks occur within the western portions of the Martin Ranch Property. These features are primarily unvegetated and consist of gravel and cobble beds with incised banks.

Potential Wetlands

Within the eastern half of the Martin Ranch property, there are two areas that may have wetlands (freshwater marsh). The freshwater marsh vegetation is found within the annual grassland habitat, and has been heavily grazed to the point where species identification was not possible. This vegetation can be classified as the Holland Type "Coastal and Valley Freshwater Marsh." A 2017 survey describes the following features that were mapped in 2017 but were not detected in 2021.

> Seasonal wetlands are ephemerally wet due to accumulation of surface runoff and rainwater within low-lying areas. Inundation periods tend to be relatively short, and these wetlands are commonly dominated by nonnative annual, and sometimes perennial, hydrophytic species. Seasonal wetlands observed in the Project Area [Martin Ranch] are shallow features dominated by annual water miner's lettuce (*Montia fontana*), water starwort (*Callitriche heterophylla*), annual bluegrass (*Poa annua*), and perennial ryegrass (*Festuca perennis*). The seasonal wetlands were saturated during the field visit.
>
> Seasonal wetland swales are sloped wetland features that convey stormwater runoff. They typically have hydric soils and support a predominance of hydrophytic vegetation, but lack an OHWM. Seasonal wetland swales are typically inundated for short periods during and immediately after rain events, but usually maintain soil saturation for longer periods during the growing season. Seasonal wetland swales observed within the Project Area [Martin Ranch] were dominated by common meadowfoam (*Limnanthes douglasii*), flowering quillwort (*Triglochin scilloides*), perennial ryegrass, annual water miner's lettuce, water starwort, and yellow owl's clover. Seasonal wetland swales within the Project Area were saturated to partially inundated during the field visit (ECORP, 2017).

Potentially Non-Jurisdictional Features

Ditches are linear features that are constructed to convey storm water and/or irrigation water. Ditches occur within the Martin Ranch property east and south of the vineyard. These ditches are primarily unvegetated due to scour caused by flowing water. One additional ditch occurs in the northern-central portion of the Martin Ranch Property. This feature is a concrete-lined portion of the creek channel which flows out of a pond. These linear features are not necessarily jurisdictional under the Clean Water Act.

Surface drainage on the Scott property collects in an upland swale, but this drainage feature contains upland vegetation and lacks any OHWM indicators, such as ranked vegetation, bank erosion, or bedrock exposure. A detention basin developed on the Scott Property provides stormwater attenuation and treatment and drains to the adjacent upland drainage swale. These features are not necessarily jurisdictional under the Clean Water Act.

Special-Status Species

Special-Status Species Observed During Field Surveys

Wildlife and botanical field surveys were conducted in 2017, 2018 and 2021. No federally listed species were identified on the project during any survey. During focused plant surveys in 2018, three special-status plant species were observed in the western portion of the Martin Ranch property - Napa lomatium (*Lomatium repostum*), Mount Saint Helena morning glory (*Calystegia collina ssp. oxyphylla*), and Tracy's clarkia (*Clarkia gracilis ssp. tracyi*). These plant species are not listed pursuant to the federal or California Endangered Species Acts. These plants have been identified by the California Native Plant Society (CNPS) as California Rare Plants having limited distribution. Mount Saint Helena morning glory and Tracy's clarkia are further identified by CNPS as "fairly threatened in California" and Napa lomatium is identified as "not very threatened in California."

Potential for Special-Status Species to Occur in the Project Area

Plants

No federally listed or special-status plants have been found on the project site during field surveys. However, based on the literature and resource agency database review, four federally listed plant species were identified as having potential to occur in the vicinity of the project site. The habitats and vegetation communities collectively found within the project site represent potentially suitable habitat for these special-status plant species: Pennell's bird's-beak (*Cordylanthus tenuis ssp. capillaris*), Kenwood Marsh Checker-mallow (*Sidalcea oregana ssp. valida*), Burke's goldfields (*Lasthenia burkei*), Contra Costa goldfields (*Lasthenia conjugens*), and Sebastopol meadowfoam (*Limnanthes vinculans*). Brief descriptions of the plant species that have the potential to occur within the project site are presented below.

Pennell's Bird's-Beak

Pennell's Bird's-Beak is listed as Endangered under the federal Endangered Species Act. This species occurs in soils with serpentinite parent material within closed-cone coniferous forest and chaparral. The gray pine woodland in the western portion of the Martin Ranch property has suitable habitat for Pennell's bird's-beak. The Scott property does not provide suitable habitat for this species.

Kenwood Marsh Checker-mallow

Kenwood Marsh checker-mallow is listed as Endangered under the federal Endangered Species Act. This species inhabits marshes and swamps at elevations between 375 and 500 feet. The project site, with an elevation above 1,100 feet is well above the elevation range of this species. There is no potential for Kenwood Marsh checker-mallow to occur on the project site.

Burke's Goldfields

Burke's Goldfields is listed as Endangered under the federal Endangered Species Act. Burke's Goldfields occurs in vernal pools and swales. There are no vernal pools or swales in the development area of the project site. There is no potential for this species to occur in the development area of the project site.

Sebastopol Meadowfoam

Sebastopol meadowfoam is listed as endangered pursuant to the federal ESA. The wetlands on the eastern side of the Martin Ranch property represent suitable habitat for Sebastopol meadowfoam, but ideal habitat is not present. The Scott property does not provide suitable habitat for this species.

Animals

Special-status animals have a low potential to occur in the disturbed/developed, vineyard, annual grassland, and blackberry scrub habitats. However, special-status animals have a moderate to high potential to occur in the forested habitats. The project site supports potentially suitable habitat for California red-legged frog (*Rana draytonii*), and northern spotted owl (*Strix occidentalis caurina*). Brief descriptions of the animal species that have the potential to occur within the project site are presented below.

California Red-Legged Frog

The California red-legged frog is federally listed as threatened. The ponds within the Martin Ranch property are occupied by predatory fish and bullfrogs and therefore represent low-quality habitat for the California red-legged frog. The California red-legged frog has low potential to occur within the project site.

Northern Spotted Owl

The northern spotted owl is federally listed as threatened. Northern spotted owl has potential to forage in the Study Area. A habitat and impact assessment for this species (Tanner, 2018) concluded that suitable nesting-roosting habitat is not present within and immediately adjacent to the Study Area.

Migratory Birds

Trees, shrubs, and poles within the project site may provide suitable nesting and perching habitat for migratory birds. While no nests were observed during the field surveys, suitable nesting habitat for five species identified by the USFWS as Birds of Conservation Concern (USFWS, 2021) is present within the project site. The bird species include Lewis's woodpecker (*Melanerpes lewis*), Nuttall's woodpecker (*Dryobates nuttallii*), olive-sided flycatcher (*Contopus cooperi*), oak titmouse (*Baeolophus inornatus*), and rufous-crowned sparrow (*Aimophila ruficeps*).

Wildlife Movement/Corridors

Wildlife corridors in the project area include the riparian habitat along St. Helena Creek east of the project site and the largely undeveloped forest habitat of the Mayacmas Mountains west of the project site. Agriculture, residential and commercial development within the Collayomi Valley reduce the potential for wildlife movement. No wildlife corridors or fishery resources are located within the project site or adjacent areas.

3.4.3 Impacts to Biological Resources

Alternative A

Natural Communities

Construction of the proposed residential and RV park development would result in the removal of existing vegetation on the project site. Most of the development would occur in areas previously developed areas and vineyards. The project site is not designated as critical habitat for any threatened and endangered species by the U.S. Fish and Wildlife Service (USFWS). The closest USFWS designated critical habitat is for northern spotted owl and is located approximately three miles southeast of the site at Three Peaks on the Napa County border.

The proposed residential alternative has been designed to avoid wetlands and riparian habitat that exist on the project site. The project would result in some impacts to California black oak and Oregon white oak trees that exist in the Ponderosa pine – Douglas fir forest that would be converted to residential development. As identified in **Section 2.0**, the layout of the homes and driveways will avoid mature trees to the extent feasible, and landscaping will incorporate native tree species including California black oak, and Oregon white oak.

Because the project site is not protected habitat, wetlands and riparian habitat will be avoided, and the habitat that will be converted is either disturbed or adjacent to existing development, which reduces the integrity of the habitat present, impacts to natural communities on the project site are considered less than significant.

Wetlands and Waters of the U.S.

The field surveys identified approximately 4.3 acres of potential Waters of the U.S. within the project site. A formal wetland delineation has not been conducted and the wetlands have not been verified by United States Army Corps of Engineers (USACE). Alternative A has been designed to avoid all wetlands and other waters. However, due to the proximity of the development area to wetlands, wetland swales and ditches, construction activities have the potential to impact wetlands and other waters. Mitigation measures identified below would reduce potential impacts to a less-than-significant level. These measures include installing exclusionary fencing prior to construction.

Special-Status Species

No special-status mammals, fish, or reptiles are identified as potentially occurring on the project sites. However, special-status plant, bird and amphibian species have the potential to occur on the project sites.

Plants

The habitat assessment identified the potential for special-status plant species to exist on the project site in two locations – the ghost pine woodland in the steep western portion of the project site, and the grasslands and wetlands in the eastern portion of the project site. Focused special-status plant surveys were conducted in 2018. No federally-listed plants were found to occur in either area on the Martin Ranch property. The Scott property does not provide suitable habitat for these species.

Three plant species on the California Native Plant Society's watch list were identified on the Martin Ranch property. These species, Napa lomatium (*Lomatium repostum*), Mount Saint Helena morning glory (*Calystegia collina* ssp. *oxyphylla*), and Tracy's clarkia (*Clarkia gracilis* ssp. *tracyi*) were in the ghost pine woodland on a steep slope in the far western portion of the project site outside of the proposed development area. Due to the steepness of the terrain and the intervening ponds and seasonal creek, it is unlikely that this area would ever be developed. Accordingly, no impacts to special-status plant species that exist in this area are expected.

Birds

The habitat assessment for the northern spotted owl determined that forests on the project site do not provide adequate nesting habitat. However, due to the presence of suitable nesting habitat within 1.3 miles, the California black oak forests and ponderosa pine and Douglas-fir forests on the project site may provide foraging habitat for northern spotted owls. Alternative A would include the construction of five cabins along with an access road and parking area within the ponderosa pine – Douglas fir forest in the central portion of the project site. As described in **Section 2**, development would avoid mature trees to the extent possible. This would preserve most of the forest canopy and would reduce degradation of foraging habitat. Mitigation measures are identified to reduce the potential for impacts to the northern spotted owl. These measures include avoiding trees with a trunk diameter greater than 30 inches, minimizing pavement, and restricting vegetation clearing to the non-breeding season. The implementation of these mitigation measures would reduce impacts to a less-than-significant level.

Suitable nesting habitat for migratory birds is present within the project site. These include Lewis's woodpecker, Nuttall's woodpecker, olive-sided flycatcher, oak titmouse, and rufous-crowned sparrow, which are identified by the USFWS as Birds of Conservation Concern. If present, the development of Alternative A could result in harassment to nesting individuals and may temporarily disrupt foraging activities. In addition to the above-listed birds, all native birds, including raptors, are protected under the federal Migratory Bird Treaty Act. Mitigation measures are identified to reduce the potential for impacts to nesting birds. These measures include a pre-construction nesting survey and establishment of buffers around nests, if found. The implementation of these mitigation measures would reduce impacts to a less-than-significant level.

Amphibians

The California red-legged frog has the potential to occur within the ponds located on the project site. Because the ponds are occupied by predatory fish and bullfrogs, the ponds present low-quality habitat and the potential for California red-legged frogs to occur in the ponds is considered low. Except for a recreational trail, no development is proposed to occur within 100 feet of the ponds in the western portion of the project site. As described in **Section 2**, development of the recreation trail would avoid any fill or disturbance within stream channels. Development would occur within approximately 30 feet

of the pond in the eastern portion of the Martin Ranch property. However, the ponds within the Martin Ranch property are occupied by predatory fish and bullfrogs and therefore represent low-quality habitat for the California red-legged frog. Additionally, the nearest reported occurrence of the frog is 34 miles away from the project site. Due to the low quality habitat and distance to the nearest reported occurrence, no impacts to the California red-legged frog are expected to occur.

Wildlife Movement/Corridors

As described in **Section 3**, the western portion of the site includes a seasonal creek, ponds and forest that connect with the surrounding habitat and provide for wildlife movement, while the residential development in the eastern portion of the project site and Highway 29 to the east of the project site limit wildlife movement. Because the proposed residential development would occur in the eastern portion of the project site and would avoid the seasonal creek, ponds and adjacent forest, Alternative A is not expected to significantly affect wildlife movement and/or wildlife corridors.

Mitigation

- To avoid potential disturbance of wetlands and other waters that may be jurisdictional waters of the U.S. under Section 404 of the Clean Water Act:
    - Before construction activities commence, a qualified biologist will stake the boundaries of any channel, pond, or potential wetland area that is adjacent to proposed development areas. The construction contractor shall erect exclusionary fencing around these water resources to ensure that no construction equipment or personnel enter the channels or wetlands.
- To avoid potential impacts to northern spotted owl:
    - Vegetation clearing in the forested areas of the project site should be planned and conducted to remove as few trees as possible. No trees with a diameter at breast height (DBH) over 30 inches should be removed.
    - Building footprints, roads and parking areas in the forested areas of the project site should be minimized to the greatest extent possible and as little pavement or concrete as necessary should be used.
    - Vegetation clearing in the forested areas of the project site should be conducted during the non-breeding season or Limited Operating Period (August 31 – March 15).
- To avoid potential disturbance to nesting birds:
    - If construction activities will occur during the nesting season (usually March to September), pre-construction surveys for the presence of migratory birds or any nesting bird species should be conducted by a qualified biologist within 500 feet of proposed construction areas. If active nests are identified in these areas, the appropriate wildlife agency should be consulted to develop measures to avoid “take” of active nests prior to the initiation of any construction activities. Avoidance measures may include

establishment of a buffer zone using construction fencing or the postponement of vegetation removal until after the nesting season, or until after a qualified biologist has determined the young have fledged and are independent of the nest site.

- To avoid potential impacts to listed species:
    - Within 48 hours of the start of construction, a pre-construction survey for listed species should be performed by a qualified biologist to ensure that listed species are not present. If any listed species are detected, construction should be delayed, and the appropriate wildlife agency (CDFW and/or USFWS) should be consulted and project impacts and mitigation reassessed.

Alternative B

Under Alternative B, impacts to biological resources would be similar to those under Alternative A; however, with the development of fewer Tribal homes, the impacts to biological resources would be reduced accordingly.

Mitigation

The mitigation measures identified for Alternative A would also be required for Alternative B. With implementation of these measures, impacts to biological resources from development of the Reduced Residential Alternative would be reduced to a less-than-significant level.

Alternative C

Under the No Action Alternative, the land would not be taken into trust and no homes, RV park, roads or other improvements would be developed. No impacts to biological resources would occur.

Mitigation

No mitigation measures would be required for Alternative C.

3.5 CULTURAL RESOURCES

Cultural resources reports were prepared in 2018 and 2020 by Tom Origer & Associates and are on file with the BIA Pacific Region. The report presents the results of the record searches and pedestrian surveys of the project site. Key information from the cultural resources reports is summarized below.

3.5.1 Cultural Setting

Archaeological evidence indicates that human occupation of California began at least 11,000 years ago. Early occupants appear to have had an economy based largely on hunting, with limited exchange, and social structures based on extended family units. Later, milling technology and an inferred acorn economy were introduced. This diversification of economy appears coeval with the development of

sedentism, and population growth and expansion. Sociopolitical complexity and status distinctions based on wealth are also observable in the archaeological record, as evidenced by an increased range and distribution of trade goods (e.g., shell beads, obsidian tool stone), which are possible indicators of both status and increasingly complex exchange systems.

At the time of European settlement, the study area was in a boundary area between territories controlled by the Lake Miwok and the Wappo. Both the Lake Miwok and Wappo were hunter-gatherers who lived in a rich environment that allowed for a dense population with complex social structures. They settled in large, permanent villages about which were distributed seasonal camps and task-specific sites. Primary villages were occupied throughout the year and other sites were visited seasonally to procure resources that were especially abundant or available only during certain times. Sites often were situated near fresh water sources and in ecotones where plant and animal life were diverse and abundant.

The study area lies within the Rancho Collayomi (sometimes Callayomi) Land Grant. Being one of three Mexican land grants in present day Lake County, Rancho Collayomi was granted to Robert Ridley in 1845. When granted, it consisted of some 8,242 acres.

3.5.2 Records Search and Survey Findings

Archival research included a review of the archaeological site base maps and records, survey reports, and other materials on file at the Northwest Information Center (NWIC), Sonoma State University, Rohnert Park. Sources of information included, but were not limited to, the current listings of properties on the National Register of Historic Places, California Historical Landmarks, California Register of Historical Resources, and California Points of Historical Interest as listed in the Office of Historic Preservation's Historic Property Directory.

The Office of Historic Preservation has determined that structures in excess of 45 years of age should be considered potentially important historical resources, and former building and structure locations could be potentially important historic archaeological sites. Archival research included an examination of historical maps to gain insight into the nature and extent of historical development in the general vicinity, and especially within the study areas. Maps ranged from hand-drawn maps of the 1800s (e.g., General Land Office) to topographic quadrangles issued by the United States Geological Survey (USGS) and the Army Corps of Engineers (USACE) from the early to the middle 20th century.

In addition, ethnographic literature that describes Native American groups, county histories, and other primary and secondary sources were reviewed.

Archival research found no previous surveys or recorded cultural resources within the project site. A 1927 historical topographic map shows one building immediately west of Highway 29 on the Martin Ranch property. In a 1943 topographic map, one additional building is shown on Martin Ranch. These buildings are shown where the farmhouse and associated buildings currently stand. A review of more recent topographic maps shows that by 1980, two additional buildings and three small reservoirs were present on Martin Ranch. This includes the ranch house built in 1975 in the southcentral portion of the project site.

Field surveys were completed 2018 and 2020. Visibility of the ground surface ranged from excellent to poor, with dense vegetation, duff, fill, asphalt, imported gravel and buildings being the primary

hindrances. Hoes were used as necessary to clear small patches of vegetation so that the soil could be inspected. Transects were spaced no greater than 25 meters apart. In addition to the surface survey, three hand-dug auger borings were completed using a 2-inch diameter barrel auger to search for buried archaeological site indicators in the portion of the Martin Ranch property near Highway 29 where Holocene alluvium is present.

No significant archaeological resources were identified during the survey. Natural obsidian pebbles were observed in a gravel roadway west of the house on Martin Ranch along Highway 29; however, it was clear that the obsidian was a component of the imported road gravel. Additionally, mid-20th century to modern-era cans and glass were observed on a slope near the westernmost reservoir on Martin Ranch. It appeared that these items represent relatively recent causal discards from some unknown place that was cleaned up and dumped at this location. As a secondary deposit it lacks integrity and the ability to yield information, and accordingly does not meet criteria to be an historic archaeological resource.

On the Martin Ranch property, the farmhouse and an adjacent (unoccupied) cabin located near Highway 29 have concrete foundations and have been modified since they were built. The residential buildings are single-story with T1-11 wood siding and cross-gabled roofs. One building had most of the windows replaced with aluminum sashed, horizontal sliders. Additionally, the original roofs of the buildings have been altered (i.e., overlain with plywood, added support beams). These modifications contribute to their loss of historical and architectural integrity. The ranch house in the south-central portion of the Martin Ranch property is a single-story building with a hipped-roof with a combination of T1-11 siding and horizontal lapped siding. The windows are aluminum sashed, horizontal sliders. Additionally, the building has a concrete foundation.

On the Scott property, at the time of the survey in 2020, there was one modern building, a tractor shed, a collapsing barn, and several smaller sheds. The modern building has a galvanized corrugated metal roof, vertical wood board siding, and rests atop a concrete foundation. The windows, and possibly the roof and siding, appear to have been replaced. There was a smaller shed nearby that was built with the same material, which suggests that it was either built around the same time, or with leftover materials from the building. In addition, there was a tractor shed with a galvanized corrugated metal roof. There was a collapsing barn that had the remnants of a corrugated metal roof, corrugated metal siding, and rested atop concrete piers. There were also various other smaller corrugated metal sheds throughout the property. There was also one modern prefabricated shed that resembles something you can purchase at a home improvement store. Some of these buildings were removed and two new homes were installed in 2020 after the survey was completed.

All of the older buildings within the project site have lost architectural and historical integrity due to modification; therefore, they do not meet eligibility criteria for inclusion on the National Register of Historic Places.

Three auger borings were excavated to depths of 110, 90, and 85 centimeters on the Martin Ranch property. The soils excavated from the auger contained no archaeological site indicators.

3.5.3 Impacts to Cultural Resources

Alternative A

The cultural resources surveys conducted in 2018 and 2020 identified no significant archaeological resources on the project site. The buildings on the Martin Ranch property were determined to have lost architectural and historical integrity and the ability to yield information and therefore do not meet eligibility criteria for inclusion on the National Register of Historic Places. Likewise, no of the buildings located on the Scott property at the time of the 2020 survey were determined to be eligible for inclusion on the National Register of Historic Places. Development of the proposed homes, RV park and roadways would not impact any known cultural resources. However, there remains the potential to encounter buried archaeological resources during construction activities. With the implementation of mitigation measures identified below (i.e., standard procedures for the unanticipated discovery of archaeological or human remains), impacts to cultural resources would be less than significant.

Mitigation

In the event of inadvertent discovery of prehistoric or historic archaeological resources during construction-related earth-moving activities, all such finds shall be subject to Section 106 of the National Historic Preservation Act as amended (36 CFR 800), and the BIA shall be notified. Specifically, procedures for post-review discoveries without prior planning pursuant to 36 CFR 800.13 shall be followed. All work within 50 feet of the find shall be halted until a professional archaeologist meeting the Secretary of the Interior's qualifications (36 CFR 61) can assess the significance of the find. If any find is determined to be significant by the archaeologist, then representatives of the Tribe and the BIA shall meet with the archaeologist to determine the appropriate course of action, including the development of a Treatment Plan, if necessary. All significant cultural materials recovered shall be subject to scientific analysis, professional curation, and a report prepared by the professional archaeologist according to current professional standards.

If human remains are discovered during ground-disturbing activities, pursuant to the Native American Graves Protection and Repatriation Act (NAGPRA), a BIA representative shall be contacted immediately. No further disturbance shall occur until the Tribe and BIA representative have made the necessary findings as to the origin and disposition. If the remains are determined to be of Native American origin, the BIA representative shall notify a Most Likely Descendant. The Most Likely Descendant is responsible for recommending the appropriate disposition of the remains and any grave goods.

Alternative B

Under Alternative B, impacts to cultural resources would be similar to those under Alternative A; however, with the development of fewer Tribal homes, the impacts to cultural resources would be reduced accordingly.

Mitigation

The mitigation measures identified for Alternative A would also be required for Alternative B. With implementation of these measures, impacts to cultural resources from development of the Reduced Residential Alternative would be reduced to a less-than-significant level.

Alternative C

Under the No Action Alternative, the land would not be taken into trust and no homes, RV park, roads or other improvements would be developed. No impacts to cultural resources would occur.

Mitigation

No mitigation measures would be required for Alternative C.

3.6 SOCIOECONOMIC CONDITIONS

3.6.1 Socioeconomic Characteristics of Lake County

Population

The proposed fee-to-trust parcels are in Lake County. The County's current population is estimated to be approximately 67,407. There are only two incorporated cities in Lake County – Clearlake, with a population of 16,509, and Lakeport, with a population of 4,999 (California Department of Finance, 2022a). Both cities are located on the shores of Clear Lake in the middle of the county.

Most of the population resides in the County's unincorporated communities, including Hidden Valley Lake (population 6,155), Kelseyville (population 3,873), and North Lakeport (population 3,547). Middletown is the most southerly unincorporated community in Lake County with a population of 1,577. (US Census, 2023). The County's population is expected to remain stable over the next 40 years (California Department of Finance, 2021).

Housing

Lake County's housing consists primarily of single-family homes, which account for 69 percent of 34,294 total housing units. Multi-family units account for approximately 8 percent, and mobile homes make up about 23 percent. The average household has 2.4 persons (California Department of Finance, 2022b).

Employment and Income

As of November 2022, Lake County's unemployment rate was 5.2 percent, below the state's average jobless rate of 4.1 percent (CEDD, 2022). Median household income is approximately $61,221, which is lower than the statewide average of $84,907 (US Census, 2023). Based on estimates for 2021, about 12.9 percent of the population live below the poverty level in the county, compared to a statewide average of 12.3 percent (US Census, 2023).

3.6.2 Socioeconomic Characteristics of Middletown Rancheria

The Tribe currently has 266 enrolled members. The Tribe provides employment to 30 tribal members and approximately 200 non-tribal members. There are 42 homes on the Rancheria with 40 homes occupied by tribal members. The Tribe owns an additional eight homes on fee land (including the four existing homes on the project site), of which seven are occupied by tribal members.

3.6.3 Environmental Justice for Minority and Low-Income Populations

On February 11, 1994, President Clinton issued EO 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" and an accompanying Presidential Memorandum to focus federal attention on the environmental and human health conditions in minority communities and low-income communities. The EO, as amended, directs federal agencies to develop an Environmental Justice Strategy that identifies and addresses disproportionately high human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations. Compliance with this EO has been incorporated into the NEPA compliance requirements of the BIA for the Proposed Action.

Approximately 57 percent of Lake County residents identify as white, 40 percent identify as Hispanic, 3.3 percent identify as American Indian, 7.3 percent identify as black, 18 percent identify as Asian, and 34 percent identify as another race (US Census, 2023).

3.6.4 Socioeconomic Impacts

Alternative A

The development of Alternative A would directly benefit tribal members by providing needed affordable housing. The proposed RV park would expand accommodation options for its casino, to ensure a sustainable and stable revenue base for the Tribe. The proposed housing and RV park would be compatible with adjacent rural residential land uses. The only potential adverse environmental effects are short-term construction-related impacts. The incorporation of development standards and BMPs identified in **Section 2.2**, and mitigation measures identified in **Chapter 3**, ensure that all construction-related impacts would be less than significant. The surrounding community would not be adversely impacted by the proposed residential development. Accordingly, no minority or low-income populations would be adversely impacted.

The provision of up to 45 homes and relocation of tribal members would have no appreciable impact on the housing market as there are approximately 34,294 homes in Lake County.

Development of Alternative A would not significantly impact the County's ability to provide governmental services. The removal of the parcels from the County's jurisdiction would reduce annual property tax revenue by approximately $20,871 (based on fiscal year 2023). For the 2022 fiscal year, the County collected $97,901,844 (Lake County, 2022). The amount of lost property tax revenue is approximately 0.02 percent of the total property taxes collected by the County. The RV park would bring additional visitors to the County. In addition to supporting the Tribe's existing businesses, the visitors would also bring additional revenue to other businesses in the County and would increase associated tax revenue collected by the County. The Tribe provides services to the Rancheria and contracts with other service providers for services. These services would expand with the development of the proposed homes and RV park, which in turn would expand the local economy and tax base. The additional economic activity and tax revenue would offset the loss of property tax revenue. Implementation of Alternative A would not result in significant socioeconomic or environmental justice impacts.

Mitigation

The surrounding community would not be adversely impacted by the proposed residential and RV park development. No mitigation measures would be required for Alternative A.

Alternative B

Under Alternative B, impacts to socioeconomic or environmental justice conditions would be similar to those under Alternative A; however, with the development of fewer Tribal homes, the potential short-term construction-related impacts would be reduced accordingly.

Mitigation

No mitigation measures would be required for Alternative B.

Alternative C

Under the No Action Alternative, the land would not be taken into trust and no homes, RV park, roads or other improvements would be developed. No socioeconomic or environmental justice impacts would occur.

Mitigation

No mitigation measures would be required for Alternative C.

3.7 TRANSPORTATION AND CIRCULATION

A traffic study was completed for the Proposed Action and is provided as **Appendix E**. The results of the traffic study are summarized below.

3.7.1 Existing Setting

Existing Roads

The following roadways are located in the vicinity of the proposed fee-to-trust property:

Highway 29. Highway 29 begins at the Napa/Lake County line and continues north through the community of Middletown to the community of Lower Lake and then proceeds north-west through the community of Kelseyville and the City of Lakeport to its terminus at Highway 20 in Upper Lake. The southern portion of SR Highway is classified a Rural Minor Arterial road. In the area of the proposed project, Highway 29 is a two-lane conventional highway with 12' travel lanes and paved shoulders.

Rancheria Road. Rancheria Road is a local roadway that provides access to the Twin Pine Casino and Hotel and the Middletown Rancheria. The road is about 24 feet wide without paved shoulders between Highway 29 and the casino/hotel driveways, after which it narrows to about 18 feet wide.

Western Mine Road. Western Mine Road provides access to the historic Western Mine (closed) and rural residential properties west of Highway 29. The road becomes Ida Clayton Road at the Sonoma County line and connects to Highway 128. The roadway near Highway 29 is paved and about 16' wide.

Western Mine Road Extension. Western Mine Road Extension is a narrow, paved road that serves as a frontage road on the west side of Highway 29, extending north and south from Western Mine Road. Western Mine Road provides access to the southeast corner of the project site. The driveway to the ranch house extends from this road.

Bicycle and Pedestrian Facilities

There are no sidewalks or bike lanes along Highway 29 in the vicinity of the project. The existing paved shoulder of Highway 29 along the project frontage ranges from four to six feet wide.

Public Transit

Lake Transit provides bus routes, regional flex route service and local dial-a-ride services within Lake County. Two Lake Transit bus routes utilize Highway 29 in the area of the project. Bus Route 2 provides service along Highway 175 between Kit's Corner to the Twin Pine Casino. Bus Route 3 which originates in the City of Clearlake uses Highway 29 from Lower Lake and travels into Calistoga and Deer Park in Napa County. Service is currently provided Monday through Friday.

Existing Traffic Volumes

The California Department of Transportation (Caltrans) regularly monitors the volume of traffic on state highways. The most recent Caltrans traffic counts (2019) indicates that Highway 29 carries an Annual Average Daily Traffic (AADT) volume of 9,100 vehicles per day (vpd) south of Rancheria Road and 9,900 vpd north of Rancheria Road.

Existing Intersection Level of Service

The *Highway Capacity Manual, 6th Edition* was used to provide a basis for describing the quality of existing traffic operating conditions. Level of Service (LOS) measures the quality of traffic flow and is represented by letter designations from "A" to "F", with a grade of "A" referring to the best conditions, and "F" representing the worst conditions. **Table 3-7** presents typical Level of Service characteristics.

Level of Significance

Caltrans employs various minimum Level of Service standards for its facilities depending on the type of facility and the characteristics of the location. Caltrans general minimum standard of LOS C is noted in Caltrans' Traffic Study Guidelines, but exceptions to that standard are documented in various planning and policy documents. The 2013 SR 29 Transportation Concept Report (TCR) identifies LOS E as the Concept Level of Service for Highway 29 in the Middletown area.

The conditions described using Levels of Service vary for different types of intersections. Where traffic signals or all-way stops are installed, the Level of Service is based on the length of delays experienced by motorists stopped at the intersection, and overall average Level of Service is considered. At unsignalized intersections controlled by side street stop signs, individual Levels of Service can be determined for all motorists who must yield the right of way.

TABLE 3-7
LEVEL OF SERVICE DEFINITIONS

Level of Service	Signalized Intersection	Unsignalized Intersection	Roadway (Daily)
A	Uncongested operations, all queues clear in a single-signal cycle. Delay < 10.0 sec	Little or no delay. Delay ≤ 10 sec/vehicle (veh)	Completely free flow.
B	Uncongested operations, all queues clear in a single cycle. Delay > 10.0 sec and < 20.0 sec	Short traffic delays. Delay > 10 sec/veh and < 15 sec/veh	Free flow, presence of other vehicles noticeable.
C	Light congestion, occasional backups on critical approaches. Delay > 20.0 sec and < 35.0 sec	Average traffic delays. Delay > 15 sec/veh and < 25 sec/veh	Ability to maneuver and select operating speed affected.
D	Significant congestion of critical approaches but intersection functional. Cars required to wait through more than one cycle during short peaks. No long queues formed. Delay > 35.0 sec and < 60.0 sec	Long traffic delays. Delay > 25 sec/veh and ≤ 35 sec/veh	Unstable flow, speeds and ability to maneuver restricted.
E	Severe congestion with some long-standing queues on critical approaches. Blockage of intersection may occur if traffic signal does not provide for protected turning movements. Traffic queue may block nearby intersection(s) upstream of critical approach(es). Delay > 60.0 sec and < 80.0 sec	Very long traffic delays, failure, extreme congestion. Delay > 35 sec/veh and ≤ 50 sec/veh	At or near capacity, flow quite unstable.
F	Total breakdown, stop-and-go operation. Delay > 80.0 sec	Intersection blocked by external causes. Delay > 50 sec/veh	Forced flow, breakdown.

Source: Highway Capacity Manual, 6th Edition, Transportation Research Board (TRB).

Existing Traffic Operating Conditions

Traffic counts were originally conducted in November 2017 and included counts from 6:00 a.m. to 7:00 p.m. The outbreak of the Covid-19 pandemic reduced traffic volumes throughout California roadways as places of employment, schools, social and recreational gatherings, sports events, restaurants, and many other types of activities were substantially reduced or prohibited. The use of new traffic volume count data collected during the pandemic could result in volumes that are unrepresentatively low. Based on

Annual Average Daily Traffic (AADT) information provided on the Caltrans Traffic Census website[2] traffic volumes along Highway 29 in the project vicinity are consistent with previous count data. A new 12-position gas station was constructed in 2020 at the casino/hotel, and the projected traffic was manually added to the network. The gas station generates and estimated 123 a.m. peak hour trips and 168 p.m. peak hour trips. After accounting for pass-by trips the gas station generates 49 new a.m. peak hour trips and 93 new p.m. peak hour trips.

Figure 3-5 identifies the current intersection lane configuration used for the Level of Service analysis, as well as the results of the peak hour turning movement counts.

Table 3-8 summarizes current Levels of Service at the study area intersections during the highest volume hour within each analysis period. As shown, the current Levels of Service for traffic waiting to enter Highway 29 from Rancheria Road is LOS D in the p.m. peak hour. The current Levels of Service for traffic waiting to enter Highway 29 from Rancheria Road in the a.m. peak hour, and for all other approaches is LOS C or better. The Highway 29/Rancheria Road intersection exceeds the County's LOS C goal but is within the TCR goal of LOS E.

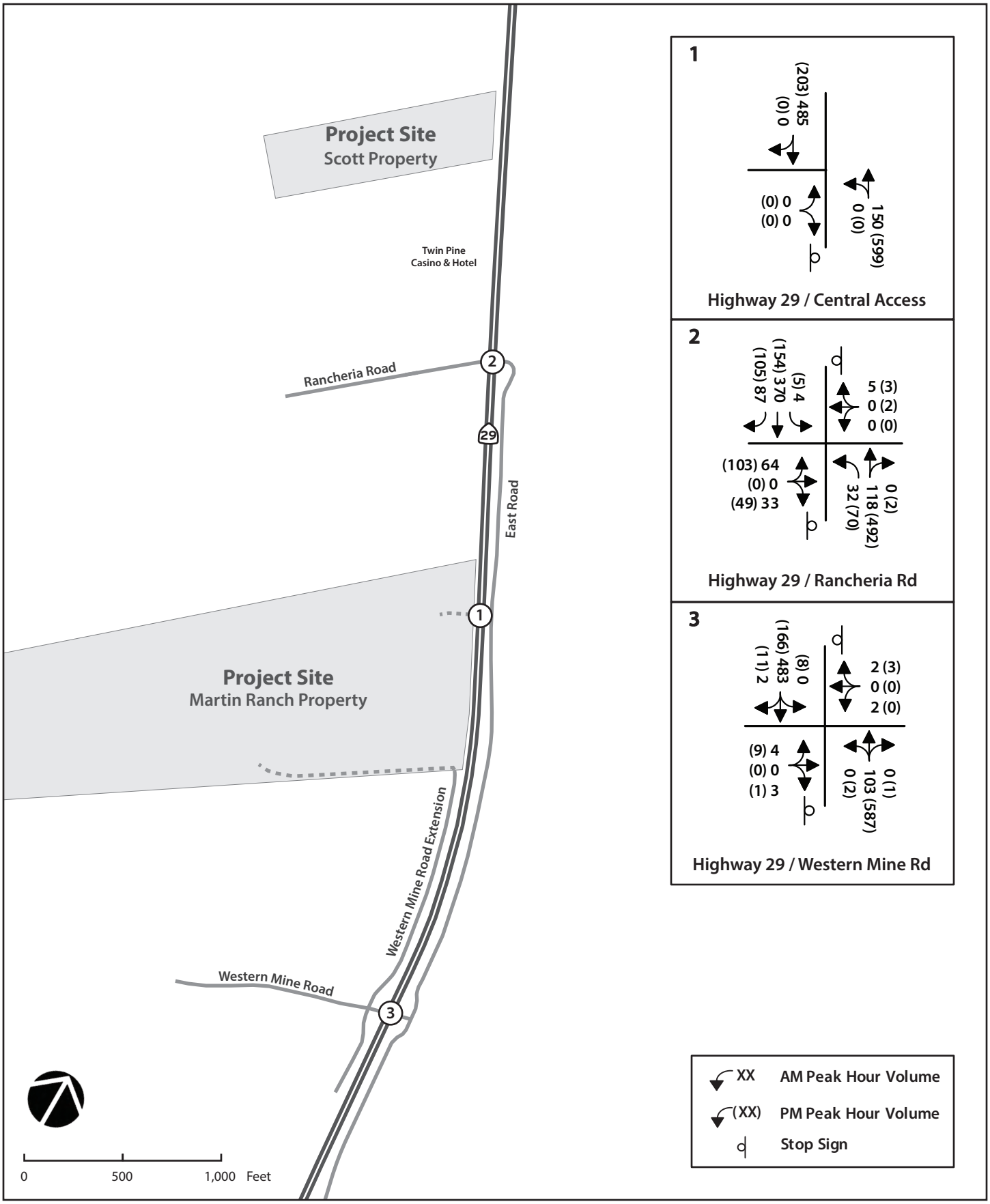
TABLE 3-8
EXISTING INTERSECTION LEVELS OF SERVICE

Location	Control	AM Peak Hour		PM Peak Hour	
		LOS	Average Delay	LOS	Average Delay
Rancheria Road / Highway 29	EB / WB Stop				
Northbound Left		A	8.5	A	8.0
Southbound Left		A	7.5	A	8.5
Eastbound		C	15.3	D	26.1
Westbound		A	8.9	C	15.3
Western Mine Road / Highway 29	EB / WB Stop				
Northbound Left		–	–	A	7.6
Southbound Left		–	–	A	8.8
Eastbound		B	13.2	C	17.6
Westbound		B	11.6	B	12.6

Note: Average delay is expressed in seconds per vehicle.

Source: KD Anderson & Associates, 2021.

[2] Caltrans Traffic Census website: https://dot.ca.gov/programs/traffic-operations/census/traffic-volumes



MIDDLETOWN RANCHERIA

FIGURE 3-5

EXISTING TRAFFIC VOLUMES AND LANE CONFIGURATIONS

3.7.2 Transportation and Circulation Impacts

Alternative A

Access Options

Three access options were evaluated for Alternative A:

Option 1 would provide access through the Rancheria and to Western Mine Road Extension. No access would be provided directly to Highway 29 by the farmhouse driveway.

Option 2 would use Western Mine Road Extension and provide a project driveway at the existing farmhouse driveway for direct access to Highway 29.

Option 3 includes full access via the Rancheria and a project driveway at the existing farmhouse driveway with gated access to Western Mine Road Extension. The gated access would only be used for emergency access.

Trip Generation

The trip generation was calculated using trip generation rates published in the Institute of Transportation Engineers' *Trip Generation Manual* for single-family residential. Under full buildout of Alternative A, the proposed homes and cabins would generate 46 new trips in the a.m. peak hour and 58 new trips during the p.m. peak hour. The proposed RV park would generate 6 new trips in the a.m. peak hour and 8 trips in the p.m. peak hour.

Trip Distribution and Assignment

The distribution of project traffic is based on existing traffic conditions and the distribution of residences in southern Lake County. For the proposed homes and cabins, it is projected that 67 percent of trips will use Highway 29 north of the Rancheria and 33 percent of trips will use Highway 29 south of the Rancheria. For the proposed RV park, it is projected that for the a.m. peak hour, 50 percent of trips will use Highway 29 north of the Rancheria and 50 percent of trips will use Highway 29 south of the Rancheria. For the a.m. peak hour, 40 percent of RV park trips will use Highway 29 north of the Rancheria and 60 percent of trips will use Highway 29 south of the Rancheria.

Project trips for the Martin Ranch property were assigned to the adjacent streets based on the three access options. The project includes access options utilizing the existing Western Mine Road Extension and Rancheria Road intersections with Highway 29. Access Option 1 uses both existing intersections while Access Option 2 uses a new intersection at the farmhouse driveway and Western Mine Road Extension, and Access Option 3 uses a new intersection at the farmhouse driveway and Rancheria Road. Project trips for the Scott property were assigned to Highway 29 through the Rancheria Road intersection. Traffic will proceed through the casino/hotel parking lot to the north side of the site to enter the RV park.

Intersection Levels of Service

Access Option 1

The impacts of operating Alternative A with access to the Martin Ranch property via the Western Mine Road and Rancheria Road intersections with Highway 29 were estimated by adding project trips onto the existing background conditions. **Table 3-9** compares existing and plus project peak hour LOS and average delay per vehicle at the access intersections under Access Option 1. Motorists entering Highway 29 from either intersection will experience delays that are characteristic of up to LOS C conditions in the a.m. peak hour while motorists entering Highway 29 from Rancheria Road will experience LOS D conditions in the p.m. peak hour; the remaining intersections and approaches will experience LOS C or better conditions.

TABLE 3-9
INTERSECTION LEVELS OF SERVICE – ALTERNATIVE A, ACCESS OPTION 1

Location	AM Peak Hour				PM Peak Hour			
	Existing		With Project		Existing		With Project	
	LOS	Average Delay	LOS	Average Delay	LOS	Average Delay	LOS	Average Delay
Rancheria Road / Highway 29								
Northbound Left	A	8.5	A	8.5	A	8.0	A	8.1
Southbound Left	A	7.5	A	7.5	A	8.5	A	8.5
Eastbound	C	15.3	C	16.7	D	26.1	D	30.7
Westbound	A	8.9	A	8.9	C	15.3	C	15.7
Western Mine Road / Highway 29								
Northbound Left	–	–	A	8.5	A	7.6	A	7.6
Southbound Left	–	–	–	–	A	8.8	A	8.9
Eastbound	B	13.2	B	12.9	C	17.6	C	15.4
Westbound	B	11.6	B	11.9	B	12.6	B	12.7

Notes:

Both Rancheria Road/Highway 29 and Western Mine Road/Highway 29 would operate with an eastbound/westbound stop sign control. No direct access to Highway 29 would be provided under this access option.

Average delay is expressed in seconds per vehicle.

Source: KD Anderson & Associates, 2021.

Access Option 2

Table 3-10 compares existing and plus project peak hour LOS and average delay per vehicle at the access intersections under Access Option 2. Motorists entering Highway 29 from any of the intersection will experience LOS C or better conditions in the a.m. peak hour while motorists entering Highway 29 from Rancheria Road will experience LOS D conditions in the p.m. peak hour; the remaining intersections and approaches will experience LOS C or better conditions.

TABLE 3-10
INTERSECTION LEVELS OF SERVICE – ALTERNATIVE A, ACCESS OPTION 2

Location	AM Peak Hour				PM Peak Hour			
	Existing		With Project		Existing		With Project	
	LOS	Average Delay	LOS	Average Delay	LOS	Average Delay	LOS	Average Delay
Martin Ranch Project Driveway / Highway 29								
Northbound Left	–	–	A	8.5	–	–	A	7.7
Eastbound	–	–	B	14.1	–	–	C	16.0
Rancheria Road / Highway 29								
Northbound Left	A	8.5	A	8.5	A	8.0	A	8.1
Southbound Left	A	7.5	A	7.5	A	8.5	A	8.6
Eastbound	C	15.3	C	16.0	D	26.1	D	29.5
Westbound	A	8.9	A	9.1	C	15.3	C	15.9
Western Mine Road / Highway 29								
Northbound Left	–	–	A	8.5	A	7.6	A	7.6
Southbound Left	–	–	–	–	A	8.8	A	8.9
Eastbound	B	13.2	B	13.1	C	17.6	C	16.6
Westbound	B	11.6	B	11.9	B	12.6	B	12.7

Notes:

Both Rancheria Road/Highway 29 and Western Mine Road/Highway 29 would operate with an eastbound/westbound stop sign control. Under this access option, direct access to Highway 29 would be provided at the project driveway with an eastbound stop sign.

Average delay is expressed in seconds per vehicle.

Source: KD Anderson & Associates, 2021.

Access Option 3

Table 3-11 compares existing and plus project peak hour LOS and average delay per vehicle at the access intersections under Access Option 3. Motorists entering Highway 29 from any of the intersection will experience LOS C or better conditions in the a.m. peak hour while motorists entering Highway 29 from Rancheria Road will experience LOS D conditions in the p.m. peak hour; the remaining intersections and approaches will experience LOS C or better conditions.

TABLE 3-11
INTERSECTION LEVELS OF SERVICE – ALTERNATIVE A, ACCESS OPTION 3

Location	AM Peak Hour				PM Peak Hour			
	Existing		With Project		Existing		With Project	
	LOS	Average Delay	LOS	Average Delay	LOS	Average Delay	LOS	Average Delay
Martin Ranch Project Driveway / Highway 29								
Northbound Left	–	–	A	8.5	–	–	A	7.8
Eastbound	–	–	B	13.7	–	–	B	14.6
Rancheria Road / Highway 29								
Northbound Left	A	8.5	A	8.5	A	8.0	A	8.1
Southbound Left	A	7.5	A	7.5	A	8.5	A	8.5
Eastbound	C	15.3	C	16.3	D	26.1	D	30.0
Westbound	A	8.9	A	9.0	C	15.3	C	15.8
Western Mine Road / Highway 29								
Northbound Left	–	–	–	–	A	7.6	A	7.6
Southbound Left	–	–	–	–	A	8.8	A	8.9
Eastbound	B	13.2	B	13.5	C	17.6	C	18.1
Westbound	B	11.6	B	11.8	B	12.6	B	12.8

Notes:

Both Rancheria Road/Highway 29 and Western Mine Road/Highway 29 would operate with an eastbound/westbound stop sign control. Under this access option, direct access to Highway 29 would be provided at the project driveway with an eastbound stop sign.

Average delay is expressed in seconds per vehicle.

Source: KD Anderson & Associates, 2021.

Intersection Level of Service Summary

Under all Proposed Action access options, all intersections would meet Caltrans' standard of LOS E for Highway 29 in the Middletown area. No significant impacts to intersection level of service would occur and no mitigation measures would be required. Motorists entering Highway 29 from any intersection will experience LOS C or better conditions in the a.m. peak hour while motorists entering Highway 29 from Rancheria Road will experience LOS D conditions in the p.m. peak hour; the remaining intersections and approaches will experience LOS C or better conditions.

Pedestrian & Bicycle Facilities

There are no sidewalks or bike lanes along Highway 29 in the vicinity of the project site. No designated bicycle routes currently exist along Highway 29 in the vicinity. The Proposed Action would generate pedestrian and bicycle traffic typical of residential areas. Most pedestrian and bicycle traffic is expected to remain on the project site and Rancheria. Little to no pedestrian traffic, and minimal amounts of bicycle traffic, would use Highway 29. Pedestrians may use existing paths near the highway, and bicyclists may use the existing road and paved shoulders. Due to the minor amount of pedestrian and bicycle traffic expected to be generated and the adequacy of existing facilities, this is considered a less-than-significant impact.

Transit Service

The Rancheria and Twin Pine Casino is currently served by Lake Transit Bus Route 3, which provides service between Clearlake in Lake County and Calistoga and Deer Park in Napa County and provides connections to other regional bus routes. The Proposed Action would add a minor amount of additional demand for transit service. No significant impacts to transit service are expected.

Mitigation

No mitigation measures would be required for Alternative A.

Alternative B

Intersection Levels of Service

The impacts of operating the Reduced Residential Alternative with access to the site via the Rancheria Road and Western Mine Road intersections with Highway 29 were estimated by adding project trips onto the existing background conditions. **Table 3-12** compares existing and plus project peak hour LOS and average delay per vehicle at the access intersections. Motorists entering Highway 29 from any of the intersection will experience LOS C or better conditions in the a.m. peak hour while motorists entering Highway 29 from Rancheria Road will experience LOS D conditions in the p.m. peak hour; the remaining intersections and approaches will experience LOS C or better conditions. Motorists entering Highway 29 will experience delays that are characteristics of LOS B conditions in the a.m. peak hour and up to LOS C in the p.m. peak hour. All intersections would operate with acceptable levels of service. No significant impacts to intersection level of service would occur and no mitigation measures would be required.

TABLE 3-12
INTERSECTION LEVELS OF SERVICE – ALTERNATIVE B

Location	AM Peak Hour				PM Peak Hour			
	Existing		With Project		Existing		With Project	
	LOS	Average Delay	LOS	Average Delay	LOS	Average Delay	LOS	Average Delay
Rancheria Road / Highway 29								
Northbound Left	A	8.5	A	8.5	A	8.0	A	8.0
Southbound Left	A	7.5	A	7.5	A	8.5	A	8.5
Eastbound	C	15.3	C	16.2	D	26.1	D	28.6
Westbound	A	8.9	A	8.9	C	15.3	C	15.5
Western Mine Road / Highway 29								
Northbound Left	–	–	A	8.5	A	7.6	A	7.6
Southbound Left	–	–	–	–	A	8.8	A	8.9
Eastbound	B	13.2	B	12.8	C	17.6	C	16.4
Westbound	B	11.6	B	11.8	B	12.6	B	12.7

Notes:

Both Rancheria Road/Highway 29 and Western Mine Road/Highway 29 would operate with an eastbound/westbound stop sign control. No direct access to Highway 29 would be provided under this access option.

Average delay is expressed in seconds per vehicle.

Source: KD Anderson & Associates, 2018.

Pedestrian & Bicycle Facilities

As described under the Proposed Action, there are no sidewalks, bike lanes or designated bicycle routes in the vicinity. The Reduced Residential Alternative would generate pedestrian and bicycle traffic typical of residential areas. Most pedestrian and bicycle traffic is expected to remain on the project site and Rancheria. Little to no pedestrian traffic, and minimal amounts of bicycle traffic, would use Highway 29. Pedestrians may use existing paths near the highway, and bicyclists may use the existing road and paved shoulders. Due to the minor amount of pedestrian and bicycle traffic expected to be generated and the adequacy of existing facilities, this is considered a less-than-significant impact.

Transit Service

As described under the Proposed Action, Lake Transit Bus Route 3 which provides service to the Rancheria and Twin Pine Casino and provides connections to other regional bus routes. The Reduced

Residential Alternative would add a minor amount of additional demand for transit service. No significant impacts to transit service are expected.

Mitigation

No mitigation measures would be required for Alternative B.

Alternative C

There would be no traffic increase under the No Action Alternative. There would be no impacts to intersection level of service, pedestrian and bicycle facilities, or transit service.

Mitigation

No mitigation measures would be required for Alternative C.

3.8 LAND USE AND AGRICULTURE

3.8.1 Land Use

Land uses in the vicinity include undeveloped forest, agriculture and rural residences. Within the immediate vicinity of the project properties, the Middletown Rancheria is located between the Scott and Martin Ranch properties. The Rancheria is developed with the Twin Pine Casino and Hotel, Uncle Buddy's Pump (gas station), tribal offices and single-family homes. Other surrounding land uses include rural residences, agricultural land, and undeveloped forested land.

Martin Ranch

Martin Ranch has been used for agriculture for many decades. A farmhouse is located on the eastern portion of the property near Highway 29. A building in this location first appeared on topographic maps in 1927. Several sheds and outbuildings are currently located near the farmhouse, along with six acres of field which are fenced and used to pasture horses. A ranch house built in 1975 is in the southcentral portion of the project site. This home is accessed by a driveway off Western Mine Road Extension. There are 13 acres of vineyards on the east side of the project site.

The western half of the project site has 27 acres of forest with a seasonal creek and three constructed ponds. A small creek connects the southern (higher) and northern (lower) ponds. The middle pond was excavation in a smaller side drainage and is connected to the seasonal creek by two ditches. Dense vegetation and areas of steep terrain surround the ponds. Trails provide access to the ponds from the vineyard. **Figure 3-6** provides photos of the project site.

Scott Property

The Scott property is currently developed with two single-family homes on the western portion of the site and casino overflow parking on the eastern portion of the property. **Figure 3-7** provides photos of the project site.



Photo 1 View of project site from southeast corner near Highway 29 looking west. Vineyard is visible in the middle ground.



Photo 2 View of eastern border of the project site along Highway 29 looking north. A drainage ditch is visible on the right, with a seasonal wetland swale visible on the left.

FIGURE 3-6

SITE PHOTOGRAPHS - MARTIN RANCH PROPERTY



Photo 3 View of the northeast corner of the project site looking east toward the existing farmhouse and Highway 29. Pasture is visible in the foreground, horses and outbuildings visible in the middle ground.



Photo 4 View of pond in the pasture at the northeast corner of the project site, looking north toward the Reservation.

FIGURE 3-6 (cont.)

SITE PHOTOGRAPHS - MARTIN RANCH PROPERTY



Photo 5 View of the existing ranch house in the southcentral portion of the project site, looking southwest.



Photo 6 View of upper vineyard area in north central portion of the project site, looking southeast.

FIGURE 3-6 (cont.)
SITE PHOTOGRAPHS - MARTIN RANCH PROPERTY



Photo 7 View of pump house at the lower pond in the western portion of the project site, looking southwest.



Photo 8 View of middle pond in the western portion of the project site, looking north.

FIGURE 3-6 (cont.)
SITE PHOTOGRAPHS - MARTIN RANCH PROPERTY



Photo 9 View of the upper pond in the western portion of the project site, looking west.



Photo 10 View of trail through forest in the western portion of the project site, looking southwest.

FIGURE 3-6 (cont.)
SITE PHOTOGRAPHS - MARTIN RANCH PROPERTY



Photo 1 View of project site looking west across casino overflow parking area.



Photo 2 View of central portion of the project site looking southwest.

MIDDLETOWN RANCHERIA

FIGURE 3-7

SITE PHOTOGRAPHS - SCOTT PROPERTY



Photo 3 View of the northernmost single family home on the western portion of the project site.



Photo 4 View of the southernmost single family home on the western portion of the project site.

FIGURE 3-7 (cont.)
SITE PHOTOGRAPHS - SCOTT PROPERTY

Lake County General Plan

The Lake County General Plan designates the Martin Ranch property as Agricultural and the Scott property as Rural Residential (**Figure 3-8**). The Agriculture designation includes areas with prime farmland, vineyard soils and grazing lands, along with areas characterized by steep slopes and limited services. The Agriculture designation has a residential density of one dwelling unit per 40 acres (Lake County, 2008). The Rural Residential designation provides for single-family residential development in a semi-rural setting. The Rural Residential designation has a residential density of one dwelling unit per 5 acres if the average cross slope is less than 30 percent, and one dwelling unit per 10 acres if the average cross slope is more than 30 percent (Lake County, 2008).

Two of the ponds on the Martin Ranch property have been designated as Resource Conservation, which is intended to assure the maintenance of natural resources, including waterways, significant habitat, and ground water recharge areas.

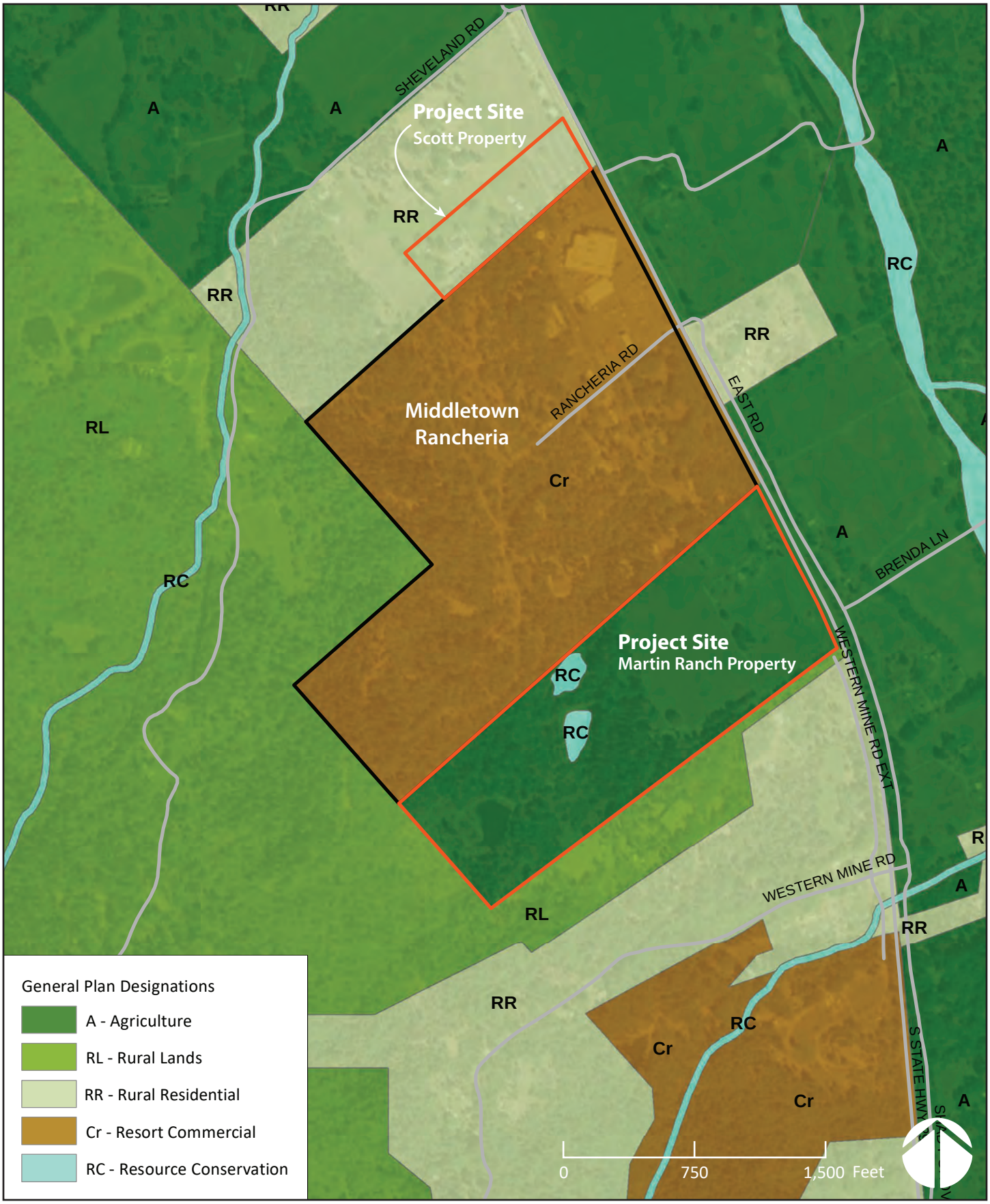
Parcels in the proximity of the project site are designated as Agriculture, Rural Lands and Rural Residential. The Rural Lands designation allows for rural development in areas that are primarily in their natural state. Typical uses permitted by right include animal raising, crop production (especially vineyards), single family residences, game preserves and fisheries. The Rural Lands category has a residential density of one dwelling unit per 20 to 60 acres. The Rural Residential designation provides for single-family residential development in a semi-rural setting. Typical uses permitted by right include single-family residences, crop production, raising stock and poultry. The Rancheria is designated as Resort Commercial, which provides for commercial uses oriented toward tourists (Lake County, 2008). While the County has included the Rancheria in its land use plans, the County does not have jurisdiction over the Rancheria.

Lake County Zoning Ordinance

The Martin Ranch property is zoned Agricultural Preserve by Lake County. This zone provides for lands in agriculture preserve and for the conservation and protection of land capable of producing agricultural products. Uses consistent with the California Land Conservation Act of 1965 (Williamson Act) are permitted, including one single-family home, greenhouses, farm labor housing, and game preserves. The minimum lot size is 40 acres.

The Scott property is zoned Rural Residential by Lake County. This zone provides for single-family residential development in a semi-rural setting along with limited agriculture. Permitted uses include: one single-family dwelling or mobile home; agricultural uses, including crop and tree farming, and livestock grazing; foster or small family home, family care home, supportive housing, transitional housing or small family day care home; and greenhouses, hothouses and incidental structures not exceeding a use area of six thousand (6,000) square feet. The minimum lot size is 5 acres.

Parcels in the proximity of the project site are zoned as Agricultural Preserve, Agricultural, and Rural Lands, Rural Residential and Timberland Preserve. These zones generally provide for agricultural and forestry land uses and limited residential development. Of these zones, Rural Residential allows the



MIDDLETOWN RANCHERIA

FIGURE 3-8

GENERAL PLAN LAND USE MAP

most residential development, with up to two homes and a five-acre minimum parcel size (Lake County, 2014).

Middletown Area Plan

The Middletown Area Plan was adopted in 2010 to guide long-term growth and development in the area. The Area Plan supplements the County's General Plan by identifying objectives and policies specific to the region. In general, the objective of the Area Plan is to facilitate diverse development in a manner that protects community character and resources. The project site is located outside of the Middletown Community Growth Boundary, which consists of the downtown area and the surrounding residential development of Middletown. The Community Growth Boundary is intended to minimize sprawl, protect natural resources such as wetlands, riparian habitat, agricultural lands, and avoid natural hazard areas where wild fire and landslides threats are greatest. The Area Plan identifies Highway 29 in the project area as an open space corridor of significance.

3.8.2 Agriculture

The Martin Ranch property is developed with approximately 12.7 acres of vineyards. The Scott property has been used for residential purposes for many years.

Williamson Act Provisions

The Martin Ranch property is located on Williamson Act Mixed Enrollment Agricultural Land. The enrolled lands within the Williamson Act serve a purpose of restricting parcels of land to agricultural or related open space use. In return, landowners receive property tax assessments lower than normal due to the parcel's limited market value of farming and open space. The Tribe has requested cancellation of the Williamson Act contract.

Farmland Protection Policy Act

The goal of the Farmland Protection Policy Act (FPPA) is to minimize the extent that federal actions and programs result in the conversion of agricultural lands to non-agricultural uses. Pursuant to the FPPA, the Farmland Conversion Rating Form (Form AD 1006) is used to determine the value of the farmland under consideration and the level of protection such land should receive. The completed Form AD 1006 for the project site is provided in **Appendix F**.

3.8.3 Land Use and Agricultural Impacts

Alternative A

Land Use

The Tribe proposes to develop 45 single-family homes and 5 cabins on the Martin Ranch property and an RV park on the Scott property. With the 4 existing homes on these two properties, this would result in total of 54 dwelling units and 21 RV spaces on the project site. The current zoning of the Martin Ranch property as Agricultural Preserve allows for one single-family home along with farm labor housing. The current zoning of the Scott property as Rural Residential allows up to two homes. The Proposed Action would increase the residential density on the project site compared to what is currently envisioned in Lake County's current land use plans.

The Lake County General Plan designation of the Martin Ranch property within the Agricultural land use category recognizes the current agricultural use on the project site as it seeks to retain the County's agricultural resources. The Middletown Area Plan was adopted to guide development in a manner that protects community character and resources.

While the General Plan and the Middletown Area Plan are oriented toward the orderly growth of the County in general and Middletown specifically, the Proposed Action is proposed to provide for the orderly growth of the Rancheria. The Martin Ranch property is adjacent to the Rancheria and provides land that is suitable for development while avoiding hillsides and sensitive riparian and wetland habitats. LACOSAN has indicated an ability to provide wastewater service to the project site, and the Tribe has several water supply options. The project would also be served by roadways that would provide adequate access while maintaining acceptable levels of service.

The proposed residential development is of higher density than that permitted by the current zoning. However, the Tribe would voluntarily comply with the County's development standards, including minimum setback requirements. The proposed design of the residential development avoids steeper hillsides thereby reducing the visibility of the proposed development thereby helping to retain the rural character of the area. The avoidance of steeper hillsides would also reduce erosion hazards and provides better access for wildfire fighting. The Proposed Action incorporates native vegetation while providing fuel breaks and fuel reduction zones as well as an on-site water reservoirs and ponds that would reduce wildfire risks and facilitate wildfire response efforts. Approximately 2.4 acres of existing vineyard would be maintained on the steeper slopes to reduce erosion hazards and to retain the rural character of the site.

The proposed RV park would be located between the existing casino and hotel and rural residential land uses off the Rancheria. The RV park would provide a transition between the more intense commercial uses on the Rancheria to less intense residential development. Existing and proposed vegetation on the Scott property would further buffer residential development from more intense commercial development. There would be no land use conflicts such as blocking access or making adjacent off-site land uses infeasible.

While the Proposed Action would exceed the residential density currently identified for the site by Lake County, the design features described above would reduce significant changes to the rural character of the area. Likewise, the proposed RV park would provide a transition between the more intense commercial uses on the Rancheria to less intense residential development. Accordingly, inconsistencies with the Lake County land use plans and conflicts with the surrounding rural residential area would be less than significant.

Agriculture

The project site contains approximately 9.4 acres of prime farmland that would be converted by development of Alternative A. The prime soils (Jafa loam, 2 to 5 percent slopes) are located on the Scott property and the eastern portion of the Martin Ranch property. These areas have been used for grazing and vineyards as well as residential development. The remaining soils of the project site are not designated as prime farmland.

A Farmland Conversion Impact Rating (FCIR) form was submitted to the USDA to determine value of the agricultural land to be converted under Alternative A in accordance with the FPPA. Per FPPA guidelines, if a site receives an FCIR combined score of 160 or more, alternative sites should be considered to determine if an alternative site would serve the proposed purpose and have a lower combined score or convert fewer acres of farmland (7 CFR § 658.4 (c)). The farmland conversion areas under Alternative A received a combined land evaluation and site assessment score of 154 (**Appendix F**).

While the proposed residential and RV park developments would convert approximately 9.4 acres of farmland, the conversion of the land would not interfere with agricultural uses (primarily grazing and home gardening) in the surrounding area. Impacts to agriculture would be less than significant.

Mitigation

No mitigation measures would be required for Alternative A.

Alternative B

Under Alternative B, impacts to land use and agriculture would be similar to those under Alternative A. However, under Alternative B, no Tribal homes would be developed in the eastern portion of the Martin Ranch property and the conversion of prime farmland would be reduced accordingly.

Mitigation

No mitigation measures would be required for Alternative B.

Alternative C

Under the No Action Alternative, the land would not be taken into trust and no homes, RV park, roads or other improvements would be developed. No land use or agriculture impacts would occur.

Mitigation

No mitigation measures would be required for Alternative C.

3.9 PUBLIC SERVICES

3.9.1 Water Supply

Callayomi County Water District (CCWD) provides water supply for Middletown community and the Middletown Rancheria. CCWD currently serves the Scott property, but does not serve the Martin Ranch property. Water is provided to the Rancheria and the Scott property from a six-inch water line along Highway 29. On the Rancheria, the six-inch pipeline connects to a booster pump station located at the northeast corner of the Rancheria. Currently, water is delivered from the booster pump to two storage reservoirs, a 230,000-gallon tank that serves the casino and hotel and 44,000-gallon tank that serves the homes and Tribal offices. Distribution mains extend from these reservoirs to supply water to the Rancheria.

CCWD obtains its water supply from groundwater wells and operates a water supply system that includes a water treatment plant, two storage tanks and transmission and distribution mains. CCWD

wells draws on the Collayomi Valley Groundwater Basin. The basin consists of the alluvium deposits along Collayomi Valley and Long Valley, which are connected hydrologically. The maximum thickness of alluvium in the basin is approximately 350 feet deep in Collayomi Valley, and 475 feet deep in Long Valley. Recharge of the basin occurs from percolation of surface water from Putah, Dry and St. Helena Creeks, with some recharge also occurring from infiltration of irrigation water and rainfall. Water levels in the basin range from 3 to 15 feet below the ground surface, and spring groundwater levels have remained generally constant over the last 40 years. Total storage in the basin has been estimated at 36,000 to 37,000 acre-feet, with useable storage capacity estimated at 7,000 acre-feet (CDM, 2006; DWR, 2004).

Currently, CCWD has allocated 45 water service connections to the Rancheria. CCWD has authorized the Tribe to use these connections on Martin Ranch, subject to annexation of the property to CCWD's service area (**Appendix A**).

3.9.2 Wastewater Service

Wastewater service is provided to the Rancheria by Lake County Sanitation District (LACOSAN). LACOSAN provides wastewater service in Lake County through five regional wastewater systems. The Middletown Wastewater System provide wastewater service to Middletown and the Rancheria. The Middletown Wastewater Treatment Plant (WWTP) is located off Highway 175 northwest of Middletown. The plant consists of an aerated facultative pond system and pump station. Effluent from the facility is pumped by pipeline to the Geysers steamfield where it injected into the ground to increase steam production for electrical power generation. A 240-acre-foot backup storage pond is located at the WWTP, which with a spray irrigation system, provides a back-up disposal option.

3.9.3 Solid Waste Service

South Lake Refuse and Recycling provides curbside pickup of solid waste, compost and single-stream recycling to the Rancheria. South Lake Refuse and Recycling provides periodic bulky item and hazardous waste collection. South Lake Refuse and Recycling operates the Quakenbush Mountain Resource Recovery and Compost Facility, located east of Clearlake, which accepts organic material, construction wood, concrete, asphalt and clean dirt. The Quakenbush Mountain Facility is located adjacent to the Eastlake Landfill, which is owned and operated by the County of Lake and is the only landfill in Lake County. The landfill is permitted to accept 200 tons per day and is expected to reach capacity in 2043 (CalRecycle, 2023).

3.9.4 Electricity, Natural Gas, and Telecommunications

Electricity is provided to the Rancheria by Pacific Gas and Electric (PG&E). There is no natural gas service in the project area; instead, propane tanks are used. Cable, telephone and cellular service are provided in the region by numerous carriers.

3.9.5 Law Enforcement

Public safety to the Project site is currently provided by Lake County Sherriff's Office. The Sherriff's Office has 54 sworn officers, including 24 patrol deputies, and 16 civilian personnel (Lake County Sheriff's Office, 2022). A County Sherriff's department building is located 31.5 miles north of the site at 1220 Martin St, Lakeport, CA. California is a Public Law 280 State that allows for state criminal law enforcement jurisdiction on the Project Site; however, this jurisdiction does not include regulatory civil law authority. Depending on the crime (pursuant to Public Law 280), the U.S. Marshals may provide support in specified situations. A California Highway Patrol detachment, located in Kelseyville, is also available to provide support.

3.9.6 Fire Protection/EMS

The South Lake Fire Protection District and CAL Fire provides fire protection to the project site. The South Lake Fire Protection District Fire Station is located at 21095 Highway 175, approximately 2.4 miles from the Project site. The station is staffed 24 hours a day, 7 days a week and the district covers 286 square miles of land, making it the third largest fire district in California. CAL Fire Middletown station is located at 15522 Lake Street, approximately 1.6 miles from the Project Site.

Emergency medical services are provided by Adventist Health Medical Center in Clear Lake, approximately 18.6 miles from the Project Site. In addition, emergency medical service is also available in Deer Park at the St. Helena Hospital operated by Adventist Health (23 miles). Adventist Health partners with Acute Medical Providers who provide staff and equipment for emergency services.

3.9.7 Public Service Impacts

Alternative A

Water Supply

Potable water for the proposed RV park would be provided by CCWD, which currently serves the Scott property. Service by CCWD would be subject to all connection fees and requirements. Potable water for the proposed homes and cabins on Martin Ranch would be provided by an extension of the existing Rancheria water system that is supplied by CCWD. Alternatively, some or all of the homes could be served by groundwater wells or water trucking either on a short-term or long-term basis. If the Tribe decides to extend the Rancheria's existing water system, Martin Ranch would need to be annexed to the CCWD service area. This process has been initiated and CCWD has provided a will-serve letter that is conditioned on the approval of the annexation (**Appendix A**).

As described in **Section 2.2**, CCWD has currently allocated 45 connections to the Rancheria. CCWD has authorized the Tribe to use these connections on Martin Ranch, subject to annexation of the property to CCWD's service area. The Tribe is planning to use 40 of the currently allocated 45 connections for homes on the Martin Ranch. Full buildout of the Tribe's proposed 45 homes and 5 cabins would require an additional 10 connections. In the future when the Tribe moves forward with construction of the last 10 homes or cabins, the Tribe would be required to submit service applications for these additional connections prior to development of those additional homes.

Once the annexation to the CCWD service area is approved, the Tribe would improve and expand the existing water distribution system on the Rancheria would be improved and expanded. These improvements would include replacement of the existing booster pump station, a new water main, and the extension of pipelines to the project site. Pipelines would be located along existing and proposed roads. In addition to residential service connections, fire hydrants would be provided consistent with the state and local standards.

If water trucking is used as an interim or supplemental water supply, water would be delivered to a water storage tank incorporated into the distribution system. Water would be obtained from a public water supply source in Middletown or Lower Lake and trucked to the site. Use of the public water supply would be subject to all fees and requirements of the provider. The development of Alternative A would not result in significant water supply impacts.

Wastewater Service

Wastewater service would be supplied by the Lake County Special Districts, which operates the Middletown Wastewater Collection and Treatment System that provides service to the Rancheria and the Scott property. Wastewater generated from the homes and RV park would be conveyed via pipeline to an existing 8-inch sewer line that extends from Dry Creek Cutoff Road to the Rancheria. All plumbing and connections would comply with the California Plumbing Code (Title 24, Part 5) and would be coordinated with Lake County Special Districts. Lake County Special Districts has provided a conditional will serve letter indicating adequate capacity to serve the proposed development (**Appendix B**). The development of Alternative A would not result in significant wastewater service impacts.

Solid Waste Service

Solid waste would be generated during construction of the proposed homes, cabins and RV park. Once construction is completed, solid waste would also be generated by residents and RV park patrons. Construction waste may include green waste from vegetation clearing, soil and rock from grading, and general waste of construction materials and packaging. Solid waste, compost and recycling service would be provided to the homes by South Lake Refuse and Recycling. Solid waste would be delivered to the Eastlake Landfill. The landfill has approximately 2,859,962 cubic yards of remaining capacity and is expected to remain open for 20 years (CalRecycle, 2023). Alternative A would result in a less-than-significant impact to solid waste service.

Electricity, Natural Gas, and Telecommunications

Underground Service Alert (USA) of Northern/Central California and Nevada provides a free “Dig Alert” service to all excavators (e.g. contractors, homeowners, and others) in the region. The excavator’s one call will automatically notify all USA members (utility services providers) that might have underground facilities at the excavator’s work site. In response, the USA member(s) will mark or stake the horizontal path of underground facilities, provide information about the facilities, and/or give clearance to dig. This simple safety service protects the excavator from personal injury and prevents underground facilities from being damaged. Two overhead PG&E electrical feeder lines serve the project site, one to each property. Based on information from PG&E, the feeder line to the Martin Ranch property would need to be improved to supply service. The overhead local feeder line along Highway 94 may also need

to be improved to supply service (PG&E, 2023). The Tribe would utilize USA and would coordinate with PG&E and other utility providers regarding extension of services to the homes and RV park. No adverse utility system effects are expected.

Law Enforcement

Under Public Law 280, 18 USC § 1162, the State of California and other local law enforcement agencies have criminal enforcement authority on Tribal lands. The Rancheria and project site would continue to receive general public safety and law enforcement services from the Lake County Sherriff's Office. The Lake County Sherriff's Office has indicated that the proposed development's impact on law enforcement would be low (Chwialkowski, pers. comm., 2023). No significant effects to law enforcement services would occur.

Fire Protection/EMS

Fire risks may occur as the result of the Proposed Action during construction and occupation of the homes. The short-term construction related effects include the potential fire threat associated with equipment and vehicles coming into contact with wildland areas. Construction vehicles and equipment such as welders, torches, and grinders may accidentally spark and ignite vegetation and building materials. This increased risk of fire during the construction of the proposed facilities would be similar to that found at other construction sites. Hazardous Avoidance BMPs, as presented in **Section 2.2.2**, have been incorporated into the project description to prevent fire from construction.

The construction of the homes and RV park would be undertaken consistent with the Integrated Resource Management Plan (IRMP) (see **Section 2.2.2**, Development Plans). The IRMP provides goals and objectives for forest protection and management. The IRMP includes firesafe clearance recommendations consistent with local recommendations. The IRMP also identifies the establishment and maintenance of fire breaks around the Rancheria and Martin Ranch.

In addition to the IRMP, the Tribe is cooperating with the Lake County Community Wildfire Protection Plan. The purpose of the Wildfire Protection Plan is to identify priority projects that reduce risks and hazards from wildfire while protecting conservation values in Lake County. The Tribe would construct and manage the proposed improvements in a manner consistent with the IRMP and Wildfire Protection Plan. This would include establishing and maintaining fuel reduction zones, including fire-free zones around homes and RV sites, structural protection zones, defensible space zones, and wildland fuel reduction zones. Landscaping would use fire-resistant native species such as ponderosa pine, California black oak, and Oregon white oak. The proposed homes and buildings would incorporate fire-safe construction materials and features.

The proposed development would be supplied with hydrants supplied by water storage reservoirs on the Rancheria. As identified in **Section 2.2.2**, development of Alternative A would meet Lake County Fire Protection Standards, which address hydrant spacing, distribution system, water pressure, and flow requirements.

Based on the precautions incorporated into the proposed development, the addition of the proposed homes and RV park is not expected to significantly increase the demand for fire protection and emergency medical services. Therefore, Alternative A would have a less than significant effect on fire protection and emergency medical services.

Mitigation

No mitigation measures would be required for Alternative A.

Alternative B

Under Alternative B, impacts to public services would be similar to those under Alternative A. However, with the development of fewer Tribal homes, the potential public service-related impacts would be reduced accordingly.

Mitigation

No mitigation measures would be required for Alternative B.

Alternative C

Under the No Action Alternative, the land would not be taken into trust and no homes, RV park, roads or other improvements would be developed. No land use or agriculture impacts would occur.

Mitigation

No mitigation measures would be required for Alternative C.

3.10 NOISE

3.10.1 Background

Noise Setting

Noise can be generally defined as unwanted sound. Sound, traveling in the form of waves from a source, exerts a sound pressure level (referred to as sound level) which is measured in decibels (dB), with zero dB corresponding roughly to the threshold of human hearing and 120 to 140 dB corresponding to the threshold of pain. A common statistical tool is the average, or equivalent, sound level (L_{eq}), which corresponds to a steady-state A weighted sound level containing the same total energy as a time varying signal over a given time period (usually one hour). The L_{eq} is the foundation of the composite noise descriptor, L_{dn}, and shows very good correlation with community response to noise. The day/night average level (DNL or L_{dn}) is based upon the average noise level over a 24-hour day, with a +10-decibel weighing applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures.

With regard to increases in A-weighted noise level, the following relationships occur:

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived;
- Outside of the laboratory, a 3 dBA change is considered a just-perceivable difference;
- A change in level of at least 5 dBA is required before any noticeable change in human response would be expected; and

A 10 dBA change is subjectively heard as approximately a doubling in loudness and can cause an adverse response.

Sound from a small localized source (approximating a "point" source) radiates uniformly outward as it travels away from the source in a spherical pattern. Natural factors such as ground surface, topography, vegetation, and temperature can further reduce noise over distance. Where the ground surface is a generally flat, hard surface such as water, concrete, or hard-packed soil, sound levels decrease or attenuate at a rate of 6 dBA for each doubling of the distance. When ground cover or normal unpacked earth (i.e., a soft site) exists between the source and receptor, the ground becomes absorptive of noise energy. Absorptive ground results in an additional 1.5 dB reduction per doubling of distance as it spreads from the source. Added to the standard reduction rate for soft site conditions, point source noise attenuates at a rate of 7.5 dB per doubling of distance.

Lake County General Plan Noise Element

The County's Noise Element of the General Plan establishes noise standards for various land uses in the County's jurisdiction. The policies contained in this element serve as guides for identifying noise levels, and reducing or avoiding adverse noise effects on residents. The General Plan identifies a maximum desirable noise level of 55 CNEL for residential low-density homes, and allows for noise levels up to 60 CNEL for developments only after a detailed analysis of noise reduction requirements is made and needed insulation features have been included in the design. Residential development in areas with noise levels up to 70 CNEL is acceptable only with a noise analysis, incorporation of needed insultation features and shielding of outdoor areas (Lake County, 2008).

Lake County Zoning Ordinance

The Lake County Zoning Ordinance provides performance standards to control noises that are likely to create a public nuisance (Lake County Municipal Code, Chapter 21, Section 41.11). The Zoning Ordinance identifies a maximum L_{eq} of 55 dBA during the day (7 a.m. – 10 p.m.) and 45 dBA during the night (10 P.M. – 7 A.M.) where the receiving property is in a residential, agricultural or resource zoning district. Construction site sounds that occur between 7 a.m. and 7 p.m. are exempt from this standard. In addition, emergency equipment operated on an irregular or unscheduled basis and lawn and plant care machinery fitted with correctly functioning sound suppression equipment and operated between 7 a.m. and 8 p.m. are also exempt.

Noise within the project area is primarily defined by traffic from Highway 29 and by activities on surrounding residential and agricultural properties. In general, the noise environment is quiet with periodic noise from equipment operation.

3.10.2 Sensitive Receptors

Some land uses are considered more sensitive to noise than others. Land uses often associated with sensitive receptors generally include residences, schools, libraries, hospitals, and passive recreational areas. Noise sensitive land uses are typically given special attention in order to achieve protection from excessive noise.

Noise sensitive uses within the project area are rural residential uses. The several residences are located within 400 feet to the north of the Scott property, including one residence that is within approximately 30 feet. Two homes are located within 100 feet of the southern property boundary of the Martin Ranch property. Two homes are located approximately 200 feet east of the Martin Ranch property across Highway 29.

3.10.4 Noise Impacts

Alternative A

Construction Noise

Noise from construction activities would add to the existing noise environment of the project site and immediate vicinity. Sensitive receptors located near the project site could be exposed to construction-related noise.

Construction noise levels are rarely steady in nature, but instead fluctuate depending on the number and type of equipment in use at any given time. Individual construction activities would generate maximum noise level ranges of 76 to 90 dBA at a distance of 50 feet. Where more than one noise source is operating, the combined noise level could reach a maximum of 93 dBA at a distance of 50 feet.

As noted in **Section 3.10.1**, the County's noise standards do not apply to construction activities that occur between the hours of 7 a.m. and 7 p.m. As identified in **Section 2.2.2**, exterior construction activity would be restricted to these hours. Because construction would be limited in duration and would be restricted to hours identified by the Lake County Zoning Ordinance, construction noise impacts would be less than significant.

Operational Noise

Operational noise generated by the proposed residential development on the Martin Ranch property would be consistent with typical residential neighborhood noise. The primary noise sources would be from vehicles, lawn mowers, and children playing. These noise sources already exist in the project area and development of the proposed residential developments would not significantly add to the existing noise environment.

The proposed RV park would be located on the Scott property, west of the existing overflow parking lot. The RV park would be located approximately 280 feet from the nearest home north of the project site. RV park noise sources consist primarily of RVs entering and leaving the site and operation of RV air-conditioning units. All the RV sites would have electrical hook-ups, so generators would only be used in the event of a power outage.

To determine potential noise levels generated by RVs entering and leaving the site, a reference noise level of 73 dBA at a distance of 50 feet for medium trucks operating at 30 miles per hour (Cowan, 1993) is used. To determine potential noise levels generated by RV air-conditioning units, a reference noise level of 68 dBA at a distance of 4 feet (Bollard Acoustical Consultants, 2019) is used. Assuming 5 RV air-conditioning units are operating simultaneously, the reference noise level would be 78 dBA at 4 feet.

Based on the reference noise levels and assuming a typical attenuation rate of minus 6 dB per doubling of distance, the noise from an RV driving on the site would be approximately 59 dBA at a distance of 280 feet. These noise levels represent noise levels only when an RV is driving. The traffic study estimates a maximum of eight vehicles arriving and leaving the RV site, and some of these vehicles would be smaller passenger cars or trucks, which would make less noise. The peak hour noise level is estimated to be approximately 46 dBA L_{eq} at a distance of 280 feet. The noise from the air conditioning units would be approximately 42 dBA at a distance of 280 feet. The combination of RV driving and RV air-conditioning noise would be approximately 47 dBA L_{eq} at a distance of 280 feet. This represents a peak-hour

maximum that is expected occur in the afternoon. During evenings and at nighttime, the predominate noise source would be from RV air-conditioning units and as stated above are expected to be 42 dBA at the nearest residence to the located approximately 280 feet from the project site. These noise levels are below the County's noise standards that identify a maximum L_{eq} of 55 dBA during the day (7 a.m. – 10 p.m.) and 45 dBA during the night (10 p.m. – 7 a.m.)

Traffic generated by the proposed residential developments would increase traffic on surrounding roads. Alternative A would generate approximately 575 trips per day from the proposed homes, and approximately 80 trips per day from the proposed RV Park. Highway 29 currently has a daily traffic volume of approximately 9,000 vehicles per day. This would represent an approximately 7 percent increase in traffic on Highway 29. Given that it typically takes a doubling of traffic to increase roadway noise 3 dBA, the increase in traffic noise on local roadways attributable to Alternative A would not be noticeable.

Operation of the Proposed Action does not have the potential to significantly increase noise levels in the vicinity of the project site, or expose residents to adverse noise levels. Noise impacts from operation of the residential development and RV park would be less than significant.

Mitigation

No mitigation measures would be required for Alternative A.

Alternative B

Under Alternative B, noise impacts would be similar to those under Alternative A; however, with the development of fewer Tribal homes, the potential noise impacts would be reduced accordingly.

Mitigation

No mitigation measures would be required for Alternative B.

Alternative C

Under the No Action Alternative, the land would not be taken into trust and no homes, RV park, roads or other improvements would be developed. No noise impacts would occur.

Mitigation

No mitigation measures would be required for Alternative C.

3.11 HAZARDOUS MATERIALS

3.11.1 Background

A Phase I Environmental Site Assessment (ESA) was performed for each of the properties in conformance with American Society for Testing and Materials (ASTM). Standard Practice E1527-13 and the EPA Standards and Practices for All Appropriate Inquiries (40 CFR Part 312). The Phase I for the Martin Ranch property was completed on June 11, 2021. The Phase I for the Scott property was completed on August 7, 2021. The Phase 1 ESAs are attached as **Appendix G**.

The purpose of the Phase I ESAs was to identify potential Recognized Environmental Conditions (RECs), associated with the presence of any hazardous substances or petroleum products, their use, storage, and disposal at and in the vicinity of the subject property. Property assessment activities consisted of: 1) a review of federal, state, tribal and local databases that identify and describe underground fuel tank sites, leaking underground fuel tank sites, hazardous waste generation sites, and hazardous waste storage and disposal facility sites within the ASTM approximate minimum search distance; 2) a property and surrounding site reconnaissance, and interviews with the past and present owners and current occupants and operators to identify potential environmental contamination; and 3) a review of historical sources to help ascertain previous land use at the site and in the surrounding area.

Consultation with regulatory agencies, and a review of databases revealed no evidence of the use or storage of hazardous materials on the project site or surrounding area. The site reconnaissance found no environmental conditions on the project site, or on the surrounding project area. The Phase I ESA did not identify any existing hazardous material releases on the project site.

3.11.2 Hazardous Material Impacts

Alternative A

Impacts associated with hazardous materials include impacts resulting from a release of hazardous materials and impacts from improper hazardous materials management. A project would be considered to have significant hazardous materials impacts if the project site has existing hazardous materials on-site that would require remediation prior to development of a project alternative. Additionally, if a project would result in the use, handling, or generation of a regulated hazardous material, of which the regulated amounts would increase the potential risk of exposure resulting in reduction of quality of life or loss of life, then the project would have a significant adverse impact.

The Phase I ESAs identified no hazardous materials on the project site or within a distance that would expose people or the environment to hazardous materials at adverse levels.

During construction, it is possible that hazardous materials, such as fuel, solvents, paint, and adhesives would be used on site and the potential for an accidental release exists. However, implementation of construction BMPs identified in **Section 2.2.2** would reduce the potential of such accidental releases. With the implementation of these BMPs, additional stormwater BMPs that would be required under the SWPPP, and compliance with federal laws relating to the handling of hazardous materials, adverse

effects associated with the accidental release of hazardous materials during construction would be less than significant.

The majority of waste produced by residents on the project site would be nonhazardous. The small quantities of hazardous materials that would be generated or used may include pesticides, fertilizers, motor oil, hydraulic fluid, solvents, disinfectants, cleaners, lubricants, paint, and paint thinner. The amount and type of hazardous materials that would be generated are common to residential developments and do not pose unusual storage, handling or disposal issues. Adverse effects associated with the accidental release of hazardous materials by residents are expected to be less than significant.

Mitigation

No mitigation measures would be required for Alternative A.

Alternative B

Under Alternative B, hazardous material impacts would be similar to those under Alternative A; however, with the development of fewer Tribal homes, the potential hazardous material impacts would be reduced accordingly.

Mitigation

No mitigation measures would be required for Alternative B.

Alternative C

Under the No Action Alternative, the land would not be taken into trust and no homes, roads or other improvements would be developed. No hazardous material impacts would occur.

Mitigation

No mitigation measures would be required for Alternative C.

3.12 VISUAL RESOURCES

3.12.1 Background

Visual Setting

The visual character of the project area is defined by a mixture of agricultural and rural residential land uses within the Collayomi Valley with views of forested hills in the distance. Open fields and residential yards are interspersed with wooded fence rows and forested areas. Agriculture in the area is primarily vineyard, orchard and pasture. Caltrans has not designated Highway 29 as a scenic highway but does identify the highway as eligible for the designation (Caltrans, 2023). The Middletown Area Plan identifies Highway 29 as a Scenic Route (Lake County, 2010).

Martin Ranch

The eastern portion of the Martin Ranch property is visible from Highway 29. Seen from the highway, the project site slopes upward gradually, providing a clear view of the eastern most portion of vineyard,

the farmhouse and adjacent buildings and pasture. The upper portion of vineyard is seen at the top of the slope, but is less visible due to distance and the more level slope of the upper vineyard beyond the brow of the hill. The forest is visible in the far distance beyond the vineyards. Views of the property from most surrounding residences are limited due to intervening topography and trees. One residence east of the Highway 29 on East Road has an open view of the eastern portion of the property.

Scott Property

The eastern and central portions of the Scott property are visible from Highway 29. Seen from the highway, the existing overflow parking lot is visible through gaps in the trees at the edge of the property. The central portion of the property is less visible due to distance and the generally flat nature of the topography. The western portion of the property is obscured by trees and distance. Views of the property from most surrounding residences are limited due to intervening topography and trees. Two residences west of Highway 29 have views of the central portion of the property. These views are partially obstructed by buildings and trees.

3.12.2 Visual Resource Impacts

Alternative A

Martin Ranch

The proposed housing development on the Martin Ranch property would be visible from Highway 29. The homes on the eastern portion of property would be the most visible due to the proximity to the highway. The homes would be set back from the highway approximately 150 feet. Existing and proposed trees and vegetation would partially obscure the views of homes. In addition, the steeper slope facing the highway would remain in vineyard, thereby preserving some of the agricultural open space on the site. The homes west of the vineyard would be obscured by distance, vegetation, and the receding slope. While the density of homes would be greater than in the surrounding area, the proposed housing development would be similar in nature to existing rural residential development on the adjacent Rancheria and surrounding area. The proposed housing development would not significantly impact the scenic views from Highway 29. The development would not disrupt or block views of the surroundings mountains or other scenic vistas. Due to the topography and the woodland vegetation, views of the new homes and roadways would be limited from the surrounding areas. Because the type of housing would be consistent with the housing in the surrounding area (i.e., single family), visual impacts would be less than significant.

Scott Property

The proposed RV park on the Scott property would be partially visible from Highway 29. The RV park would be over 400 feet from the highway and existing and planned trees would mostly obscure views of the RV park. In particular, an existing row of trees located along the eastern project boundary blocks views except for where there are gaps between the trees. Due to the topography, distance, and vegetation, views of the RV park would be limited from the surrounding areas. A row of trees proposed along the north boundary of the project site, would further screen views of the project site. Because the RV park would be set back from public viewpoints and screened by vegetation, visual impacts would be less than significant.

Alternative B

Under Alternative B, visual impacts would be reduced as compared to those under Alternative A. No homes would be developed in the eastern portion of the Martin Ranch property. The existing fields and vineyards would be preserved and the homes developed in the central portion of property would not be readily visible from the highway. Visual impacts of the RV park on the Scott property would be the same as those described under Alternative A. Visual impacts would be less than significant.

Mitigation

No mitigation measures would be required for Alternative B.

Alternative C

Under the No Action Alternative, the land would not be taken into trust and no homes, RV park, roads or other improvements would be developed. No visual resource impacts would occur.

Mitigation

No mitigation measures would be required for Alternative C.

3.13 GROWTH-INDUCING AND CUMULATIVE IMPACTS

3.13.1. Growth Inducing Impacts

A growth-inducing effect may occur when a project fosters economic or population growth, removes obstacles to growth (through the extension of infrastructure to a previously unserved area), or facilitates other activities that could significantly affect the environment. This analysis considers whether the Project would directly or indirectly induce growth in the surrounding area.

Economic and Population Growth

The objective of the Proposed Action is to alleviate the shortage of on-reservation housing for the Tribe and to diversify and expand accommodation options for its casino. The Proposed Action would directly increase population on the project site by developing housing. However, this development is not expected to significantly induce population growth in the surrounding area. The surrounding area is currently zoned for agriculture and rural residential development, and homes already exist in the area. Because the proposed RV park is limited to 21 spaces and is intended to support the existing casino operation, this development is not expected to lead to additional population growth. The Proposed Action would result in a less-than-significant growth-inducing impact.

Removal of an Obstacle to Growth

The Proposed Action does not include roadway, utility, or other infrastructure improvements that would facilitate development in the surrounding area. All improvements would be limited to trust lands. If CCWD water is supplied to the proposed homes, it would be done through extension of the Tribe's existing water supply system as described in **Section 3.9.7**. This system would not be used to supply any additional homes off the Tribe's trust lands. As such, the Proposed Action would not remove an obstacle to growth in the surrounding area. The Proposed Action would result in a less-than-significant growth-inducing impact.

Other Potential Growth

The Proposed Action does not represent a precedent-setting action such as an amendment of land use plans. The Proposed Action would not induce growth in the surrounding area of Lake County. The Proposed Action would result in a less-than-significant growth-inducing impact.

3.13.2. Cumulative Impacts

Cumulative impacts refer to the effects of a project that are individually limited but cumulatively considerable off-Reservation. "Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past, current, or probable future projects.

Cumulative Setting

The assessment of impacts tasks into account the "cumulative environment" which is defined by other projects that may contribute to the Proposed Action's environmental impacts within the same geographic area. The geographic boundaries of the cumulative effects zone have been determined by the nature of the resources affected and the distance that effects may travel. As an example, increased sedimentation of waterways that result from a project are limited to the watershed in which they occur. As a result, it is only necessary to examine incremental effects within that watershed. Air quality emissions from a project, however, travel over far greater distances and therefore necessitate analysis on the air basin. For this analysis, the geographic boundaries of the cumulative effects zone are generally that of Lake County, although for some resources (water, biological etc.) smaller natural or cultural boundaries are used.

The means of establishing projects that may contribute to environmental conditions in the region is the growth assumptions of the Lake County General Plan.

The General Plan anticipates that the annual population growth rate in the County is 2 percent for cities and communities, and 0.75 percent for the remaining unincorporated portion of the County. Taken together, the County assumes an annual growth rate of approximately 1.7 percent, with population expected to increase from 71,901 residents in 2010 to 101,557 residents by 2030; extrapolating this growth rate would result in a population of approximately 120,204 in 2040. The County General Plan anticipates that the annual population growth rate in Middletown is 2 percent, with population expected to increase from 1,407 residents in 2010 to 2,091 residents by 2030; extrapolating this growth rate would result in a population of approximately 2,549 in 2040 (Lake County, 2008).

The Middletown Area Plan is a guide for long-term growth and development as a complement to the Lake County General Plan focused on the Middletown Planning Area. The County estimates that the Middletown population and household totals would increase with an annual 2% growth rate, adding 2,553 residents and 956 housing units from 2010 to 2030 (Lake County, 2010).

Cumulative Impacts

Land Resources

Cumulative development in the region will include land and roadway development necessary to accommodate the County's planned growth for this area. Such development will increase the potential

for seismic hazards, erosion, and topsoil loss. The Proposed Action would not result in significant contributions to these potential impacts. The project site is not near an Alquist-Priolo Earthquake Fault Zone or other mapped seismic hazard. As identified in **Section 2.2**, construction of the Proposed Action would comply with the CBC. Compliance with the CBC would ensure that the proposed structures would be constructed to withstand seismic ground shaking. As addressed in **Section 3.1.7**, avoidance of steep slopes, incorporation of slope design and revegetation standards, and implementation of erosion control measures, potential soil erosion effects are expected to be less than significant. Cumulative impacts to land resources are therefore considered to be less than significant.

Water Resources

Cumulative growth in the region will result in increased potential for sedimentation, pollution, and stormwater flows in the Upper Putah Creek Watershed. Likewise, development may increase flooding risks or adversely impact groundwater conditions. As addressed in **Section 3.2.5**, to offset the proposed impervious surfaces, bioswales would be constructed to treat 100% of the equivalent net increase in impervious area of the roadways. The bioswales would reduce site runoff into the adjacent drainage and ensure a reduction in mobile pollutants and sediments. All development would be outside of FEMA designated flood hazard zones. The homes and RV park would not be developed in a manner that exposes residents to flooding hazard, interferes with a floodway or increases downstream flooding hazards. Wastewater treatment and disposal would be provided by the Lake County Sanitation District. No on-site wastewater treatment and disposal would occur. In addition, the Tribe would be required to implement a SWPPP and erosion control plan during construction of the homes. The Proposed Action's contribution to cumulative water resource impacts would be less than significant.

Air Quality

Cumulative development in Lake County will include land and roadway development that has the potential to impact air resources. Cumulative air quality impacts will occur if projects in the region cause exceedances of the State or National Ambient Air Quality Standards. **Section 3.3** addresses the potential air quality and GHG emission impacts of the Proposed Action.

By its very nature, air pollution is largely a cumulative impact, and the analysis of criteria pollutants and GHG emissions in **Section 3.3** addresses potential cumulative impacts. Emissions of all criteria pollutants would be less than significant. With regard to GHG emissions, the proposed housing would be of new construction and would meet the current CBC standards, including the use of energy efficient construction materials and appliances. As such, the proposed housing would be consistent with current efforts to improve energy efficiency and reduce GHG emissions. In addition, as identified in **Section 2.2**, BMPs have been provided to reduce project-related GHG emissions. With implementation of these measures, the Proposed Action would not result in a significant contribution to cumulative air quality or GHG impacts.

Biological Resources

As development occurs in the region, natural habitat will be impacted. Cumulative impacts to biological resources include the fragmentation and loss of forest, wetlands, riparian vegetation, and other important wildlife habitat. Such habitat loss could impact special-status species and nesting birds that depend on such habitat and could limit the ability of animals to move through the region. Compliance with federal, state, and local regulations will reduce habitat loss by restricting the areas where

development may occur and requiring mitigation of habitat impacts; however, some cumulative loss of habitat will nevertheless occur. Development of the proposed homes has the potential to impact northern spotted owl, and migratory birds. Mitigation measures have been identified to avoid or reduce potential impacts on biological resources to a less-than-significant level. Mitigation measures include pre-construction surveys, avoidance of habitat and listed species, providing buffer areas around sensitive resources, and avoiding construction during the bird nesting season. These measures will ensure that potential impacts to biological resources would be reduced to a less-than-significant level. The Proposed Action's contribution to cumulative biological resource impacts is considered to be less than significant.

Cultural Resources

Cumulative development in the region will include land and roadway development that has the potential to impact cultural resources. Potential cultural resource impacts include the loss of archaeological sites during excavation and the disturbance or destruction of historic buildings.

As identified in **Section 3.5**, no significant cultural resources are known to be present on project site that meet NHPA criteria. Because no cultural resources are known to exist on the project site, no impacts to cultural resources are expected to occur as the result of the Proposed Action. Mitigation measures have been identified to prevent the loss of buried archaeological resources if encountered during grading or excavation on the Project site. The Proposed Action's contribution to cumulative cultural resource impacts is considered to be less than significant.

Socioeconomic Conditions/Environmental Justice

Cumulative development in the region is expected to occur as Lake County approves additional residential and commercial development. As development continues to occur, potential socioeconomic impacts may occur. Types of socioeconomic impacts include adverse changes in the housing market, population, taxes, employment and income levels, and community cohesion. The proposed residential development would provide needed housing for tribal members, and would be benefit the socioeconomic conditions of the Tribe. The proposed RV park would support the Tribe's casino, which is one of the County's largest employers. While the removal of the parcels from the County's jurisdiction would reduce property tax revenue, the Tribe provides services to the Rancheria and contracts with other service providers for services. No other adverse socioeconomic impacts would occur as the result of the proposed fee-to-trust acquisition and residential and RV park development. The proposed residential and RV park project would not result in adverse environmental effects, and no minority or low-income populations would be adversely impacted by the project. Cumulative socioeconomic and environmental justice effects are therefore considered to be less than significant.

Transportation and Circulation

To estimate future year peak hour intersection turning movement traffic volumes, the directional traffic was calculated using the Caltrans District 1 growth factor of 1.45. The extent of potential improvements to Highway 29 in the study area was determined from review of the State Route 29 Transportation Concept Report (TCR) and the SR 29 South Corridor Engineered Feasibility Study. The TCR notes that capacity increasing improvements in the project vicinity are not necessary to maintain the concept LOS through 2035.

The analysis of cumulative impacts addresses intersection level of service, pedestrian and bicycle facilities, and transit service. Three access alternatives are addressed under the Proposed Project:

Option 1 would provide access through the Rancheria and to Western Mine Road Extension. No access would be provided directly to Highway 29 by the farmhouse driveway,

Option 2 would use Western Mine Road Extension and provide a project driveway at the existing farmhouse driveway for direct access to Highway 29, and

Option 3 includes full access via the Rancheria and a project driveway at the existing farmhouse driveway with gated access to Western Mine Road Extension. The gated access would only be used for emergency access.

Figure 2-2, in **Section 2**, shows the configuration of the access options.

Intersection Levels of Service

Access Option 1

The cumulative impacts of operating the Proposed Project with access to the site via the Western Mine Road and Rancheria Road intersections with Highway 29 were estimated by adding project trips onto the estimated cumulative conditions. **Table 3-13** compares cumulative and cumulative with project peak hour LOS and average delay per vehicle at the access intersections under Access Option 1. All intersections meet Caltrans' standard of LOS E for Highway 29 in the Middletown area, except for the eastbound approach at the intersection of Rancheria Road and Highway 29. Motorists entering Highway 29 from the Rancheria will experience delays that are characteristic of LOS F conditions in the p.m. peak hour with or without the project. The Western Mine Road intersection will operate at LOS D or better in both a.m. and p.m. peak hours.

TABLE 3-13
CUMULATIVE INTERSECTION LEVELS OF SERVICE – PROPOSED PROJECT, ACCESS OPTION 1

Location	AM Peak Hour				PM Peak Hour			
	Cumulative Condition		Cumulative with Project		Cumulative Condition		Cumulative with Project	
	LOS	Average Delay	LOS	Average Delay	LOS	Average Delay	LOS	Average Delay
Rancheria Road / Highway 29								
Northbound Left	B	10.4	F	10.4	A	8.7	A	8.7
Southbound Left	A	7.5	A	7.5	A	9.4	A	9.4
Eastbound	**F**	**193.0**	**F**	**257.2**	**F**	**574.3**	**F**	**666.7**
Westbound	B	12.7	B	12.9	D	34.7	D	36.5
Western Mine Road / Highway 29								
Northbound Left	A	9.5	A	9.5	A	7.9	A	7.9
Southbound Left	A	7.6	A	7.6	B	10.3	B	10.3
Eastbound	C	20.6	C	19.3	D	34.1	D	29.6
Westbound	B	14.6	D	15.0	C	21.2	C	21.9

Notes:

Both Rancheria Road/Highway 29 and Western Mine Road/Highway 29 would operate with an eastbound/westbound stop sign control. No direct access to Highway 29 would be provided under this access option.

Average delay is expressed in seconds per vehicle.

Bold indicates LOS threshold exceeded.

Source: KD Anderson & Associates, 2021.

Access Option 2

Table 3-14 compares cumulative and cumulative with project peak hour LOS and average delay per vehicle at the access intersections under Access Option 2. All intersections meet Caltrans' standard of LOS E for Highway 29 in the Middletown area, except for the eastbound approach at the intersection of Rancheria Road and Highway 29. Motorists entering Highway 29 from the Rancheria will experience LOS F conditions in the p.m. peak hour with or without the project. The remaining intersections will operate at LOS D or better in both a.m. and p.m. peak hours.

TABLE 3-14
CUMULATIVE INTERSECTION LEVELS OF SERVICE – PROPOSED PROJECT, ACCESS OPTION 2

Location	AM Peak Hour				PM Peak Hour			
	Cumulative Condition		Cumulative with Project		Cumulative Condition		Cumulative with Project	
	LOS	Average Delay	LOS	Average Delay	LOS	Average Delay	LOS	Average Delay
Project Driveway / Highway 29								
Northbound Left	–	–	A	9.6	–	–	A	8.1
Eastbound	–	–	C	21.4	–	–	D	25.1
Rancheria Road / Highway 29								
Northbound Left	B	10.4	A	10.4	A	8.7	A	8.9
Southbound Left	A	7.5	A	7.6	A	9.4	A	9.4
Eastbound	**F**	**193.0**	**F**	**225.5**	**F**	**574.3**	**F**	**665.5**
Westbound	B	12.7	B	13.1	D	34.7	E	37.1
Western Mine Road / Highway 29								
Northbound Left	A	9.5	A	9.6	A	7.9	A	7.9
Southbound Left	A	7.6	A	7.6	B	10.3	B	10.3
Eastbound	C	20.6	C	19.8	D	34.1	D	32.2
Westbound	B	14.6	C	15.0	C	21.2	C	21.8

Notes:

Both Rancheria Road/Highway 29 and Western Mine Road/Highway 29 would operate with an eastbound/westbound stop sign control. Under this access option, direct access to Highway 29 would be provided at the project driveway with an eastbound stop sign.

Average delay is expressed in seconds per vehicle.

Bold indicates LOS threshold exceeded.

Source: KD Anderson & Associates, 2021.

Access Option 3

Table 3-15 compares cumulative and cumulative with project peak hour LOS and average delay per vehicle at the access intersections under Access Option 3. All intersections meet Caltrans' standard of LOS E for Highway 29 in the Middletown area, except for the eastbound approach at the intersection of Rancheria Road and Highway 29. Motorists entering Highway 29 from the Rancheria will experience LOS

F conditions in the p.m. peak hour with or without the project. The remaining intersections will operate at LOS E or better in both a.m. and p.m. peak hours.

TABLE 3-15
CUMULATIVE INTERSECTION LEVELS OF SERVICE – PROPOSED PROJECT, ACCESS OPTION 3

Location	AM Peak Hour				PM Peak Hour			
	Cumulative Condition		Cumulative with Project		Cumulative Condition		Cumulative with Project	
	LOS	Average Delay	LOS	Average Delay	LOS	Average Delay	LOS	Average Delay
Project Driveway / Highway 29								
Northbound Left	–	–	A	9.6	–	–	A	8.1
Eastbound	–	–	C	20.5	–	–	C	21.9
Rancheria Road / Highway 29								
Northbound Left	A	10.4	B	10.4	A	8.7	A	8.9
Southbound Left	A	7.5	A	7.6	A	9.4	A	9.4
Eastbound	**F**	**193.0**	**F**	**232.0**	**F**	**574.3**	**F**	**660.5**
Westbound	B	12.7	B	13.1	D	34.7	D	37.1
Western Mine Road / Highway 29								
Northbound Left	A	9.5	A	9.6	A	7.9	A	7.9
Southbound Left	A	7.6	A	7.6	B	10.3	B	10.3
Eastbound	C	20.6	C	21.1	D	34.1	D	35.3
Westbound	B	14.6	B	14.8	C	21.2	C	21.7

Notes:

Both Rancheria Road/Highway 29 and Western Mine Road/Highway 29 would operate with an eastbound/westbound stop sign control. Under this access option, direct access to Highway 29 would be provided at the project driveway with an eastbound stop sign.

Average delay is expressed in seconds per vehicle.

Bold indicates LOS threshold exceeded.

Source: KD Anderson & Associates, 2021.

Intersection Level of Service Summary

Under all Proposed Project access options, all intersections would operate with acceptable levels of service except for the intersection of Rancheria Road and Highway 29. Motorists entering Highway 29

from the Rancheria will experience LOS F conditions in the a.m. and p.m. peak hours with or without the project. Caltrans' SR 29 South Corridor Engineered Feasibility Study identified that the intersection would operate at LOS F in the future. The study suggested mitigation through the installation of a traffic signal or a roundabout. With a signal or roundabout, the intersection would operate at LOS B. With implementation of this measure, described below, impacts would be less than significant.

Mitigation

The Tribe shall provide a proportionate share of the cost of installing a traffic signal or roundabout at the intersection of Highway 29 and Rancheria Road. The Tribe shall coordinate with Caltrans to monitor the intersection to determine when the installation of improvements are warranted.

Pedestrian & Bicycle Facilities

There are currently no sidewalks or bike lanes along Highway 29 in the vicinity of the project site. However, the SR 29 South Corridor Engineered Feasibility Study identified the installation of a Class 1 bike path and equestrian/pedestrian trail north from Rancheria Road to Middletown. While no funding is currently approved, this trail may be constructed in the future.

The Proposed Project would generate pedestrian and bicycle traffic typical of residential areas. Most pedestrian and bicycle traffic is expected to remain on the project site and Rancheria. Little to no pedestrian traffic, and minimal amounts of bicycle traffic, would use Highway 29. Pedestrians may use existing paths near the highway, and bicyclists may use the existing road and paved shoulders. If a bike/equestrian/pedestrian path is created between the Rancheria and Middletown, pedestrian and bicycle use could be accommodated through such a facility. Due to the minor amount of pedestrian and bicycle traffic expected to be generated and the adequacy of existing facilities, this is considered a less-than-significant impact.

Transit Service

The Rancheria and Twin Pine Casino is currently served by Lake Transit Bus Route2, which provides service along Highway 175 between Kit's Corner to the Twin Pine Casino, and Bus Route 3, which provides service between Clearlake in Lake County and Calistoga and Deer Park in Napa County. These buses provide connections to other regional bus routes. No future expansion of facilities or services are known at this time. The Proposed Project would add a minor amount of additional demand for transit service. No significant impacts to transit service are expected.

Land Use and Agriculture

Cumulative land use and agriculture impacts that may occur as the region grows include the development of conflicting land uses, the loss of community character or integrity, and the displacement of agriculture.

The proposed residential development is of higher density than that permitted by the current zoning. However, the Tribe would voluntarily comply with the County's development standards, including minimum setback requirements. The proposed design of the residential development avoids steeper hillsides thereby reducing the visibility of the proposed development thereby helping to retain the rural character of the area. Likewise, the proposed RV park would provide a transition between the more

intense commercial uses on the Rancheria to less intense residential development. As a result, no conflicts with adjacent land uses are expected.

While the proposed residential and RV park developments would convert approximately 9.4 acres of farmland, the conversion of the land would not interfere with agricultural uses (primarily grazing and home gardening) in the surrounding area. The Proposed Action's contribution to cumulative land use and agriculture impacts is considered less than significant.

Public Services

As development occurs in the region, demands for public services will increase. Typically, public services are paid by development fees, rates, and property taxes. As such, the provision of public services typically expands to serve the additional demand. The provision of adequate water supply is the most crucial concern in drought-prone California. As described in **Section 2.2**, CCWD has currently allocated 45 connections to the Rancheria. CCWD has authorized the Tribe to use these connections on Martin Ranch, subject to annexation of the property to CCWD's service area. Alternatively, the Tribe could develop one or more wells to supply water to some of the homes. The use of groundwater would be conditioned on developing one or more wells with sustained yields that provide adequate capacity. According to DWR, no groundwater level declines have been identified in the Collayomi Valley Groundwater Basin. Wastewater service would be supplied by the Lake County Special Districts, which operates the Middletown Wastewater Collection and Treatment System that provides service to the Rancheria and the Scott property. No significant impacts to water or wastewater services are expected. The proposed housing and RV park development would be served by the same law enforcement, fire protection, solid waste and utility services that are currently provided to the Rancheria. The Proposed Action's contribution to cumulative public service impacts is considered to be less than significant.

Noise

Cumulative development in Lake County would result in localized noise level increases. These may occur along roadways where traffic levels increase or in neighborhoods where urban uses are expanding or intensifying. As addressed in **Section 3.10**, construction of the proposed facilities would result in short-term increases in noise in the vicinity of the project site. Because construction would be limited in duration and would be restricted to hours identified by the County's noise standards, construction noise impacts would be less than significant. Operation of the Proposed Action does not have the potential to significantly increase noise levels in the vicinity of the project sites, or expose residents to adverse noise levels. The Project would not result a cumulatively considerable contribution to noise impacts.

Hazardous Materials

As cumulative development occurs in the region, the potential exists for land and roadway development projects to increase hazardous material impacts on public health and the environment. Impacts can occur as the result of the improper use and disposal of hazardous materials, or through contact with existing hazardous materials encountered during construction. No hazardous material impacts are expected to occur as the result of the Proposed Action, as the Phase I ESAs identified no hazardous materials on the project site or within a distance that would expose people or the environment to hazardous materials at adverse levels. All applicable federal, state and local regulations pertaining to the use and disposal of hazardous materials would be followed during construction. The Proposed Action's contribution to cumulative hazardous material impacts is considered to be less than significant.

Visual Resources

Cumulative visual impacts that may occur as the region grows include the loss of scenic vistas or the aesthetic quality of views in the region as residential and commercial development alters the natural landscape. While the density of the proposed homes would be greater than in the surrounding area, the proposed housing development would be similar in nature to existing rural residential development on the adjacent Rancheria and surrounding area. Due to the topography, surrounding woodland vegetation, and retention of vineyards on the steeper portion of the Martin Ranch property, views of the new homes and roadways would be limited from the surrounding areas. The RV park would be over 400 feet from the highway and existing and planned trees would mostly obscure views of the RV park. Due to the limited visibility of the sites and consistency of the proposed residential development with surrounding land uses, the Proposed Action's contribution to cumulative visual resource impacts is considered less than significant.

Section 4.0

CONSULTATION, COORDINATION, AND LIST OF PREPARERS

4.1 FEDERAL AGENCIES

Bureau of Indian Affairs

Felix Kitto
Dan Hall
Chad Brousard
Jay Hinshaw

4.3 PREPARERS OF ENVIRONMENTAL ASSESSMENT

Origin Environmental Planning

Josh Ferris – Principal Planner

KD Anderson & Associates

Jonathan Flecker, P.E. – Civil/Traffic Engineer

Natural Investigations

G.O. Graening, PhD, MSE – Principal

Section 5

BIBLIOGRAPHY

Averill, C.V., 1947. Mines and Mineral Resources of Lake County, California. California Journal of Mines and Geology. Vol. 43. No. 1. January 1947.

Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, and T.J. Rosatti, editors. 2012. The Jepson Manual: Vascular Plants of California, second edition, thoroughly revised and expanded. University of California Press, Berkeley, California. 1,600 pp.

Bollard Acoustical Consultants, 2019. Grass Valley RV Resort Environmental Noise and Vibration Assessment. December 20, 2019.

California Department of Conservation Division of Mines and Geology (CDMG), 1996. Open-File Report 96-08 Probabilistic Seismic Hazard Assessment for the State of California.

California Department of Finance, 2021. Report P-2A: Total Population Projections, California Counties, 2010-2060. July 2021.

California Department of Finance, 2022a. Report E-1 Population and Housing Estimates for Cities, Counties, and the State, January 1, 2021-2022. May 2022.

California Department of Finance, 2022b. Report E-5 Population and Housing Estimates for Cities, Counties and the State — January 1, 2021-2022, May 2022.

California Department of Fish and Wildlife (CDFW), 2021. List of California Terrestrial Natural Communities Recognized by the California Natural Diversity Database. Vegetation Classification and Mapping Program. Available on the Internet at: [https://wildlife.ca.gov/Data/VegCAMP/Natural-Communities].

California Department of Transportation (Caltrans), 2023. California State Scenic Highway System Map website. Available at: [https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways]. Accessed May 23, 2023.

California Department of Water Resources (DWR), 2004. California's Groundwater Bulletin 118.

California Department of Water Resources (DWR), 2022. SGMA Basin Prioritization Dashboard website. Available at: [https://gis.water.ca.gov/app/bp-dashboard/final/]. Accessed December 15, 2022.

California Employment Development Department (CEDD), 2022. Labor Market Information by California Geographic Areas website. Available at [https://www.labormarketinfo.edd.ca.gov/geography/lmi-by-geography.html]. Accessed January 2, 2023.

California Department of Resources Recycling and Recovery (CalRecycle), 2023. Solid Waste Information System website. Available at: https://www2.calrecycle.ca.gov/SolidWaste/Activity. Accessed May 12, 2023.

California Geological Survey (CGS), 2010. Geologic Map of California. Available at [http://maps.conservation.ca.gov/cgs/gmc/]. Accessed January 30, 2018.

CGS, 2015. Geological Gems of California State Parks, Special Report 230.

Central Valley Regional Water Quality Control Board (CVRWQCB), 2013. Conditional No Further Action Determination, Nella Oil Tanker Spill, State Highway 29, Middletown, Lake County. March 17, 2014.

CVRWQCB, 2014. No Further Action Required, Nella Oil Tanker Spill, State Highway 29, Middletown, Lake County.

CDM, 2006a. Lake County Groundwater Management Plan. March 31, 2006.

CDM, 2006b. Lake County Water Demand Forecast. March, 2006.

Chwialkowski, C., 2023. Personal communication between Chris Chwialkowski, Captain, Lake County Sheriff's Office and Josh Ferris, Origin Environmental Planning, on April 10, 2023.

Cowan, J., 1993. Handbook of Environmental Acoustics.

Ecorp, 2017. Preliminary Wetland and Special-Status Species Assessment Middletown Rancheria – Martin Ranch Property.

Fiori, Todd, 2023. Personal communication between Todd Fiori, General Manager, Callayomi County Water District and Hank Lescher, representative of Middletown Rancheria, on April 6, 2023.

Interagency Working Group on Social Cost of Greenhouse Gases, United States Government (IWG), 2021. Technical support Document: Social Cost of Carbon, Methane, and Nitrous Oxide, Interim Estimates under Executive Order 13990. February 2021.

Jennings, C.W. & Bryant, W.A., 2010. Fault Activity Map of California. California Geological Survey.

Lake County, 2008. Lake County General Plan. September 2008.

Lake County, 2010. Middletown Area Plan. August 2010.

Lake County, 2014. Zoning Ordinance. As amended July 11, 2014.

Lake County GIS Portal, 2018. Parcel Viewer – Serpentine Soils layer. Available at [http://gispublic.co.lake.ca.us/portal/apps/webappviewer/index.html?id=87dfc0c535b2478bb67df69d6d319eca]. Accessed February 14, 2018.

Lake County Air Quality Management District (LCAQMD), 2021. Available at https://www.lcaqmd.net/about/. Accessed December 9, 2021.

Lake County Sheriff's Office, 2022. Annual Report 2021.

Natural Investigations Company (NIC), 2023. Biological Resources Assessment for the Scott Property and the Martin Ranch Property, Middletown, California. January 2023.

Pacific Gas and Electric (PG&E), 2023. Integration Capacity Analysis Map. Available online at: https://www.pge.com/b2b/distribution-resource-planning/integration-capacity-map.shtml. Accessed May 12, 2023.

Taber Consultants, 2013. Middletown Spill Site First 2013 Semi-Annual Monitoring Report and No Further Action Request, State Highway 29, Middletown, California. April 16, 2013.

Tanner Environmental Services, 2018. Results of northern spotted owl habitat assessment for the Martin Ranch Development Project. June 4, 2018.

United States Census Bureau, 2023. American Community Survey, Explore Census Data website. Available at [https://data.census.gov/]. Accessed January 2, 2023.

United States Department of Agriculture, Natural Resources Conservation Service (NRCS), 2021. Web Soil Survey. Available at [https://websoilsurvey.sc.egov.usda.gov]. Accessed December 2, 2021.

United States Environmental Protection Agency (USEPA), 2016. What Climate Change Means for California. August 2016. Available online at: https://www.epa.gov/sites/default/files/2016-09/documents/climate-change-ca.pdf. Accessed March 2023.

United States Fish and Wildlife Service (USFWS), 2021. Birds of Conservation Concern 2021. Available online at: https://www.fws.gov/media/birds-conservation-concern-2021. Accessed March 2023.

United States Geological Survey (USGS), 2022. Earthquake Catalog. Available at [https://earthquake.usgs.gov/earthquakes/search/]. Accessed December 9, 2022.

USGS, 2018. Mineral Resources On-Line Spatial Data. Available at [https://mrdata.usgs.gov/mrds/show-mrds.php?dep_id=10040805]. Access January 29, 2018.

University of California Museum of Paleontology (UCMP), 2021. Specimen Search. Available at [https://ucmpdb.berkeley.edu/]. Accessed December 9, 2021.

Weather Underground (Wunderground), 2021. Middletown – KCAMIDDL4. Available at [https://www.wunderground.com/dashboard/pws/KCAMIDDL4]. Accessed December 9, 2021.

Western Regional Climate Center (WRCC), 2021. Climate Summaries. Available at [https://wrcc.dri.edu/Climate/summaries.php]. Accessed December 9, 2021.

Appendix A

CCWD Service Letter

Callayomi County Water District

21282 Stewart St • P.O. Box 623 • Middletown, CA 95461
Phone: (707) 987-2180 • Fax: (707) 987-0779 • www.callayomiwater.com

Re: Middletown Rancheria

Subject: Letter of Intent to Serve

The Callayomi County Water District granted Middletown Rancheria a total of 45 water service hookups to be installed on the Middletown Rancheria Property **(014-005-08)** per the agreement executed on February 13, 2020.

The Middletown Rancheria has acquired three (3) new properties **(Parcel # 014-160-09 & Parcel # 014-005-64 & Parcel # 014-005-340)** adjacent to the current Middletown Rancheria property and wishes to relocate water service hookups from the current property (014-005-08) to the newly acquired properties (014-160-09 & 014-005-64 & 014-005-340). Callayomi County Water District authorizes the Middletown Rancheria to relocate any number of the 45 approved water service hookups to **Parcel # 014-160-09 & Parcel # 014-005-64 & Parcel # 014-005-340** at the Middletown Rancheria's expense, after the parcels are annexed into the District, and any other requirements by the District are met.

X Todd Fiora

Date: 1/5/22

Todd Fiora, General Manager
Callayomi County Water District

Appendix B
LACOSAN Service Letter

COUNTY OF LAKE
SPECIAL DISTRICTS ADMINISTRATION
230 Main Street
Lakeport, California 95453
Telephone (707) 263-0119
Fax (707)263-3836

Scott Harter
Special Districts Administrator

Kim Cole
Tribal Administrator
Middletown Rancheria
PO BOX 1035
Middletown, CA 95461

September 1, 2021

Conditional Will Serve Letter
APN: 014-005-340 – 22433 South State Highway 29, Middletown, CA.
Middletown Rancheria 45-50 Unit Housing Project

Dear Mrs. Cole,

Assessor's Parcel Number 014-005-340 is within the Lake County Sanitation District, Assessment District 2-2 Middletown Sewer service area. The proposed on-site collection system will be owned, operated and maintained by Middletown Rancheria. The District will not be responsible for the construction or maintenance of the private property sewer, the District's responsibility ends at the street. It should also be noted that the determination of adequate gravity flow is the responsibility of the property owner.

The sewage collection system is anticipated to connect to the existing collection system on Assessor's Parcel Number 014-005-080 and once it leaves Assessor's Parcel Number 014-005-080, it is then owned, operated and maintained by LACOSAN to the treatment facility.

Capacity Expansion Fees are required to be paid prior to the issuance of the building permit. The fee increases by the Consumer Price Index at the beginning of each calendar year. The fees are currently $7,568.31 per single family dwelling equivalent.

Provided that capacity is still available at the time of application, all fees paid and permits signed (if applicable) LACOSAN will provide the proposed addresses with sewer service.

Connections to LACOSAN will be made in accordance with the rules, regulations, policies, procedures and ordinances in effect at the time application is made.

Should you have any questions or require further information, I can be reached at (707) 263-0119.

Sincerely,

Scott Harter
Administrator

Appendix C
Air Quality Modeling Files

Middletown Rancheria Martin-Scott FTT - Lake County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Middletown Rancheria Martin-Scott FTT

Lake County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	50.00	Dwelling Unit	20.40	90,000.00	143
User Defined Recreational	21.00	User Defined Unit	2.80	4,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	67
Climate Zone	1			**Operational Year**	2024
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project Description

Water And Wastewater - Detailed project assumptions.

Solid Waste - Project Assumptions

Sequestration -

Area Mitigation -

Table Name	Column Name	Default Value	New Value
tblLandUse	LandUseSquareFeet	0.00	4,500.00
tblLandUse	LotAcreage	16.23	20.40
tblLandUse	LotAcreage	0.00	2.80

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblSequestration	NumberOfNewTrees	0.00	68.00
tblSolidWaste	SolidWasteGenerationRate	0.00	5.00
tblWater	IndoorWaterUseRate	0.00	766,500.00
tblWater	OutdoorWaterUseRate	0.00	500,000.00

2.0 Emissions Summary

Middletown Rancheria Martin-Scott FTT - Lake County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2024	0.2535	2.2810	2.4673	4.6300e-003	0.2834	0.0999	0.3833	0.1209	0.0932	0.2142	0.0000	403.5166	403.5166	0.1006	2.4600e-003	406.7644
2025	1.6008	1.2131	1.6253	2.8300e-003	0.0185	0.0506	0.0692	5.0100e-003	0.0476	0.0526	0.0000	245.9723	245.9723	0.0544	2.0100e-003	247.9290
Maximum	**1.6008**	**2.2810**	**2.4673**	**4.6300e-003**	**0.2834**	**0.0999**	**0.3833**	**0.1209**	**0.0932**	**0.2142**	**0.0000**	**403.5166**	**403.5166**	**0.1006**	**2.4600e-003**	**406.7644**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2024	0.2535	2.2810	2.4673	4.6300e-003	0.2834	0.0999	0.3833	0.1209	0.0932	0.2142	0.0000	403.5162	403.5162	0.1006	2.4600e-003	406.7639
2025	1.6008	1.2131	1.6253	2.8300e-003	0.0185	0.0506	0.0692	5.0100e-003	0.0476	0.0526	0.0000	245.9720	245.9720	0.0544	2.0100e-003	247.9287
Maximum	**1.6008**	**2.2810**	**2.4673**	**4.6300e-003**	**0.2834**	**0.0999**	**0.3833**	**0.1209**	**0.0932**	**0.2142**	**0.0000**	**403.5162**	**403.5162**	**0.1006**	**2.4600e-003**	**406.7639**

Middletown Rancheria Martin-Scott FTT - Lake County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-1-2024**	**3-31-2024**	1.0043	1.0043
2	**4-1-2024**	**6-30-2024**	0.5029	0.5029
3	**7-1-2024**	**9-30-2024**	0.5084	0.5084
4	**10-1-2024**	**12-31-2024**	0.5095	0.5095
5	**1-1-2025**	**3-31-2025**	0.4629	0.4629
6	**4-1-2025**	**6-30-2025**	0.4670	0.4670
7	**7-1-2025**	**9-30-2025**	0.6147	0.6147
		Highest	1.0043	1.0043

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	3.6636	0.0656	4.2440	7.0400e-003		0.5450	0.5450		0.5450	0.5450	51.6479	22.2672	73.9151	0.0483	4.0600e-003	76.3318
Energy	3.0000e-003	0.0256	0.0109	1.6000e-004		2.0700e-003	2.0700e-003		2.0700e-003	2.0700e-003	0.0000	66.4992	66.4992	6.5200e-003	1.2700e-003	67.0396
Mobile	0.4254	0.5933	3.4728	5.3200e-003	0.4932	6.2900e-003	0.4995	0.1321	5.9100e-003	0.1381	0.0000	490.2669	490.2669	0.0409	0.0293	500.0124
Waste						0.0000	0.0000		0.0000	0.0000	11.4649	0.0000	11.4649	0.6776	0.0000	28.4039
Water						0.0000	0.0000		0.0000	0.0000	1.2767	2.8417	4.1184	0.1316	3.1500e-003	8.3474
Total	**4.0920**	**0.6845**	**7.7276**	**0.0125**	**0.4932**	**0.5534**	**1.0466**	**0.1321**	**0.5530**	**0.6852**	**64.3895**	**581.8750**	**646.2645**	**0.9048**	**0.0378**	**680.1350**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	3.6636	0.0656	4.2440	7.0400e-003		0.5450	0.5450		0.5450	0.5450	51.6479	22.2672	73.9151	0.0483	4.0600e-003	76.3318
Energy	3.0000e-003	0.0256	0.0109	1.6000e-004		2.0700e-003	2.0700e-003		2.0700e-003	2.0700e-003	0.0000	66.4992	66.4992	6.5200e-003	1.2700e-003	67.0396
Mobile	0.4254	0.5933	3.4728	5.3200e-003	0.4932	6.2900e-003	0.4995	0.1321	5.9100e-003	0.1381	0.0000	490.2669	490.2669	0.0409	0.0293	500.0124
Waste						0.0000	0.0000		0.0000	0.0000	11.4649	0.0000	11.4649	0.6776	0.0000	28.4039
Water						0.0000	0.0000		0.0000	0.0000	1.2767	2.8417	4.1184	0.1316	3.1500e-003	8.3474
Total	**4.0920**	**0.6845**	**7.7276**	**0.0125**	**0.4932**	**0.5534**	**1.0466**	**0.1321**	**0.5530**	**0.6852**	**64.3895**	**581.8750**	**646.2645**	**0.9048**	**0.0378**	**680.1350**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.3 Vegetation

Vegetation

	CO2e
Category	MT
New Trees	48.1440
Total	**48.1440**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2024	1/26/2024	5	20	
2	Site Preparation	Site Preparation	1/27/2024	2/9/2024	5	10	
3	Grading	Grading	2/10/2024	3/29/2024	5	35	
4	Building Construction	Building Construction	3/30/2024	8/29/2025	5	370	
5	Paving	Paving	8/30/2025	9/26/2025	5	20	
6	Architectural Coating	Architectural Coating	9/27/2025	10/24/2025	5	20	

Acres of Grading (Site Preparation Phase): 15

Acres of Grading (Grading Phase): 105

Acres of Paving: 0

Residential Indoor: 182,250; Residential Outdoor: 60,750; Non-Residential Indoor: 6,750; Non-Residential Outdoor: 2,250; Striped Parking Area: 0 (Architectural Coating – sqft)

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	7.00	231	0.29
Demolition	Excavators	3	8.00	158	0.38
Grading	Excavators	2	8.00	158	0.38
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Building Construction	9	20.00	6.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	4.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0224	0.2088	0.1971	3.9000e-004		9.6000e-003	9.6000e-003		8.9200e-003	8.9200e-003	0.0000	33.9961	33.9961	9.5100e-003	0.0000	34.2338
Total	**0.0224**	**0.2088**	**0.1971**	**3.9000e-004**		**9.6000e-003**	**9.6000e-003**		**8.9200e-003**	**8.9200e-003**	**0.0000**	**33.9961**	**33.9961**	**9.5100e-003**	**0.0000**	**34.2338**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.0000e-004	5.4000e-004	5.3900e-003	1.0000e-005	1.1800e-003	1.0000e-005	1.1900e-003	3.1000e-004	1.0000e-005	3.2000e-004	0.0000	0.9809	0.9809	5.0000e-005	4.0000e-005	0.9938
Total	**9.0000e-004**	**5.4000e-004**	**5.3900e-003**	**1.0000e-005**	**1.1800e-003**	**1.0000e-005**	**1.1900e-003**	**3.1000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.9809**	**0.9809**	**5.0000e-005**	**4.0000e-005**	**0.9938**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0224	0.2088	0.1971	3.9000e-004		9.6000e-003	9.6000e-003		8.9200e-003	8.9200e-003	0.0000	33.9960	33.9960	9.5100e-003	0.0000	34.2338
Total	**0.0224**	**0.2088**	**0.1971**	**3.9000e-004**		**9.6000e-003**	**9.6000e-003**		**8.9200e-003**	**8.9200e-003**	**0.0000**	**33.9960**	**33.9960**	**9.5100e-003**	**0.0000**	**34.2338**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.0000e-004	5.4000e-004	5.3900e-003	1.0000e-005	1.1800e-003	1.0000e-005	1.1900e-003	3.1000e-004	1.0000e-005	3.2000e-004	0.0000	0.9809	0.9809	5.0000e-005	4.0000e-005	0.9938
Total	**9.0000e-004**	**5.4000e-004**	**5.3900e-003**	**1.0000e-005**	**1.1800e-003**	**1.0000e-005**	**1.1900e-003**	**3.1000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.9809**	**0.9809**	**5.0000e-005**	**4.0000e-005**	**0.9938**

3.3 Site Preparation - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0983	0.0000	0.0983	0.0505	0.0000	0.0505	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0133	0.1359	0.0917	1.9000e-004		6.1500e-003	6.1500e-003		5.6600e-003	5.6600e-003	0.0000	16.7285	16.7285	5.4100e-003	0.0000	16.8638
Total	**0.0133**	**0.1359**	**0.0917**	**1.9000e-004**	**0.0983**	**6.1500e-003**	**0.1044**	**0.0505**	**5.6600e-003**	**0.0562**	**0.0000**	**16.7285**	**16.7285**	**5.4100e-003**	**0.0000**	**16.8638**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	3.2000e-004	3.2400e-003	1.0000e-005	7.1000e-004	0.0000	7.1000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.5886	0.5886	3.0000e-005	2.0000e-005	0.5963
Total	**5.4000e-004**	**3.2000e-004**	**3.2400e-003**	**1.0000e-005**	**7.1000e-004**	**0.0000**	**7.1000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.5886**	**0.5886**	**3.0000e-005**	**2.0000e-005**	**0.5963**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0983	0.0000	0.0983	0.0505	0.0000	0.0505	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0133	0.1359	0.0917	1.9000e-004		6.1500e-003	6.1500e-003		5.6500e-003	5.6500e-003	0.0000	16.7285	16.7285	5.4100e-003	0.0000	16.8638
Total	**0.0133**	**0.1359**	**0.0917**	**1.9000e-004**	**0.0983**	**6.1500e-003**	**0.1044**	**0.0505**	**5.6500e-003**	**0.0562**	**0.0000**	**16.7285**	**16.7285**	**5.4100e-003**	**0.0000**	**16.8638**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	3.2000e-004	3.2400e-003	1.0000e-005	7.1000e-004	0.0000	7.1000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.5886	0.5886	3.0000e-005	2.0000e-005	0.5963
Total	**5.4000e-004**	**3.2000e-004**	**3.2400e-003**	**1.0000e-005**	**7.1000e-004**	**0.0000**	**7.1000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.5886**	**0.5886**	**3.0000e-005**	**2.0000e-005**	**0.5963**

3.4 Grading - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1611	0.0000	0.1611	0.0639	0.0000	0.0639	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0563	0.5666	0.4852	1.0900e-003		0.0234	0.0234		0.0215	0.0215	0.0000	95.4092	95.4092	0.0309	0.0000	96.1806
Total	**0.0563**	**0.5666**	**0.4852**	**1.0900e-003**	**0.1611**	**0.0234**	**0.1844**	**0.0639**	**0.0215**	**0.0854**	**0.0000**	**95.4092**	**95.4092**	**0.0309**	**0.0000**	**96.1806**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1000e-003	1.2500e-003	0.0126	2.0000e-005	2.7600e-003	2.0000e-005	2.7800e-003	7.3000e-004	2.0000e-005	7.5000e-004	0.0000	2.2889	2.2889	1.1000e-004	9.0000e-005	2.3188
Total	**2.1000e-003**	**1.2500e-003**	**0.0126**	**2.0000e-005**	**2.7600e-003**	**2.0000e-005**	**2.7800e-003**	**7.3000e-004**	**2.0000e-005**	**7.5000e-004**	**0.0000**	**2.2889**	**2.2889**	**1.1000e-004**	**9.0000e-005**	**2.3188**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1611	0.0000	0.1611	0.0639	0.0000	0.0639	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0563	0.5666	0.4852	1.0900e-003		0.0234	0.0234		0.0215	0.0215	0.0000	95.4091	95.4091	0.0309	0.0000	96.1805
Total	**0.0563**	**0.5666**	**0.4852**	**1.0900e-003**	**0.1611**	**0.0234**	**0.1844**	**0.0639**	**0.0215**	**0.0854**	**0.0000**	**95.4091**	**95.4091**	**0.0309**	**0.0000**	**96.1805**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1000e-003	1.2500e-003	0.0126	2.0000e-005	2.7600e-003	2.0000e-005	2.7800e-003	7.3000e-004	2.0000e-005	7.5000e-004	0.0000	2.2889	2.2889	1.1000e-004	9.0000e-005	2.3188
Total	**2.1000e-003**	**1.2500e-003**	**0.0126**	**2.0000e-005**	**2.7600e-003**	**2.0000e-005**	**2.7800e-003**	**7.3000e-004**	**2.0000e-005**	**7.5000e-004**	**0.0000**	**2.2889**	**2.2889**	**1.1000e-004**	**9.0000e-005**	**2.3188**

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1450	1.3242	1.5924	2.6500e-003		0.0604	0.0604		0.0568	0.0568	0.0000	228.3714	228.3714	0.0540	0.0000	229.7215
Total	**0.1450**	**1.3242**	**1.5924**	**2.6500e-003**		**0.0604**	**0.0604**		**0.0568**	**0.0568**	**0.0000**	**228.3714**	**228.3714**	**0.0540**	**0.0000**	**229.7215**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.1000e-003	0.0363	8.8600e-003	1.3000e-004	3.8700e-003	2.1000e-004	4.0800e-003	1.1200e-003	2.0000e-004	1.3200e-003	0.0000	12.2703	12.2703	5.0000e-005	1.7900e-003	12.8043
Worker	0.0118	7.0500e-003	0.0708	1.4000e-004	0.0155	1.1000e-004	0.0156	4.1300e-003	1.0000e-004	4.2300e-003	0.0000	12.8829	12.8829	6.1000e-004	5.1000e-004	13.0515
Total	**0.0129**	**0.0434**	**0.0797**	**2.7000e-004**	**0.0194**	**3.2000e-004**	**0.0197**	**5.2500e-003**	**3.0000e-004**	**5.5500e-003**	**0.0000**	**25.1532**	**25.1532**	**6.6000e-004**	**2.3000e-003**	**25.8558**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1450	1.3242	1.5924	2.6500e-003		0.0604	0.0604		0.0568	0.0568	0.0000	228.3711	228.3711	0.0540	0.0000	229.7212
Total	**0.1450**	**1.3242**	**1.5924**	**2.6500e-003**		**0.0604**	**0.0604**		**0.0568**	**0.0568**	**0.0000**	**228.3711**	**228.3711**	**0.0540**	**0.0000**	**229.7212**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.1000e-003	0.0363	8.8600e-003	1.3000e-004	3.8700e-003	2.1000e-004	4.0800e-003	1.1200e-003	2.0000e-004	1.3200e-003	0.0000	12.2703	12.2703	5.0000e-005	1.7900e-003	12.8043
Worker	0.0118	7.0500e-003	0.0708	1.4000e-004	0.0155	1.1000e-004	0.0156	4.1300e-003	1.0000e-004	4.2300e-003	0.0000	12.8829	12.8829	6.1000e-004	5.1000e-004	13.0515
Total	**0.0129**	**0.0434**	**0.0797**	**2.7000e-004**	**0.0194**	**3.2000e-004**	**0.0197**	**5.2500e-003**	**3.0000e-004**	**5.5500e-003**	**0.0000**	**25.1532**	**25.1532**	**6.6000e-004**	**2.3000e-003**	**25.8558**

3.5 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1183	1.0786	1.3913	2.3300e-003		0.0456	0.0456		0.0429	0.0429	0.0000	200.6103	200.6103	0.0472	0.0000	201.7893
Total	**0.1183**	**1.0786**	**1.3913**	**2.3300e-003**		**0.0456**	**0.0456**		**0.0429**	**0.0429**	**0.0000**	**200.6103**	**200.6103**	**0.0472**	**0.0000**	**201.7893**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.1000e-004	0.0311	7.4600e-003	1.1000e-004	3.3900e-003	1.8000e-004	3.5700e-003	9.8000e-004	1.7000e-004	1.1500e-003	0.0000	10.6347	10.6347	4.0000e-005	1.5500e-003	11.0968
Worker	9.6200e-003	5.4800e-003	0.0565	1.2000e-004	0.0136	9.0000e-005	0.0137	3.6300e-003	8.0000e-005	3.7100e-003	0.0000	10.9520	10.9520	4.8000e-004	4.1000e-004	11.0874
Total	**0.0105**	**0.0366**	**0.0639**	**2.3000e-004**	**0.0170**	**2.7000e-004**	**0.0173**	**4.6100e-003**	**2.5000e-004**	**4.8600e-003**	**0.0000**	**21.5866**	**21.5866**	**5.2000e-004**	**1.9600e-003**	**22.1842**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1183	1.0786	1.3913	2.3300e-003		0.0456	0.0456		0.0429	0.0429	0.0000	200.6101	200.6101	0.0472	0.0000	201.7890
Total	**0.1183**	**1.0786**	**1.3913**	**2.3300e-003**		**0.0456**	**0.0456**		**0.0429**	**0.0429**	**0.0000**	**200.6101**	**200.6101**	**0.0472**	**0.0000**	**201.7890**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.1000e-004	0.0311	7.4600e-003	1.1000e-004	3.3900e-003	1.8000e-004	3.5700e-003	9.8000e-004	1.7000e-004	1.1500e-003	0.0000	10.6347	10.6347	4.0000e-005	1.5500e-003	11.0968
Worker	9.6200e-003	5.4800e-003	0.0565	1.2000e-004	0.0136	9.0000e-005	0.0137	3.6300e-003	8.0000e-005	3.7100e-003	0.0000	10.9520	10.9520	4.8000e-004	4.1000e-004	11.0874
Total	**0.0105**	**0.0366**	**0.0639**	**2.3000e-004**	**0.0170**	**2.7000e-004**	**0.0173**	**4.6100e-003**	**2.5000e-004**	**4.8600e-003**	**0.0000**	**21.5866**	**21.5866**	**5.2000e-004**	**1.9600e-003**	**22.1842**

3.6 Paving - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.1500e-003	0.0858	0.1458	2.3000e-004		4.1900e-003	4.1900e-003		3.8500e-003	3.8500e-003	0.0000	20.0193	20.0193	6.4700e-003	0.0000	20.1811
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.1500e-003**	**0.0858**	**0.1458**	**2.3000e-004**		**4.1900e-003**	**4.1900e-003**		**3.8500e-003**	**3.8500e-003**	**0.0000**	**20.0193**	**20.0193**	**6.4700e-003**	**0.0000**	**20.1811**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.3000e-004	4.7000e-004	4.9000e-003	1.0000e-005	1.1800e-003	1.0000e-005	1.1900e-003	3.1000e-004	1.0000e-005	3.2000e-004	0.0000	0.9496	0.9496	4.0000e-005	4.0000e-005	0.9613
Total	**8.3000e-004**	**4.7000e-004**	**4.9000e-003**	**1.0000e-005**	**1.1800e-003**	**1.0000e-005**	**1.1900e-003**	**3.1000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.9496**	**0.9496**	**4.0000e-005**	**4.0000e-005**	**0.9613**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.1500e-003	0.0858	0.1458	2.3000e-004		4.1900e-003	4.1900e-003		3.8500e-003	3.8500e-003	0.0000	20.0192	20.0192	6.4700e-003	0.0000	20.1811
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.1500e-003**	**0.0858**	**0.1458**	**2.3000e-004**		**4.1900e-003**	**4.1900e-003**		**3.8500e-003**	**3.8500e-003**	**0.0000**	**20.0192**	**20.0192**	**6.4700e-003**	**0.0000**	**20.1811**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.3000e-004	4.7000e-004	4.9000e-003	1.0000e-005	1.1800e-003	1.0000e-005	1.1900e-003	3.1000e-004	1.0000e-005	3.2000e-004	0.0000	0.9496	0.9496	4.0000e-005	4.0000e-005	0.9613
Total	**8.3000e-004**	**4.7000e-004**	**4.9000e-003**	**1.0000e-005**	**1.1800e-003**	**1.0000e-005**	**1.1900e-003**	**3.1000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.9496**	**0.9496**	**4.0000e-005**	**4.0000e-005**	**0.9613**

3.7 Architectural Coating - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.4600					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7100e-003	0.0115	0.0181	3.0000e-005		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5567
Total	**1.4617**	**0.0115**	**0.0181**	**3.0000e-005**		**5.2000e-004**	**5.2000e-004**		**5.2000e-004**	**5.2000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.4000e-004**	**0.0000**	**2.5567**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Architectural Coating - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2000e-004	1.3000e-004	1.3100e-003	0.0000	3.2000e-004	0.0000	3.2000e-004	8.0000e-005	0.0000	9.0000e-005	0.0000	0.2532	0.2532	1.0000e-005	1.0000e-005	0.2564
Total	**2.2000e-004**	**1.3000e-004**	**1.3100e-003**	**0.0000**	**3.2000e-004**	**0.0000**	**3.2000e-004**	**8.0000e-005**	**0.0000**	**9.0000e-005**	**0.0000**	**0.2532**	**0.2532**	**1.0000e-005**	**1.0000e-005**	**0.2564**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.4600					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7100e-003	0.0115	0.0181	3.0000e-005		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5567
Total	**1.4617**	**0.0115**	**0.0181**	**3.0000e-005**		**5.2000e-004**	**5.2000e-004**		**5.2000e-004**	**5.2000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.4000e-004**	**0.0000**	**2.5567**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Architectural Coating - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2000e-004	1.3000e-004	1.3100e-003	0.0000	3.2000e-004	0.0000	3.2000e-004	8.0000e-005	0.0000	9.0000e-005	0.0000	0.2532	0.2532	1.0000e-005	1.0000e-005	0.2564
Total	**2.2000e-004**	**1.3000e-004**	**1.3100e-003**	**0.0000**	**3.2000e-004**	**0.0000**	**3.2000e-004**	**8.0000e-005**	**0.0000**	**9.0000e-005**	**0.0000**	**0.2532**	**0.2532**	**1.0000e-005**	**1.0000e-005**	**0.2564**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Middletown Rancheria Martin-Scott FTT - Lake County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4254	0.5933	3.4728	5.3200e-003	0.4932	6.2900e-003	0.4995	0.1321	5.9100e-003	0.1381	0.0000	490.2669	490.2669	0.0409	0.0293	500.0124
Unmitigated	0.4254	0.5933	3.4728	5.3200e-003	0.4932	6.2900e-003	0.4995	0.1321	5.9100e-003	0.1381	0.0000	490.2669	490.2669	0.0409	0.0293	500.0124

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	472.00	477.00	427.50	1,334,830	1,334,830
User Defined Recreational	0.00	0.00	0.00		
Total	472.00	477.00	427.50	1,334,830	1,334,830

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	42.30	19.60	38.10	86	11	3
User Defined Recreational	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.464659	0.064863	0.191817	0.155973	0.051760	0.009603	0.008536	0.006240	0.000416	0.000000	0.037661	0.001217	0.007255
User Defined Recreational	0.464659	0.064863	0.191817	0.155973	0.051760	0.009603	0.008536	0.006240	0.000416	0.000000	0.037661	0.001217	0.007255

5.0 Energy Detail

Middletown Rancheria Martin-Scott FTT - Lake County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	36.8079	36.8079	5.9500e-003	7.2000e-004	37.1719
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	36.8079	36.8079	5.9500e-003	7.2000e-004	37.1719
NaturalGas Mitigated	3.0000e-003	0.0256	0.0109	1.6000e-004		2.0700e-003	2.0700e-003		2.0700e-003	2.0700e-003	0.0000	29.6913	29.6913	5.7000e-004	5.4000e-004	29.8677
NaturalGas Unmitigated	3.0000e-003	0.0256	0.0109	1.6000e-004		2.0700e-003	2.0700e-003		2.0700e-003	2.0700e-003	0.0000	29.6913	29.6913	5.7000e-004	5.4000e-004	29.8677

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	556393	3.0000e-003	0.0256	0.0109	1.6000e-004		2.0700e-003	2.0700e-003		2.0700e-003	2.0700e-003	0.0000	29.6913	29.6913	5.7000e-004	5.4000e-004	29.8677
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**3.0000e-003**	**0.0256**	**0.0109**	**1.6000e-004**		**2.0700e-003**	**2.0700e-003**		**2.0700e-003**	**2.0700e-003**	**0.0000**	**29.6913**	**29.6913**	**5.7000e-004**	**5.4000e-004**	**29.8677**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	556393	3.0000e-003	0.0256	0.0109	1.6000e-004		2.0700e-003	2.0700e-003		2.0700e-003	2.0700e-003	0.0000	29.6913	29.6913	5.7000e-004	5.4000e-004	29.8677
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**3.0000e-003**	**0.0256**	**0.0109**	**1.6000e-004**		**2.0700e-003**	**2.0700e-003**		**2.0700e-003**	**2.0700e-003**	**0.0000**	**29.6913**	**29.6913**	**5.7000e-004**	**5.4000e-004**	**29.8677**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	397821	36.8079	5.9500e-003	7.2000e-004	37.1719
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000
Total		**36.8079**	**5.9500e-003**	**7.2000e-004**	**37.1719**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	397821	36.8079	5.9500e-003	7.2000e-004	37.1719
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000
Total		**36.8079**	**5.9500e-003**	**7.2000e-004**	**37.1719**

6.0 Area Detail

Middletown Rancheria Martin-Scott FTT - Lake County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.6636	0.0656	4.2440	7.0400e-003		0.5450	0.5450		0.5450	0.5450	51.6479	22.2672	73.9151	0.0483	4.0600e-003	76.3318
Unmitigated	3.6636	0.0656	4.2440	7.0400e-003		0.5450	0.5450		0.5450	0.5450	51.6479	22.2672	73.9151	0.0483	4.0600e-003	76.3318

Middletown Rancheria Martin-Scott FTT - Lake County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1460					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3691					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.1373	0.0613	3.8727	7.0200e-003		0.5430	0.5430		0.5430	0.5430	51.6479	21.6604	73.3083	0.0477	4.0600e-003	75.7104
Landscaping	0.0112	4.2800e-003	0.3713	2.0000e-005		2.0600e-003	2.0600e-003		2.0600e-003	2.0600e-003	0.0000	0.6068	0.6068	5.8000e-004	0.0000	0.6214
Total	**3.6636**	**0.0656**	**4.2440**	**7.0400e-003**		**0.5450**	**0.5450**		**0.5450**	**0.5450**	**51.6479**	**22.2672**	**73.9151**	**0.0482**	**4.0600e-003**	**76.3318**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1460					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3691					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.1373	0.0613	3.8727	7.0200e-003		0.5430	0.5430		0.5430	0.5430	51.6479	21.6604	73.3083	0.0477	4.0600e-003	75.7104
Landscaping	0.0112	4.2800e-003	0.3713	2.0000e-005		2.0600e-003	2.0600e-003		2.0600e-003	2.0600e-003	0.0000	0.6068	0.6068	5.8000e-004	0.0000	0.6214
Total	**3.6636**	**0.0656**	**4.2440**	**7.0400e-003**		**0.5450**	**0.5450**		**0.5450**	**0.5450**	**51.6479**	**22.2672**	**73.9151**	**0.0482**	**4.0600e-003**	**76.3318**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	4.1184	0.1316	3.1500e-003	8.3474
Unmitigated	4.1184	0.1316	3.1500e-003	8.3474

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	3.2577 / 2.05377	3.3296	0.1065	2.5500e-003	6.7530
User Defined Recreational	0.7665 / 0.5	0.7888	0.0251	6.0000e-004	1.5944
Total		**4.1184**	**0.1316**	**3.1500e-003**	**8.3474**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	3.2577 / 2.05377	3.3296	0.1065	2.5500e-003	6.7530
User Defined Recreational	0.7665 / 0.5	0.7888	0.0251	6.0000e-004	1.5944
Total		**4.1184**	**0.1316**	**3.1500e-003**	**8.3474**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	11.4649	0.6776	0.0000	28.4039
Unmitigated	11.4649	0.6776	0.0000	28.4039

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	51.48	10.4500	0.6176	0.0000	25.8894
User Defined Recreational	5	1.0150	0.0600	0.0000	2.5145
Total		**11.4649**	**0.6776**	**0.0000**	**28.4039**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	51.48	10.4500	0.6176	0.0000	25.8894
User Defined Recreational	5	1.0150	0.0600	0.0000	2.5145
Total		**11.4649**	**0.6776**	**0.0000**	**28.4039**

9.0 Operational Offroad

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	48.1440	0.0000	0.0000	48.1440

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

11.2 Net New Trees

Species Class

	Number of Trees	Total CO2	CH4	N2O	CO2e
		MT			
Miscellaneous	68	48.1440	0.0000	0.0000	48.1440
Total		**48.1440**	**0.0000**	**0.0000**	**48.1440**

Appendix D
Biological Assessment

BIOLOGICAL ASSESSMENT
FOR THE SCOTT PROPERTY (22033 SOUTH STATE HIGHWAY 29) AND THE MARTIN RANCH PROPERTY (22433 HIGHWAY 29), MIDDLETOWN, CALIFORNIA

Prepared July-November 2021
Updated May 2023

Prepared for:

Middletown Rancheria Tribe of Pomo Indians of California

Prepared by:

Natural Investigations Company
3104 O Street #221, Sacramento, CA 95816

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1. INTRODUCTION

1.1. PURPOSE AND SCOPE OF ASSESSMENT

In support of the environmental review process, Natural Investigations Co. has prepared this assessment to provide information on biological resources within the Action Area. This assessment identifies the biological resources within the Action Area, the regulatory environment affecting such resources, any potential Project-related impacts upon these resources, and identifies mitigation measures to reduce these impacts.

The purpose of this biological assessment is to provide technical information and to review the proposed project in sufficient detail to determine to what extent the proposed project may affect threatened, endangered, or proposed species. The biological assessment is prepared in accordance with legal requirements found in Section 7 (a)(2) of the Endangered Species Act (16 U.S. C 1536(c)). The purpose of a biological assessment is to evaluate the potential effects of the action on listed and proposed species and designated and proposed critical habitat and determine whether any such species or habitat are likely to be adversely affected by the action.

The specific scope of services performed for this Biological Assessment consisted of the following tasks:

- Compile all readily-available historical biological resource information about the Action Area;
- Spatially query state and federal databases for any historic occurrences of listed species or critical habitats within the Action Area and vicinity;
- Perform field surveys of the Action Area, including photographic documentation;
- Inventory all flora and fauna observed during the field surveys;
- Characterize and map the habitat types present within the Action Area, including any potentially-jurisdictional water resources;
- protocol botanical surveys
- Evaluate the likelihood for the occurrence of any listed species;
- Assess the potential for the Project to adversely impact any sensitive biological resources;
- Recommend mitigation measures designed to avoid or minimize Project-related impacts; and
- Prepare and submit a report summarizing all of the above tasks.

The scope of services does not include other services that are not described in this Section, such as focused surveys or protocol-level surveys for listed species.

1.2. DESCRIPTION OF THE PROPOSED ACTION AND THE ACTION AREA

The proposed project involves 3 parcels in Middletown, California (see Exhibits):

- the “Scott Property, located at 22033 South State Highway 29, Assessor Parcel Number (APN) 014-160-09, 8.39 acres, and APN 014-160-05, 0.46 acres.
- the “Martin Property, located at 22433 Highway 29, APN 014-005-34, 52.65 acres.

The proposed action is the transfer of the title of the 3 parcels from fee simple to federal trust, which will transform the parcels into tribal land of the Middletown Rancheria Tribe of Pomo Indians of California (Tribe).

The Tribe has the following future development plans for the Scott Property:

- a parking lot, asphalt paved, with 135 spaces for overflow parking for the casino, and
- an RV park, 21 spaces, with a community area for picnics and child play

The remaining western third of the property will not be redeveloped, but remain in rural residential land use.

Surface runoff from the proposed roadways would be directed through biofiltration swales (bioswales) to offset the added impervious area. The bioswales, planted with native grasses, would treat 100% of the runoff. Bioswales are specifically designed to remove fine sediment and pollution in water runoff. They are most commonly constructed as vegetated trapezoidal channels which receive and convey storm water flows while providing compliance with water quality and flow criteria. Pollutants are removed by a filtration process involving vegetation, the uptake by plant biomass, sedimentation, adsorption to soil particles, and infiltration through the soil. The bioswales would augment the existing drainage ditches and tie into existing wetland swales to help maintain the current hydrology of the site.

For purposes of this biological assessment, we assumed that the Action Area of the Scott Property was the entire parcel.

The Tribe has the following future development plans for the Martin Property:

- The proposed project is the construction of 45 residences to be built on the grasslands and an abandoned vineyard in the eastern portion of the Property. A network of new residential streets will provide access to these new homes. In addition, the Project will include up to 5 cabins to be set within existing forested habitat in the western portion of the property. Access to these cabins will be via a new driveway to a parking lot which will also be placed within existing forested habitat. Hiking trails would be created along through forest to the ponds.

For purposes of this biological assessment, the Martin Property Project Area was defined as the 22-acre area where development is proposed, including the residences, cabins, and roads. The entire 52.65-acre property was defined as the Martin Property Action Area. The Action Area is defined to identify biological resources adjacent to the Project Area, and is the area subject to potential indirect effects from Project implementation.

1.3. Listed Species and Critical Habitat

1.3.1. Critical Habitats

There are no critical habitats within, or adjacent to, the Action Area. The nearest critical habitat is 4 miles to the southeast of the Action Area for Northern Spotted Owl (*Strix occidentalis caurina*).

1.3.2. USFWS Species List

A USFWS species list was generated online using the USFWS' IPaC Trust Resource Report System (see Exhibits). This list is generated using a regional and/or watershed approach and does not necessarily indicate that the Action Area provides suitable habitat. The following listed species should be considered in the impact assessment:

- Northern Spotted Owl *Strix occidentalis caurina*
- Green Sea Turtle *Chelonia mydas*
- California Red-legged Frog *Rana draytonii*
- Delta Smelt *Hypomesus transpacificus*
- California Freshwater Shrimp *Syncaris pacifica*
- Burke's Goldfields *Lasthenia burkei*
- Kenwood Marsh Checker-mallow *Sidalcea oregana* ssp*. valida*
- Sebastopol Meadowfoam *Limnanthes vinculans*

Migratory birds should also be considered. Under the Migratory Bird Treaty Act of 1918 (16 USC §703-711), migratory bird species and their nests and eggs that are on the federal list (50 CFR §10.13) are protected from injury or death, and project-related disturbances must be reduced or eliminated during the nesting cycle.

1.3.1. Historical Occurrences of Listed Species

The CNDDB and CNPS databases were queried and any reported occurrences of listed species were plotted in relation to the Action Area boundary using GIS software (see Exhibits). No federally-listed species occurrences are reported within the Action Area. The CNDDB has mapped occurrences of prairie falcon (*Falco mexicanus*) in 1979 and American peregrine falcon (*Falco peregrinus anatum*) from 2001 in the vicinity of the Action Area. However, these occurrences are an artifact of the mapping process at CNDDB. The specific locations have been obscured by the CNDDB in order to protect these species. Suitable cliff nesting habitat for these species is not found within the Action Area.

1.4. Consultation to Date

Informal consultation will be initiated with USFWS by the U.S. Bureau of Indian Affairs, who must consult with USFWS before approval of the fee-to-trust transfer.

2. ENVIRONMENTAL SETTING

The Action Area is located within the Inner North Coast Range geographic subregion, which is contained within the Northwestern California geographic subdivision of the larger California Floristic Province (Baldwin et al. 2012). This region has a Mediterranean-type climate, characterized by distinct seasons of hot, dry summers and wet, moderately-cold winters. The Action Area and vicinity is in Climate Zone 14 “Northern California’s Inland Areas with Some Ocean Influence“, with maritime air moderating temperatures that would otherwise be hotter in summer and colder in the winter (Sunset, 2021). The Action Area is located in the Census-Dedicated Place of Middletown, in an area zoned for agricultural and rural residential uses. The topography of the Action Area is that of the gently sloping toe of the eastern slope of the Mayacamas Mountains as it transitions to the Collayomi Valley. The elevation ranges from approximately 1,150 feet to 1,385 feet above mean sea level. Drainage runs east, and eventually flows into St. Helena Creek.

On the Scott Property, there are several rural residences on the western-southwestern portion of the property. An overflow parking area for the Twin Pines Casino is present on the eastern portion of the Scott Property. The remainder of the Scott Property is open space. The parcels surrounding the Scott Property are used for a mixture of agricultural, residential, and commercial purposes. To the north are rural residences and pastureland, and to the south is Twin Pines Casino. Pastureland and open space are west of the Scott Property, while Highway 29 and vineyards are present to the east.

The eastern portion of the Martin Property (approximately 8 acres) is used for residential space and pastureland for horses. There are 16 acres of vineyards in the middle of the Martin Property which have been abandoned for several years and are no longer actively cultivated. Improvements consist of two single-story homes, storage sheds, and a horse stable. The western half of the Martin Property is 27 acres of primarily undeveloped, forested open space. Three spring-fed ponds are present in this area and may have historically been used to irrigate the vineyards. A small creek connects the southern and northern ponds. Dense vegetation and areas of steep terrain surround the ponds. Footpaths are present around the vineyards and to each pond. An additional pond is present between the pastureland and vineyards along the northern portion of the Martin Property. There is one groundwater well near the eastern Property boundary, northeast of the residence. Maps provided by the Middletown Rancheria Tribe of Pomo Indians staff indicate there are three additional wells on the Martin Property, which are not in use and may have been abandoned due to inadequate yield. Wastewater is disposed of via two septic systems near each residence. The Martin Property is bounded by Highway 29 to the east, the Middletown Rancheria and Twin Pines Casino to the north, and agriculture and rural residences to the east and south.

According to the NRCS SoilWeb, five soil units have been mapped within the Action Area (see Exhibits): 144 - Jafa loam, 2 to 5 percent slopes; 145 - Jafa loam, 5 to 15 percent slopes; 186 - Neuns-Sanhedrin-Deadwood complex, 30 to 50 percent slopes; 202 - Sanhedrin-Kekawaka-Speaker complex, 30 to 50

percent slopes; and 256 - Water. Soil map unit 144 - Jafa loam, 2 to 5 percent slopes includes hydric components (NRCS 2017b). None of the NRCS-mapped soil units within the Action Area are serpentinite-derived, although serpentinite outcrops were observed during the ECORP (2018) field visit and soil units with serpentinite parent material are mapped within approximately 0.5 mile. The western edge of the Martin Property may have serpentine soils, and corresponds roughly to the gray pine community boundary. The Martin Property Project Area is not known to have serpentine soils.

3. RESULTS OF FIELD SURVEYS

Scott Property:

- Consulting biologist Kristen Ahrens, MS, conducted a wildlife and botanical survey on May 31, 2021. No federally-listed species were detected.

Martin Property

- During the March 14, 2017, wildlife survey and botanical field survey by ECORP (2018), biologists detected no federally-listed species.

- A northern spotted owl survey was performed in 2018 by Tanner Environmental Services. During the May 3, 2018, bird survey by Tanner (2018), no northern spotted owls were detected.

- Biologists from ECORP Consulting performed protocol botanical field surveys on May 2 and 3, 2018, and again in July 2018. No federally-listed species were detected.

- Consulting biologist Tim Nosal, MS. conducted a wildlife survey and botanical field survey on October 25, 2021. No federally-listed species were detected.

3.1. TERRESTRIAL VEGETATION COMMUNITIES

All plants detected during the numerous field surveys of the Action Area are listed in the Appendices.

On the Scott Property, the following vegetation communities occur (see Exhibits):

Disturbed/Developed. These areas consist of disturbed or converted natural habitat that is now either in ruderal state, graded, or urbanized with gravel roads. Vegetation within this habitat type consists primarily of nonnative weedy or invasive species lacking a consistent community structure. This habitat type provides limited resources for wildlife and is utilized primarily by species tolerant of human activities. The disturbed and altered condition of these lands greatly reduces their habitat value and ability to sustain rare plants or diverse wildlife assemblages.

Annual Grassland: The annual grassland habitat is comprised largely of non-native annual grasses and native herbs with some native perennial grasses also important. This vegetation has been heavily grazed. Plants common in this habitat type include slender wild oat (*Avena barbata*), California horkelia (*Horkelia californica*), ripgut brome (*Bromus diandrus*) and English plantain (*Plantago lanceolata*). This vegetation can be classified as the Holland Type "Non-native Grassland" or as "44.150.02 *Avena barbata* Wild Oats Grasslands" (CDFW 2021e).

Mixed Oak – Conifer Woodland. Portions of the Scott Property are characterized by a tree canopy dominated by oaks—California black oak (*Quercus douglasii*) and blue oak (*Quercus douglasii*)— with occasional gray pine (*Pinus sabiniana*), Douglas fir (*Pseudotsuga menziesii*), and ponderosa pine (*Pinus ponderosa*). This vegetation can be classified as a mixture of the Holland Types "71.010.26 *Quercus kelloggii – Pinus ponderosa* (California Black Oak Forest)", "87.400.04 Ponderosa pine – Douglas Fir Forest", and "87.130.00 *Pinus sabiniana* Foothill Pine Woodland" (CDFW 2021e).

The Martin Property contains the following terrestrial vegetation communities (see Exhibits):

Disturbed/Developed. These areas consist of disturbed or converted natural habitat that is now either in ruderal state, graded, or urbanized with gravel roads. Vegetation within this habitat type consists primarily of nonnative weedy or invasive species lacking a consistent community structure. This habitat type provides limited resources for wildlife and is utilized primarily by species tolerant of human activities. The disturbed and altered condition of these lands greatly reduces their habitat value and ability to sustain rare plants or diverse wildlife assemblages.

Vineyard: These areas of converted natural habitat are in agricultural production as vineyard. The understory in vineyards usually consist of bare soil (controlled by tillage and/or herbicides) or a cover crop of herbaceous plants. Some species of birds and mammals have adapted to the vineyard habitats. However, many have become "agricultural pests". Similar to the ruderal/developed habitat type, the disturbed and altered condition of these lands greatly reduces their habitat value and ability to sustain rare plants or diverse wildlife assemblages.

Blackberry scrub: A large patch of blackberry brambles is found along the margin of the easternmost pond. Vegetation within this lacustrine habitat consists of a monoculture of Himalayan blackberry (*Rubus armeniacus*). This vegetation can be classified as the Holland Type "Great Valley Riparian Scrub" or as "63.906.01 Rubus armeniacus – Himalayan Blackberry Riparian Scrub" (CDFW 2021e).

Annual Grassland: The annual grassland habitat is comprised largely of non-native annual grasses and native herbs with some native perennial grasses also important. This vegetation has been heavily grazed. Plants common in this habitat type include slender wild oat (*Avena barbata*), California horkelia (*Horkelia californica*), ripgut brome (*Bromus diandrus*) and English plantain (*Plantago lanceolata*). This vegetation can be classified as the Holland Type "Non-native Grassland" or as "44.150.02 *Avena barbata* Wild Oats Grasslands" (CDFW 2021e).

Black oak forest. Portions of the Martin Property are characterized by a tree canopy dominated by oak. The black oak forest consists of closed canopy of California black oak (*Quercus douglasii*) with occasional Douglas fir (*Pseudotsuga menziesii*), ponderosa pine (*Pinus ponderosa*), madrone (*Arbutus menziesii*), French broom (*Genista monspeliensis*), common manzanita (*Arctostaphylos manzanita* ssp. m*anzanita*) and toyon (*Heteromeles arbutifolia*). Recognition of understory plants within the oak forest was difficult because this vegetation layer was masticated during the summer. This vegetation can be classified as the Holland Type "Black Oak Forest" or as "71.010.26 *Quercus kelloggii – Pinus ponderosa* (California Black Oak Forest)" (CDFW 2021e).

Gray pine woodland. Found along the hills and slopes in the western portion of the Martin Property is habitat dominated by gray pine. The pine woodland consists of an open canopy of gray pine (*Pinus sabiniana*) and occasional blue oak (*Quercus douglasii*) with an understory of toyon, whiteleaf manzanita (*Arctostaphylos viscida*) and poison oak (*Toxicodendron diversilobum*). This vegetation can be classified as the Holland Type "Non-Serpentine Gray Pine Woodland" or as "87.130.00 *Pinus sabiniana* Foothill Pine Woodland (CDFW 2021e).

Ponderosa pine forest: Conifer-dominated forest habitat is found throughout the western half of the Martin Property. This forest habitat consists of a dense canopy of ponderosa pine, Douglas fir, California black oak, madrone, common manzanita and French broom. As with the black oak forest, the understory of the ponderosa pine forest has been masticated. The pine forest can be classified as the Holland Type "Coast Range Ponderosa Pine Forest" or as "87.400.04 Ponderosa pine – Douglas Fir Forest (CDFW 2021e).

Willow scrub/Riparian: Riparian (or lacustrine) habitat can be found along the margin of one of the ponds. The riparian vegetation consists of a narrow canopy of red willow (*Salix laevigata*), arroyo willow (*Salix lasiolepis*), valley oak (*Quercus lobata*) and Himalayan blackberry. The riparian forest can be classified as the Holland Type "Great Valley Mixed Riparian Forest" or as "61.205.02 Salix laevigata/Salix lasiolepis Red Willow Riparian Woodland and Forest (CDFW 2021e).

Freshwater Marsh: Two areas of freshwater marsh are mapped in the eastern half of the Martin Property. The freshwater marsh vegetation is found within the annual grassland habitat, and has been heavily grazed to the point where species identification was not possible. This vegetation can be classified as the Holland Type "Coastal and Valley Freshwater Marsh."

3.2. WILDLIFE HABITAT TYPES

The following animals were detected within the Scott Property during the field surveys:

moths and butterflies (Lepidoptera); northwestern fence lizard (*Sceloporus occidentalis occidentalis*); Botta's pocket gopher (*Thomomys bottae*); coyote scat (*Canis latrans*); California scrub jay (*Aphelocoma californica*); mourning dove (*Zenaida macroura*); turkey vulture (*Cathartes aura*); sparrow (Emberizidae); and other common songbirds.

Wildlife habitat types were classified using CDFW's Wildlife Habitat Relationship System. The Scott Property contains the following wildlife habitat types: Blue Oak Woodland; Valley Oak Woodland; Annual Grassland; Pasture; Urban; and Barren.

The following animals were detected within the Martin Property during the field surveys:

Sierran treefrog (*Pseudacris sierra*); Botta's pocket gopher (*Thomomys bottae*); cattle (*Bos taurus*); Columbian black-tailed deer (*Odocoileus hemionus columbianus*); coyote (*Canis latrans*); dog (*Canis lupis familiaris*); western gray squirrel (*Sciurus griseus*); acorn woodpecker (*Melanerpes formicivorus*); American goldfinch (*Spinus tristis*); black phoebe (*Sayornis nigricans*); California quail (*Callipepla californica*); California scrub jay (*Aphelocoma californica*); California towhee (*Melozone crissalis*); common raven (*Corvus corax*); dark-eyed junco (*Junco hyemalis*); northern flicker (*Colaptes auratus*); Nuttall's woodpecker (*Picoides nuttallii*); red-shouldered hawk (*Buteo lineatus*); red-winged blackbird (*Agelaius phoeniceus*); sparrow (Emberizidae); Stellar's jay (*Cyanocitta stelleri*); turkey vulture (*Cathartes aura*); western bluebird (*Sialia mexicanus*); white-breasted nuthatch (*Sitta carolinensis*); wild turkey (*Meleagris gallopavo*); yellow-billed magpie (*Pica nuttalli*); yellow-rumped warbler (*Setophaga coronata*); and other common songbirds.

The Martin Property contains the following wildlife habitat types: Urban; Barren; Vineyard; Annual Grassland; Blue Oak – Foothill Pine; Montane Hardwood; Ponderosa Pine; Valley Foothill Riparian; Fresh Emergent Wetland; Riverine; and Lacustrine.

3.3. JURISDICTIONAL WATERS / AQUATIC HABITATS

The USFWS National Wetland Inventory (NWI) digital maps of the Action Area were also consulted. Regional mapped wetland features are shown in the Exhibits, where illustrative. The USFWS National Wetland Inventory reported no water features within the Scott Property (see Exhibits). The USFWS National Wetland Inventory reported 3 water features on Martin Property (see Exhibits): 1 Riverine feature and 2 Freshwater Ponds. None of these water features are within the Martin Property Project Area.

A preliminary wetland assessment for the presence of potentially-jurisdictional water resources within the Action Area was conducted by ECORP (2017) and by Natural Investigations (2021).

Scott Property

The assessment determined that the Scott Property does not contain any channels or wetlands. In a few areas, surface drainage collects in upland swales, but these drainage features contain upland vegetation and lack any Ordinary High Water Mark (OHWM) indicators, such as racked vegetation, bank erosion, or bedrock exposure.

Martin Property

The assessment determined that the Martin Property contains the following water resources (see Exhibits):

- 5 unnamed ephemeral channels
- 4 freshwater ponds and lacustrine/riparian scrub wetland
- 3 areas that may contain wetlands (freshwater marshes)

There are no vernal pools or other isolated wetlands in the Action Area.

Ephemeral drainages are linear features that exhibit a bed and bank and an OHWM. These features typically convey runoff for short periods of time during and immediately following rain events and are not influenced by groundwater sources at any time during the year. Ephemeral drainages occur within the western portions of the Martin Property. These features are primarily unvegetated and consist of gravel and cobble beds with incised banks.

Ponds are depressional areas that are permanently or semi-permanently inundated and support areas of open water during the growing season. Ponds exhibit an OHWM but may or may not support hydrophytic vegetation and hydric soils. A modified groundwater spring forms two ponds in the northeastern portion of the Martin Property which are connected by surface water at peak inundation. The smaller of these two features is dominated by a floating canopy of water lily (*Nymphaea* sp.). The larger of these two ponds functions as a stock pond for horses, and is primarily unvegetated. Vegetated portions of this pond are dominated by water starwort, pennyroyal (*Mentha pulegium*), common spikerush (*Eleocharis macrostachya*), and iris leaved rush (*Juncus xiphioides*).

Three additional ponds occur in the western portion of the Martin Property as impoundments of the ephemeral channels. These ponds are primarily unvegetated due to their steep sides, depth, and seasonally fluctuating water levels. Vegetated portions of these ponds are dominated by red willow, broad leaf cattail (*Typha latifolia*), water starwort, and bog rush. Lacustrine wetland habitat can be found along the margin of one of the ponds. The vegetation consists of a narrow canopy of red willow (*Salix laevigata*), arroyo willow (*Salix lasiolepis*), valley oak (*Quercus lobata*) and Himalayan blackberry. A large patch of blackberry brambles is found along the margin of the easternmost pond. Vegetation within this lacustrine habitat consists of a monoculture of Himalayan blackberry (*Rubus armeniacus*).

Within the eastern half of the Martin Property, there are two areas that may have wetlands (freshwater marsh) are mapped. The freshwater marsh vegetation is found within the annual grassland habitat, and has been heavily grazed to the point where species identification was not possible.

Ditches are linear features that are constructed to convey storm water and/or irrigation water. Ditches occur within the Martin Property east and south of the vineyard. These ditches are primarily unvegetated due to scour caused by flowing water. One additional ditch occurs in the northern-central portion of the Martin Property. This feature is a concrete-lined portion of the creek channel which flows out of a pond. These linear features are not necessarily jurisdictional under the Clean Water Act.

4. SPECIES ACCOUNTS

4.1. Burke's Goldfields

This species is an annual herb that occurs in vernal pools and mesic areas within meadows and seeps. This species blooms from April to June and is known to occur at elevations ranging from 49 to 1,969 feet above MSL (CNPS 2017). This species is endemic to California, and its current known range consists of Lake, Mendocino, Napa, and Sonoma counties (CNPS 2017). The Scott Property does not contain suitable habitat. The seasonal wetlands and seasonal wetland swales in the eastern portion of the Martin Property represent suitable habitat for Burke's goldfields.

4.2. Kenwood Marsh Checker-mallow

The CNDDB (2021) describes the habitat as, "*marshes and swamps…edges of freshwater marshes…elevations from 115 to 150 m*." The Scott Property Action Area does not contain any vernal pools or any wetland or swamp or marsh habitat at all. On the Martin Property, seasonal wetlands are present, but no marshes or swamps. The Martin Property (at 360 m and higher) is way above the elevation limits of Kenwood Marsh Checker-mallow. Similarly, the lowest elevation of the Scott Property (352 m) is outside of the elevation range of this species. There is no potential for Kenwood Marsh Checker-mallow to occur in the Action Areas.

4.3. Sebastopol Meadowfoam

This species is an annual herb that occurs in vernally mesic areas within meadows and seeps, valley and foothill grassland, and vernal pools (CNPS 2021). This species blooms from April to May and is known to occur at elevations ranging from 49 to 1,009 feet above MSL (CNPS 2021). This species is endemic to California, and its current known range is limited to Sonoma County, and its distribution is uncertain in Napa County (CNPS 2021). The Scott Property Action Area does not contain any vernal pools or any wetland or meadow or marsh habitat at all. The grasslands and wetlands within the Martin Property represent suitable habitat for Sebastopol meadowfoam, but ideal habitat is not present.

4.4. Green Sea Turtle

The Action Area does not contain any marine habitat or any watercourses at all. There is no potential for this species to occur in the Action Area and the species does not need to be analyzed further in this assessment.

4.5. Northern Spotted Owl

USFWS describes the owl's habitat as "*Northern spotted owls mostly occur in coniferous forest….They use ponderosa pine/Douglas-fir forests in the eastern Cascade Ranges of Washington and in Douglas-fir/evergreen hardwood forests in northwestern California…Spotted owls occur in closed-canopy, uneven-aged, late-successional and old-growth forests*." The Scott Property Action Area does not have coniferous forest or any real forest resources at all. Northern spotted owl (*Strix occidentalis caurina*) has potential to forage in the Martin Property, but not roost/nest. A protocol habitat and impact assessment for this species (Tanner, 2018) concluded that suitable nesting-roosting habitat is not present within or immediately adjacent to the Martin Property. Tanner (2018) made the following conclusions:

> "*We believe that the proposed [Martin Property] Project is not likely to adversely affect NSO through direct impacts of disturbance or harassment (take) or through habitat degradation. We believe that construction for the Project will not result in a conversion of the potential NSO Foraging habitat in the Project area to Unsuitable habitat. Based on the 2.25 mile distance of the Project from the known NSO activity center, we do not believe that Protocol level surveys are necessary for this project*." (p. 10 Tanner Environmental Services 2018)

4.6. California Red-legged Frog

The Action Area is located within the historic range of the California red-legged frog. According to the CNDDB (2021), the nearest reported occurrence of the frog is 34 miles away from the Action Area to the southwest in Sebastopol. The California red-legged frog has not, unfortunately, been expanding its range, and is not currently occupying the watershed that the Action Area is within (St. Helena Creek). Suitable aquatic habitat (perennial channels and ponds) is not present on the Scott Property. The ponds within the Martin Property are occupied by predatory fish and bullfrogs and therefore represent low-quality habitat for the California red-legged frog. The California red-legged frog has low potential to occur within the Martin Property (ECORP 2017). Therefore, there is no real potential for this species to occur in the Action Area and the species does not need to be analyzed further in this assessment.

4.7. Delta Smelt

The Action Area cannot sustain fishery resources because it lacks streams. Potential indirect impacts to downstream fisheries will be mitigated by water resource protection measures, discussed later in this assessment. Thus, Delta Smelt (*Hypomesus transpacificus*) will not be assessed further.

4.8. California Freshwater Shrimp

The CNDDB (2021) reports the nearest occurrence as, "*Napa River from vic. Hwy 29 bridge upstream to Greenwood Ave, & in Garnett Ck to 140 m above Greenwood Ave, Calistoga. Garnett Creek pop. discovered In 1990, all other detections from Napa River*." The CNDDB (2021) describes the habitat as, "*endemic to Marin, Napa, & Sonoma counties. Found in low elevation, low gradient streams where riparian cover is moderate; shallow pools away from main streamflow."* The Action Area lacks streams; 1,300 feet away is St. Helena Creek (a perennial channel), which contains suitable habitat. Potential indirect impacts to downstream fisheries will be mitigated by water resource protection measures, discussed later in this assessment. There is no potential for this species to occur in the Action Area and the species does not need to be analyzed further in this assessment.

4.9. Migratory Birds

The Action Area contains suitable nesting habitat for various bird species because of the presence of trees and poles.

5. EFFECTS

This section analyzes potential Project-related impacts upon the known biological resources within the Action Area, and then suggests mitigation measures to reduce these impacts to a less-than-significant level. The Project's architectural design was overlaid upon the mapped habitats and water resources to assist in the analysis of Project-related impacts (see Exhibits).

On the Scott Property, construction of the overflow parking lot and RV park will require the removal of disturbed natural habitat: 2.5 acres of annual grassland/lawn and 0.2 acres of oak woodland. There will be no direct impacts to water resources, as the property has no wetlands or channels. The vegetated swale will be avoided with a 25-foot vegetated buffer. On the Martin Property, the Project Areas are located in annual grassland, ponderosa pine forest, and vineyard habitat, which will be impacted by project implementation.

5.1. Potential Adverse Effects Upon Critical Habitat

There is no federally-designated critical habitat for any listed species within, or adjacent to, the Action Area. The nearest critical habitat is at least 4 miles away. Implementation of the Proposed Action will have No Effect on federally-designated critical habitat.

5.2. Potential Adverse Effects Upon Listed Species

5.2.2. Direct Effects

No listed species were detected in the Action Area during the field surveys. Diversity databases do not report any federally-listed species in the Action Area or immediate vicinity.

Burke's Goldfields, Kenwood Marsh Checker-mallow, and Sebastopol Meadowfoam require wetland or mesic habitats such as vernal pools, swamp or marsh, or wet meadow habitat. The Scott Property does not contain suitable habitat for Burke's Goldfields, Kenwood Marsh Checker-mallow, and Sebastopol Meadowfoam. On the Martin Property, the seasonal wetlands and seasonal wetland swales in the eastern portion of the Martin Property represent suitable habitat for Burke's goldfields. Kenwood Marsh Checker-mallow is restricted to lower elevations (maximum of 150 m), so this species cannot occur on the Scott Property or the Martin Property. The grasslands and wetlands within the Martin Property represent suitable habitat for Sebastopol meadowfoam, but ideal habitat is not present. Because suitable habitat is present on the Martin Property, protocol botanical surveys were conducted in both the early and late botanical blooming periods. A brief botanical survey was also conducted on the Scott Property. The botanical surveys did not detect Burke's Goldfields, Kenwood Marsh Checker-mallow, or Sebastopol Meadowfoam, or any other listed plant species. Therefore, implementation of the Proposed Action (fee-to-trust transfer and subsequent development) will have No Effect upon listed plant species.

The Action Area has too much human activity to provide much refuge for animals: the Action Area has residences, landscape maintenance, parking lots, roads, and is adjacent to a busy transportation corridor and commercial center. In the unlikely event that a listed species enters the Action Area, pre-construction surveys have been prescribed. The Action Area does not have suitable nesting habitat for Northern Spotted Owl, although there is suitable nesting habitat for raptors and other migratory birds, discussed later in this assessment. A pre-construction nesting bird survey will ensure that listed species, such as Northern Spotted Owl, are not present in work areas. Implementation of the Proposed Action will have No Effect on Northern Spotted Owl.

The Action Area lacks fishery resources. The nearest water resources that do provide fishery habitat are distant: St. Helena Creek is 1,300 feet away to the east and Hoodoo Creek (an intermittent channel 900

feet away to the north. Potential indirect impacts to downstream fisheries will be mitigated by water resource protection measures, discussed later in this assessment. Thus, implementation of the Proposed Action will have No Effect on Delta Smelt or California Freshwater Shrimp. Although the ponds constitute suitable habitat for California Red-legged Frog, this species is not present and significant barriers to colonization exist, such as the presence of predators and a dispersal distance of at least 34 miles. Furthermore, the ponds will be avoided with a development buffer. Because listed species that occur in the region could potentially migrate into the Project Areas between the time that the last field survey was completed and the start of construction, a pre-construction survey for listed species will be performed. Thus, implementation of the Proposed Action will have No Effect on California Red-legged Frog.

5.2.3. Indirect Effects

One of the potential indirect effects is the destruction or removal of aquatic habitat for development. On the Scott Property, there are no wetlands or channels. The vegetated swale will be avoided with a 25-foot vegetated buffer. The Martin Property contains channels, wetlands, and ponds, but the housing development was designed to avoid all of the channels, ponds, and the areas of potential wetlands, and vegetative buffers will be maintained. Project implementation will not impact any of the ponds, channels, or wetlands.

Potential indirect impacts to water resources could occur during construction: surface water quality has the potential to be degraded from storm water transport of sediment from disturbed soils or by accidental release of hazardous materials or petroleum products from sources such as heavy equipment servicing or refueling. This is a potentially significant impact for projects that disturb at least 1 acre of ground. However, on tribal trust lands, the Tribe must enroll in the USEPA's 2017 Construction General Permit (Permit Number CAR10I00 "Indian Country within the State of California"). On non-federal lands, the landowner must enroll under the State Water Quality Control Board's Construction General Permit prior to the initiation of construction. In conjunction with enrollment under either of these permit programs, a Storm Water Pollution Prevention Plan, Erosion Control Plan, and a Hazardous Materials Management/Spill Response Plan must be created and implemented during construction to avoid or minimize the potential for erosion, sedimentation, or accidental release of hazardous materials. Implementation of these measures mandated by law would reduce potential construction-related impacts to water quality to a less-than-significant level.

5.3. Potential Adverse Effects Upon Migratory Birds

Trees, shrubs, and poles within the Action Area may provide suitable nesting and perching habitat for migratory birds. No nests were observed during the field surveys. Nevertheless, if construction activities are conducted during the nesting season, nesting birds could be directly impacted by removal of trees, and indirectly impacted by noise, vibration, and other construction-related disturbance. Mitigation measures were identified to reduce potential impacts to migratory birds, and nesting birds in general, to a less than significant level.

5.4. Avoidance, Mimization, and Mitigation Measures

The following measures will be implemented:

- To protect water quality and aquatic habitats, an erosion and sediment control plan will be implemented before construction commences. If the project disturbs at least 1 acre of soil, the Tribe must enroll in the USEPA's Construction General Permit, and implement of a Storm Water Pollution Prevention Plan, Erosion Control Plan, and a Hazardous Materials Management/Spill Response Plan. These measures will minimize the potential for erosion, sedimentation, or accidental release of hazardous materials.

- Because listed species that occur in the region could potentially migrate into the Project Areas between the time that the last field survey was completed and the start of construction, a pre-construction survey for listed species should be performed by a qualified biologist to ensure that listed species are not present. If any listed species are detected, construction should be delayed, and the appropriate wildlife agency (CDFW and/or USFWS) should be consulted and project impacts and mitigation reassessed.

- If construction activities will occur during the nesting season (usually March to September), pre-construction surveys for the presence of migratory birds or any nesting bird species should be conducted by a qualified biologist within 500 feet of proposed construction areas. If active nests are identified in these areas, the appropriate wildlife agency should be consulted to develop measures to avoid "take" of active nests prior to the initiation of any construction activities. Avoidance measures may include establishment of a buffer zone using construction fencing or the postponement of vegetation removal until after the nesting season, or until after a qualified biologist has determined the young have fledged and are independent of the nest site.

- Before construction activities commence, a qualified biologist will stake the boundaries of any channel, pond, or potential wetland area that is adjacent to proposed development areas. The construction contractor shall erect exclusion fencing around these water resources to ensure that no construction equipment or personnel enter the channels or wetlands.

6. CONCLUSION AND SUGGESTED DETERMINATION

Consulting biologists conducted wildlife and botanical surveys during a period from 2017 to 2022. No listed species were detected. Diversity databases were queried and there are no listed species occurrences on, or adjacent to, the Action Area. There is no federally-designated critical habitat for any listed species within, or adjacent to, the Action Area. The nearest critical habitat is at least 4 miles away. The Action Area does not contain suitable habitat for any listed species. The exception is 3 listed plant species. On the Martin Property, the wetlands and grassland in the eastern portion of the Martin Property represent suitable habitat for Burke's goldfields, Kenwood Marsh Checker-mallow, and Sebastopol meadowfoam. Because suitable habitat is present on the Martin Property, protocol botanical surveys were conducted in both the early and late botanical periods. A brief botanical survey was also conducted on the Scott Property. The botanical surveys did not detect Burke's Goldfields, Kenwood Marsh Checker-mallow, or Sebastopol Meadowfoam, or any other listed plant species. Therefore, implementation of the Proposed Action (fee-to-trust transfer and subsequent development) will have No Effect upon Burke's Goldfields, Kenwood Marsh Checker-mallow, or Sebastopol Meadowfoam.

The Action Area does not contain any marine or estuarine habitat. Implementation of the Proposed Action will have No Effect on Green Sea Turtle.

The Action Area has too much human activity to provide much refuge for animals: the Action Area has residences, landscape maintenance, parking lots, roads, and is adjacent to a busy transportation corridor and commercial center. In the unlikely event that a listed species enters the Action Area, pre-construction surveys have been prescribed. The Action Area does not have suitable nesting habitat for Northern Spotted Owl, although there is suitable nesting habitat for raptors and other migratory birds, discussed later in this assessment. A pre-construction nesting bird survey will ensure that listed species, such as Northern Spotted Owl, are not present in work areas. Implementation of the Proposed Action will have No Effect on Northern Spotted Owl.

The Action Area lacks fishery resources. The nearest water resources that do provide fishery habitat are distant: St. Helena Creek is 1,300 feet away to the east and Hoodoo Creek (an intermittent channel 900 feet away to the north. Water resources in the Action Area were avoided in the design of the proposed development features. Potential indirect impacts to downstream fisheries will be mitigated by water resource protection measures. Thus, implementation of the Proposed Action will have No Effect on Delta Smelt or California Freshwater Shrimp. Although the ponds constitute suitable habitat for California Red-legged Frog, this species is not present and significant barriers to colonization exist, such as the presence of predators and a dispersal distance of at least 34 miles. Furthermore, the ponds will be avoided with a development buffer. Because listed species that occur in the region could potentially migrate into the Project Areas between the time that the last field survey was completed and the start of construction, a pre-construction survey for listed species will be performed. Thus, implementation of the Proposed Action will have No Effect on California Red-legged Frog.

7. REFERENCES

Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, and T.J. Rosatti, editors. 2012. The Jepson Manual: Vascular Plants of California, second edition, thoroughly revised and expanded. University of California Press, Berkeley, California. 1,600 pp.

Brenzel, K. N., editor. 2007. Sunset Western Garden Book, revised edition. Sunset Publishing Corporation, Menlo, California. 768 pp.

California Department of Fish and Game. 2021. California's Wildlife. California Wildlife Habitat Relationships System, Biogeographic Data Branch, California Department of Fish and Game. Internet database available at http://www.dfg.ca.gov/whdab/html/cawildlife.html.

Council of Science Editors. 2006. Scientific style and format: the CSE manual for authors, editors, and publishers, 7th edition. Rockefeller University Press, Reston, Virginia. 658 pp.

Cowardin, L. M., V. Carter, and E. T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. Office of Biological Services, U. S. Fish and Wildlife Service, Washington, District of Columbia.

Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1. U.S. Army Engineer Waterways Experiment Station. Vicksburg, Mississippi. 92 pp.

Natural Investigations Co. 2021. Aquatic Resource Delineation Report for the Shingle Springs Band of Miwok Indians Gun Range Property Road Improvement Project. 32 pp.

NatureServe. 2021. NatureServe Explorer: An online encyclopedia of life, Version 7.1. NatureServe, Arlington, Virginia. Internet database available at http://www.natureserve.org/explorer.

Powell, J. A., and C. L. Hogue, 1979. California Insects. University of California Press, Berkeley, California. 388 pp.

Sawyer, J. O., and T. Keeler-Wolf. 1995. A manual of California vegetation. California Native Plant Society, Sacramento, California. Available electronically at http://davisherb.ucdavis.edu/cnpsActiveServer/index.html.

Sibley, D. A. 2003. The Sibley Field Guide to Birds of Western North America. Alfred A. Knopf, Inc., New York, New York.

Stuart, J. D., and J. O. Sawyer. 2001. Trees and Shrubs of California. California Natural History Guides. University of California Press, Berkeley, California. 467 pp.

United States Fish and Wildlife Service. 2005. Revised Guidance on Site Assessments and Field Surveys for California Red-legged Frog. Sacramento Fish and Wildlife Office. 26 pp.

United States Fish and Wildlife Service. 2021. National Wetlands Inventory Program, Division of Habitat and Resource Conservation. Internet site at http://www.fws.gov/wetlands/.

University of California at Berkeley. 2021a. Jepson Online Interchange for California Floristics. Jepson Flora Project, University Herbarium and Jepson Herbarium, University of California at Berkeley. Internet database available at http://ucjeps.berkeley.edu/interchange.html.

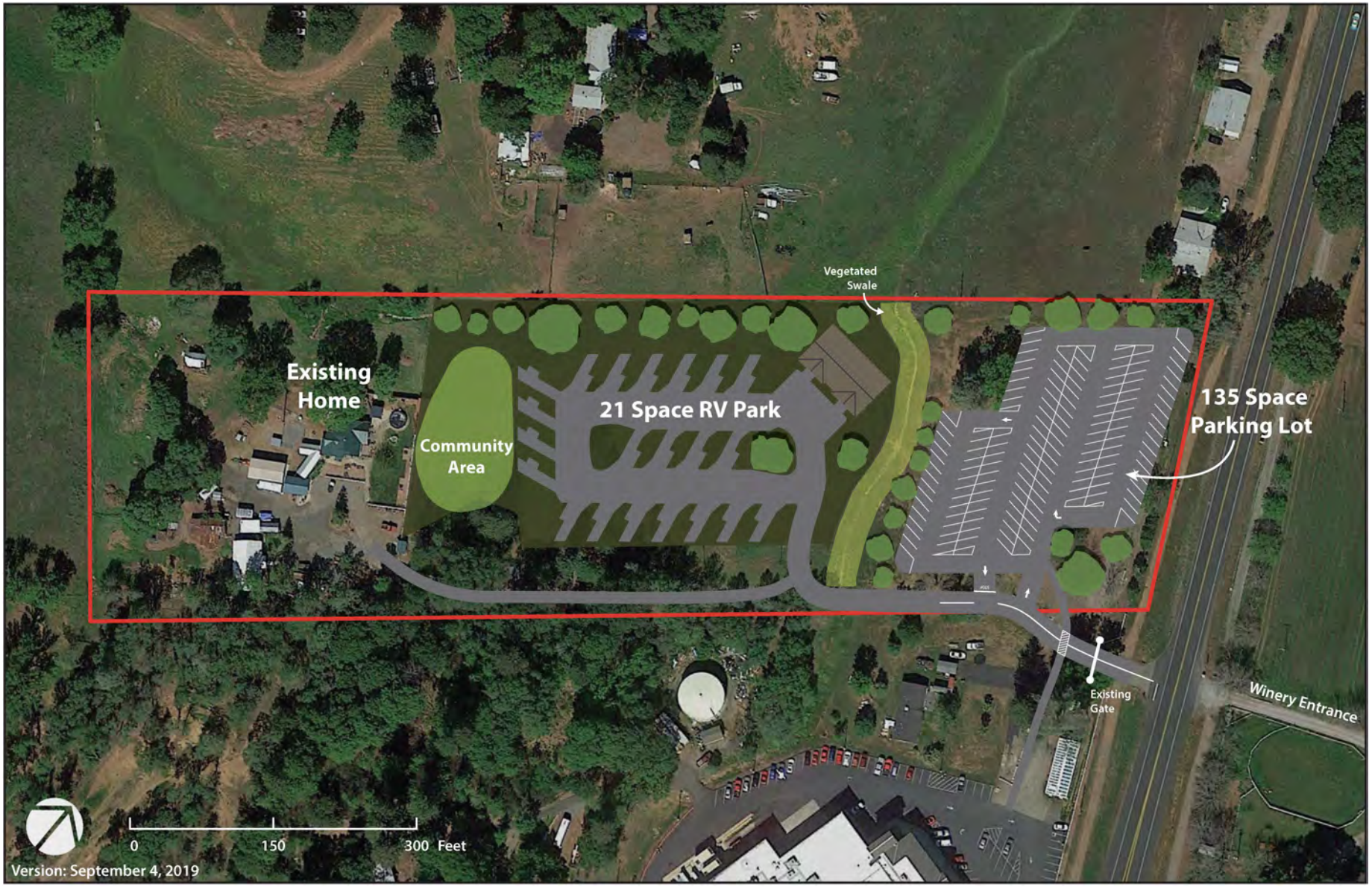
University of California at Berkeley. 2021b. CalPhotos. Biodiversity Sciences Technology Group, University of California at Berkeley. Internet database available at http://calphotos.berkeley.edu/.

8. QUALIFICATIONS OF AUTHORS

G.O. GRAENING, Ph.D.
G. O. Graening holds a Ph.D. in Biological Sciences and a Master of Science in Biological Engineering, and is a certified arborist (International Society of Arboriculture) and certified professional in storm water quality (EnviroCert Int'l). Dr. Graening has 22 years of experience in environmental assessment and research, including the performance of numerous wetland delineations and aquatic restoration projects. Dr. Graening also serves as an adjunct professor of biology at California State University Sacramento and is an active researcher in the area of conservation biology and groundwater ecology.

Tim Nosal
Timothy R. Nosal holds a B.S. and M.S. in Biological Sciences. Mr. Nosal has statewide experience performing sensitive plant and animal surveys in addition to terrestrial vegetation investigations. Mr. Nosal has over 25 years of experience in environmental assessment and teaching with employers that include California Department of Fish and Wildlife, State Water Resources Control Board, American River College, MTI College, and Pacific Municipal Consultants.

9. EXHIBITS FOR SCOTT PROPERTY



Scott Site Plan

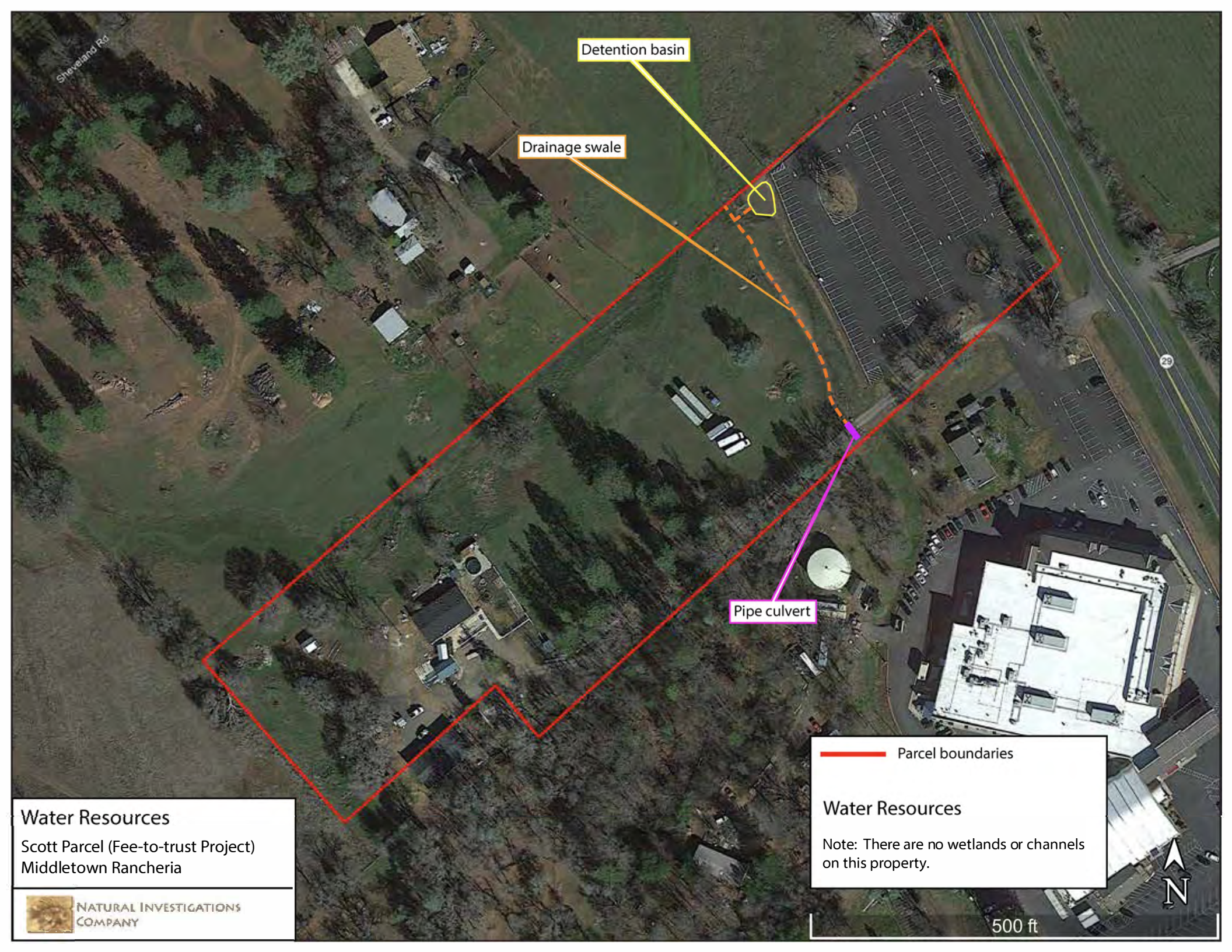
RV Park & Overflow Parking

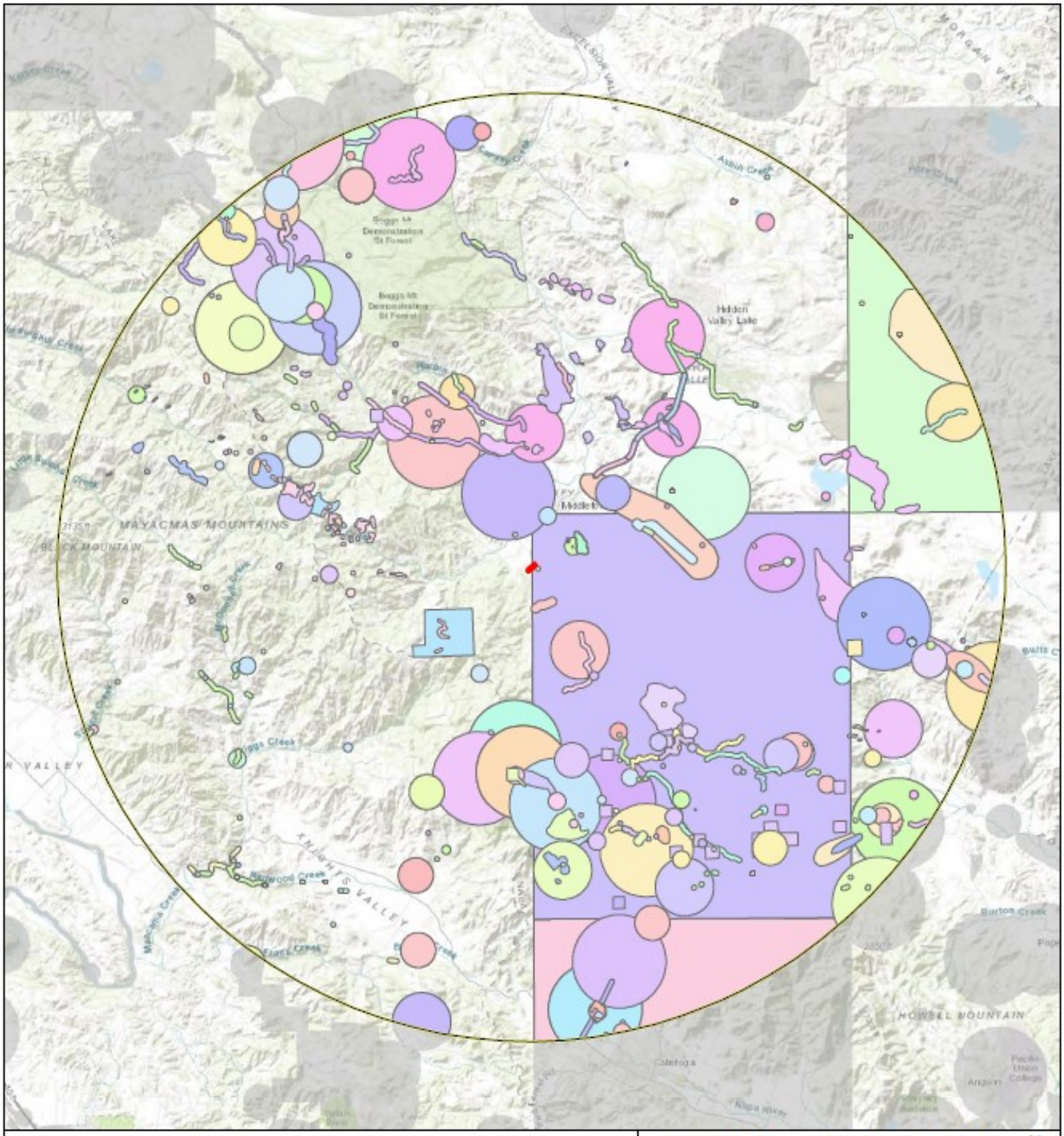


Habitat Types

Scott Parcel (Fee-to-trust Project)
Middletown Rancheria

Natural Investigations Company


Detention basin
Drainage swale
Pipe culvert
Shevelland Rd
29
Parcel boundaries
Water Resources
Note: There are no wetlands or channels on this property.
N
500 ft
Water Resources
Scott Parcel (Fee-to-trust Project)
Middletown Rancheria
Natural Investigations Company



Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist inshowing features discussed in an attached document. Natural Investigations Company can not guarantee the accuracy and content of electronic files.The master file is stored by Natural Investigations Company and will serve as the official record of this communication.
3. It is unlawful to copy or reproduce all or any part thereof, whether for personal use or resale, without permission.Data Sources: California Department of Fish and Wildlife. 2020. RareFind 5.x, California Natural Diversity Data Base. Biogeographic Data Branch, Sacramento, California.
(updated monthly by subscription service)

Special-Status Species Occurrences Map

22033 South State Hwy 29

Mount Saint Helena 1997 Quadrangle:Township 10N, Range 7W,Unsectioned Collayomi
Detert Reservoir 1997 Quadrangle:Township 10N, Range 7W, Unsectioned Collayomi

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Parcel Location

Wetlands and Channels

0 150 300 Meters

0 600 1,200 Feet

1:7,500

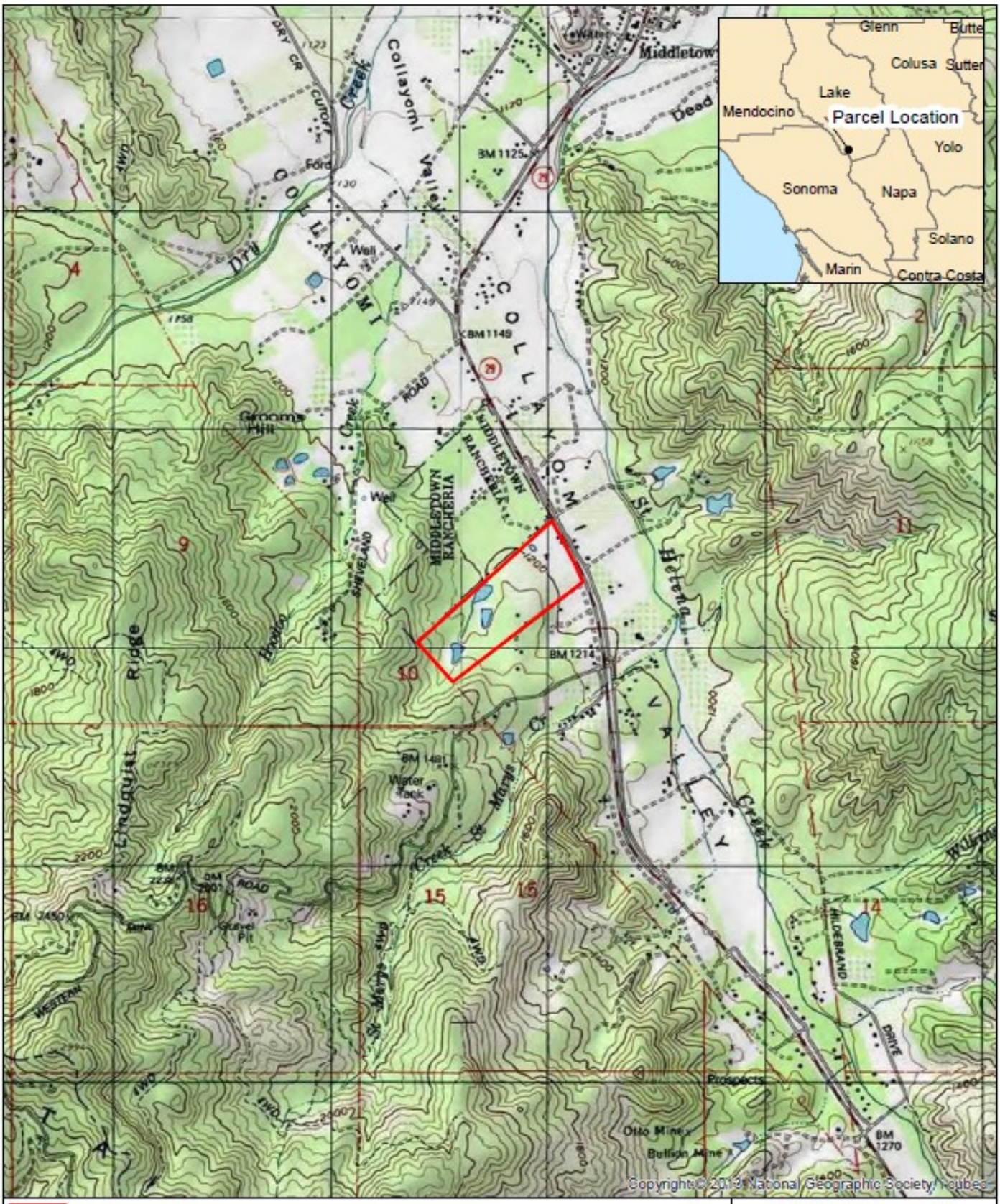
22033 South State Hwy 29
National Wetlands Inventory
Features Map

NATURAL INVESTIGATIONS COMPANY

Map Date 3/17/2020

Mount Saint Helena 1997 Quadrangle:Township 10N, Range 7W, Unsectioned Collayomi
Detert Reservoir 1997 Quadrangle:Township 10N, Range 7W, Unsectioned Collayomi

10. EXHIBITS FOR MARTIN PROPERTY



Project Location

0 250 500 Meters

0 1,250 2,500 Feet

1:24,000

22433 Highway 29
Parcel Location Map

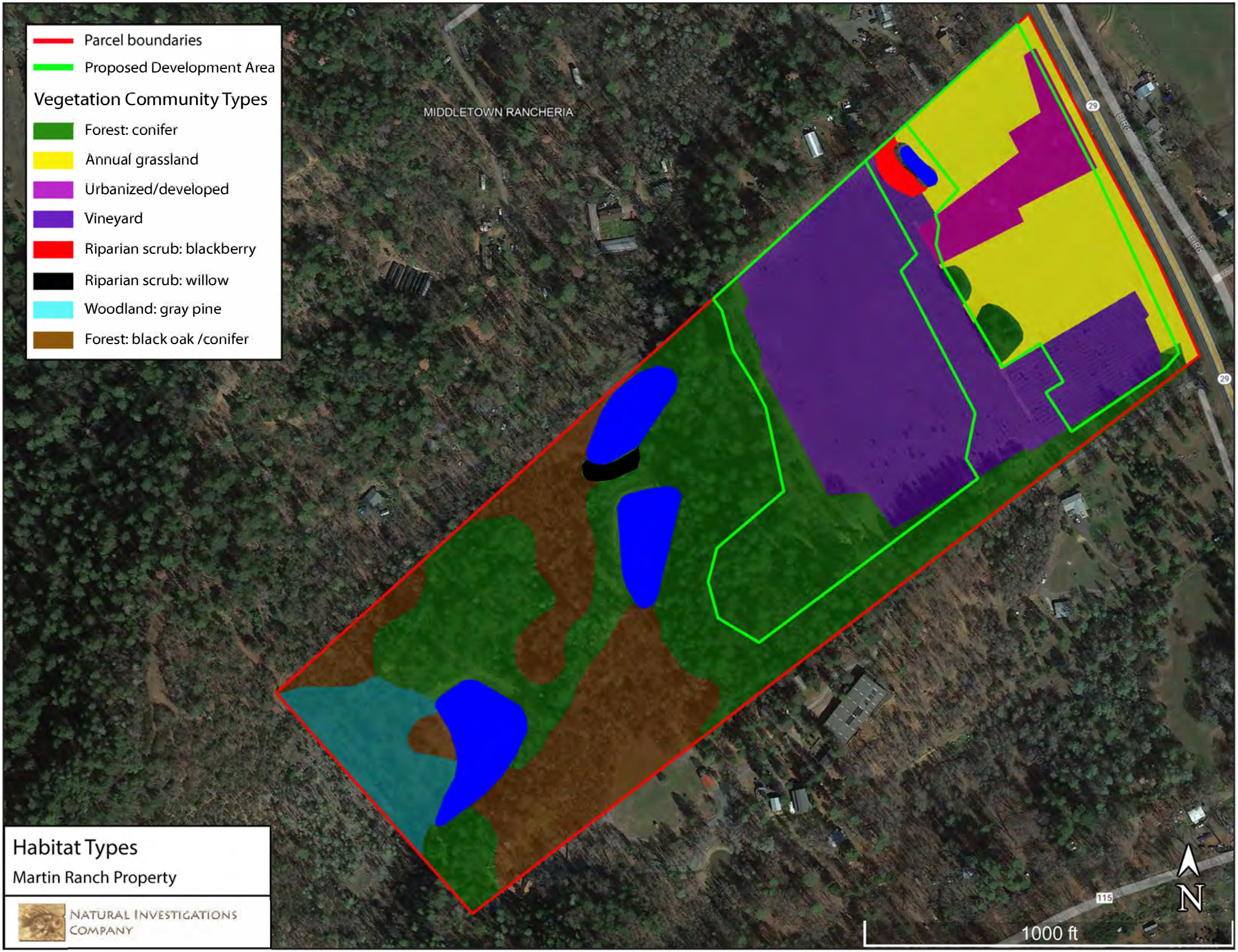
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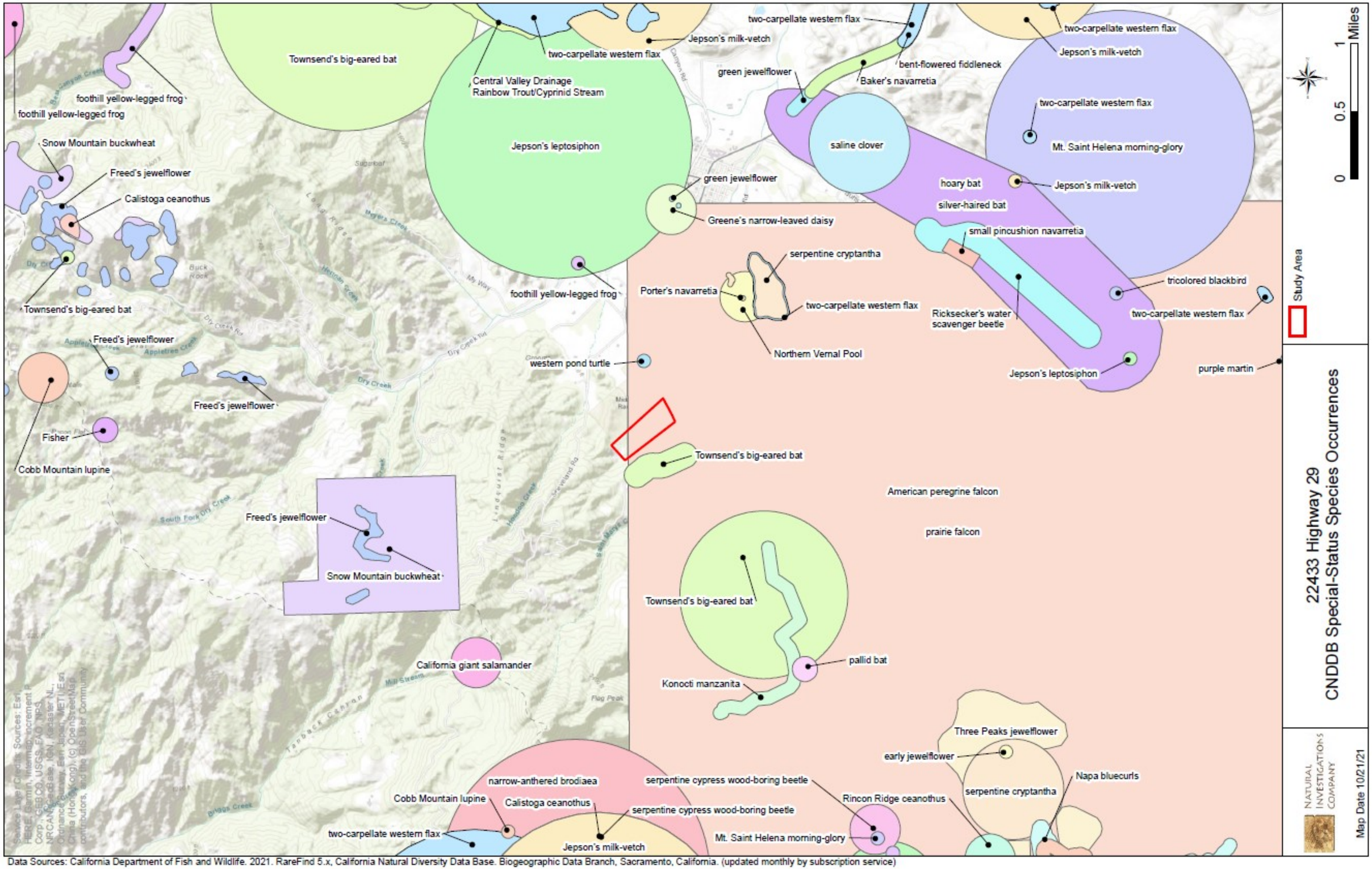
Map Date 10/18/2021

Mount Saint Helena 1997 Quadrangle:Township 10N, Range 7W, Unsectioned Collayomi
Detert Reservoir 1997 Quadrangle:Township 10N, Range 7W, Unsectioned Collayomi



Martin Ranch - Proposed Site Plan


Parcel boundaries
Proposed Development Area
Vegetation Community Types
Forest: conifer
Annual grassland
Urbanized/developed
Vineyard
Riparian scrub: blackberry
Riparian scrub: willow
Woodland: gray pine
Forest: black oak /conifer
MIDDLETOWN RANCHERIA
29
Big Canyon Creek Rd
115
N
1000 ft
Habitat Types
Martin Ranch Property
Natural Investigations Company



Data Sources: California Department of Fish and Wildlife. 2021. RareFind 5.x, California Natural Diversity Data Base. Biogeographic Data Branch, Sacramento, California. (updated monthly by subscription service)



Project Location

0 50 100 Meters

0 250 500 Feet

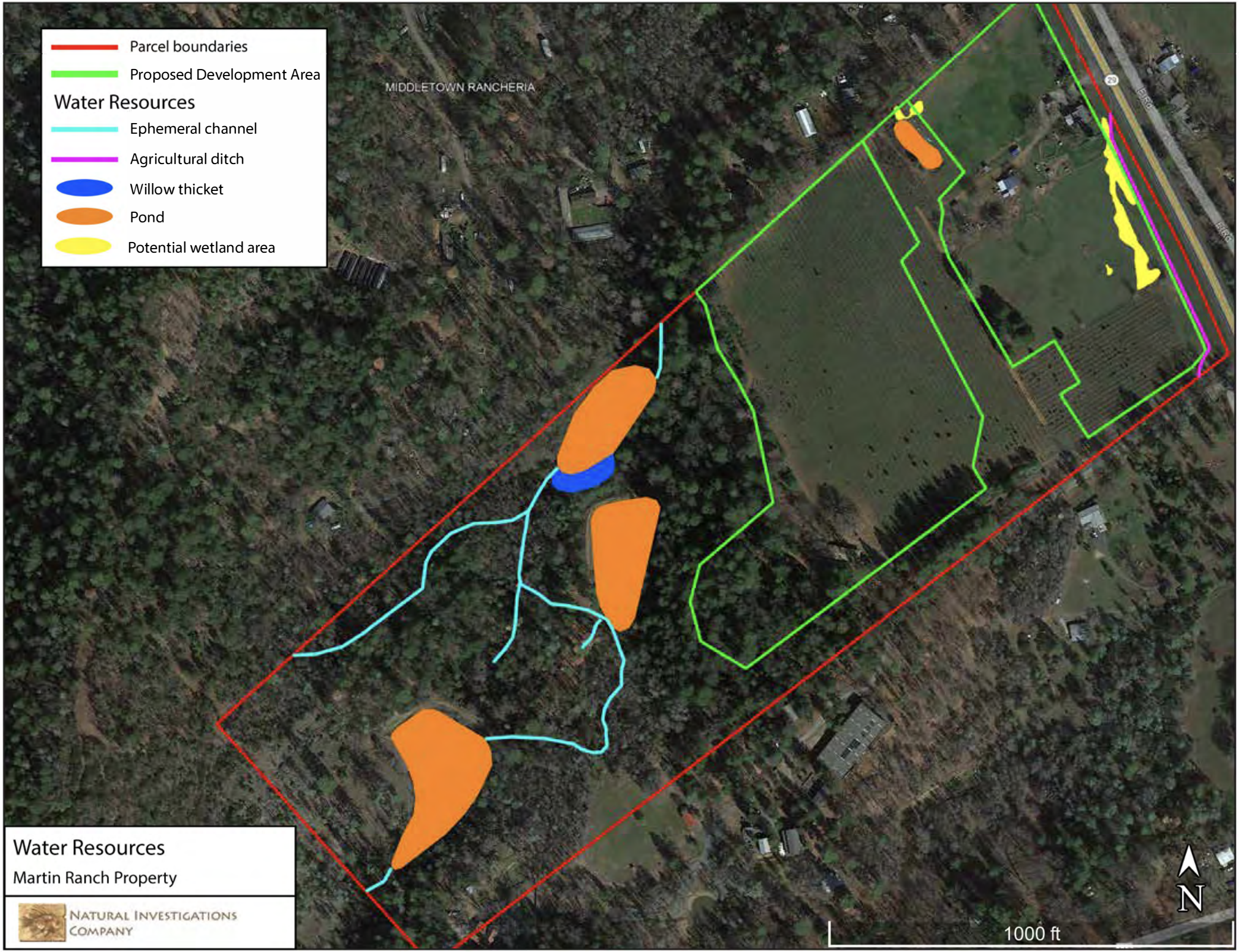
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22433 Highway 29
USDA Soils Map

NATURAL INVESTIGATIONS COMPANY

Map Date 10/18/2021

Mount Saint Helena 1997 Quadrangle:Township 10N, Range 7W, Unsectioned Collayomi
Detert Reservoir 1997 Quadrangle:Township 10N, Range 7W, Unsectioned Collayomi


Parcel boundaries
Proposed Development Area
Water Resources
Ephemeral channel
Agricultural ditch
Willow thicket
Pond
Potential wetland area
MIDDLETOWN RANCHERIA
29
Water Resources
Martin Ranch Property
Natural Investigations Company
N
1000 ft



Project Location

Wetlands and Channels

0 50 100 Meters

0 250 500 Feet

1:5,000

22433 Highway 29
National Wetlands Inventory
Features Map

NATURAL INVESTIGATIONS COMPANY

Map Date 10/18/2021

Mount Saint Helena 1997 Quadrangle:Township 10N, Range 7W, Unsectioned Collayomi
Detert Reservoir 1997 Quadrangle:Township 10N, Range 7W, Unsectioned Collayomi

APPENDICES

Available on Request

Appendix E
Traffic Impact Analysis

TRAFFIC IMPACT ANALYSIS

FOR

MARTIN RANCH AND SCOTT PROPERTY, MIDDLETOWN RANCHERIA

Lake County, CA

Prepared For:

ORIGIN ENVIRONMENTAL PLANNING
363 Point Rd
Hancock, ME 04640

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June 8, 2021

5016-02

TRAFFIC IMPACT ANALYSIS FOR
MARTIN RANCH AND SCOTT PROPERTY, MIDDLETOWN RANCHERIA

Lake County, CA

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June 8, 2021

KDA

TRAFFIC IMPACT ANALYSIS FOR
MARTIN RANCH AND SCOTT PROPERTY, MIDDLETOWN RANCHERIA
Lake County, California

EXECUTIVE SUMMARY

- **Project Description.** This study evaluates the traffic impacts associated with developing two projects in Middletown Rancheria. The first site, known as Martin Ranch, will consist of two existing single-family residences, 45 new single-family residential units and five new vacation cabins. Martin Ranch is located on the west side of State Route 29 (SR 29) south of Rancheria Road. The second project, known as the Scott property, is located on the north side of the existing Twin Pine Casino and Hotel (casino/hotel). This project will consist of a new 21 space Recreational Vehicle (RV) park.

  Three access options for Martin Ranch were analyzed:

  - Access Option 1 - provides access via two existing roadways, Rancheria Road and Western Mine Road Exd.
  - Access Option 2 - utilizes Western Mine Road Exd and creates a new intersection at the existing private driveway along the project's SR 29 frontage.
  - Access Option 3 - utilizes Rancheria Road and the existing private driveway along the project's SR 29 frontage.

  A fourth scenario was considered for the Martin Ranch property, with a reduced density of 26 new single-family units constructed. This alternative would use Access Option 1.

  Access to the RV park is proposed via Rancheria Road and through the existing hotel/casino parking lot.

  Trip generation for the projects were calculated using the rates published in the *Trip Generation Manual* (Institute of Transportation Engineers, 9th Edition, 2012 and 10th Edition, 2017). Applicable rates are found in land use (LU) categories 210 (Single-family Residential) and 416 (Camping and RV Park).

  The ITE 9th Edition was used for LU 210 as the rates generated more traffic, thereby providing a more conservative approach for the analysis. The 10th Edition was used for LU 416 as additional data was available within the 10th Edition. The Martin Ranch project is expected to generate approximately 46 trips during the a.m. peak hour and 58 trips during the p.m. peak hour. Under the reduced density alternative, the project would generate 29 a.m. peak hour trips and 33 p.m. peak hour trips. The Scott property RV Park is expected to generate 6 a.m. peak hour trips and 8 p.m. peak hour trips.

- **Existing Setting**. SR 29 is a major arterial route serving Lake County providing access to Napa County to the south and connecting Middletown with the communities around Clear Lake to the north. In the area of the project SR 29 is a conventional two lane highway.

  Traffic counts were originally conducted in November 2017 and included counts from 6:00 a.m. to 7:00 p.m. The outbreak of the Covid-19 pandemic reduced traffic volumes throughout California roadways as places of employment, schools, social and recreational gatherings, sports events, restaurants, and many other types of activities were substantially reduced or prohibited. The use of new traffic volume count data collected during the pandemic could result in volumes that are unrepresentatively low. Based on Annual Average Daily Traffic (AADT) information provided on the Caltrans Traffic Census website (https://dot.ca.gov/programs/traffic-operations/census/traffic-volumes) traffic volumes along SR 29 in the project vicinity are consistent with previous count data. A new 12-position gas station was constructed in 2020 at the casino/hotel, and the projected traffic, based on ITE *Trip Generation* Land Use 944, was manually added to the network.

  Peak hour traffic operations were evaluated at the existing Western Mine Road and Rancheria Road intersections at SR 29. Under existing conditions both intersections operate with the minor approaches at LOS D or better. The current Levels of Service satisfy the Caltrans Transportation Concept Report (TCR) LOS E maximum threshold.

  A traffic signal warrant analysis was conducted for the SR 29 / Rancheria Road intersection as this intersection experiences the highest traffic volumes. The warrant analysis indicated that warrants 1, 2 and 3 are currently met. In addition, there have been four crashes due to the failure of traffic along Rancheria Road to stop. Signalization of the SR 29 / Rancheria Road intersection would result in LOS B conditions. If the intersection is not signalized, it is recommended that stop signs along Rancheria Road and E Road be retrofitted with embedded LED's in the sign faces to enhance driver awareness of the traffic control devices.

- **Project Traffic Impacts on Existing Traffic Conditions – Access Option #1.** The project will add traffic to the area roadway system. The SR 29 / Rancheria Road intersection will meet several traffic signal warrants including the Eight Hour, the Four Hour and the Peak Hour warrants. Signalization of the intersection will result in LOS B conditions in both a.m. and p.m. peak hours.

- **Project Traffic Impacts on Existing Traffic Conditions – Access Option #2.** The project will construct a new intersection on SR 29 along the project frontage and add traffic to the area roadway system. The SR 29 / Rancheria Road intersection will meet several traffic signal warrants including the Eight Hour, the Four Hour and the Peak Hour warrants. Signalization of the intersection will result in LOS B conditions in both a.m. and p.m. peak hours.

- **Project Traffic Impacts on Existing Traffic Conditions – Access Option #3.** The project will construct a new intersection on SR 29 along the project frontage and add traffic to the area roadway system. The SR 29 / Rancheria Road intersection will meet several traffic signal

warrants including the Eight Hour, the Four Hour and the Peak Hour warrants. Signalization of the intersection will result in LOS B conditions in both a.m. and p.m. peak hours.

- **Project Traffic Impacts on Existing Traffic Conditions – Reduced Density with Access Option #1.** The project will add traffic to the area roadway system. The SR 29 / Rancheria Road intersection will meet several traffic signal warrants including the Eight Hour, the Four Hour and the Peak Hour warrants. Signalization of the intersection will result in LOS B conditions in both a.m. and p.m. peak hours.

- **Cumulative Conditions.** Based on growth patterns developed by Caltrans District 1 20-year traffic growth on SR 29 is projected to be 145% from 2014 conditions. The Cumulative conditions were calculated from Year 2019, twenty years from Existing conditions, and based on traffic data prior to the Covid-19 pandemic. No funded roadway improvements are identified at the study intersections although the SR 29 South Corridor Engineered Feasibility Study prepared in 2014 by Omni Means for Caltrans District 1 and the Lake County/City Area Planning Council identified the following improvements in the project study area:

  - Installation of a traffic signal or roundabout at the SR 29 / Rancheria Road intersection.

  The following corridor enhancements were also identified:

  - Installation of colorized shoulders, optical speed bars and a gateway monument at the Rancheria Road intersection to help reduce speeds and provide a sense of entry into the Middletown Community.

  - Installation of a Class 1 bikeway and equestrian trail north from Rancheria Road to Middletown; the pathway could also be used by pedestrians.

  The SR 29 / Rancheria Road intersection will decline to a LOS F condition along the eastbound Rancheria Road approach to SR 29 intersection in both a.m. and p.m. peak hours. This is below the acceptable LOS E threshold. The SR 29 / Western Mine Road intersection will continue to operate at acceptable levels of service. The SR 29 / Rancheria Road intersection will meet Parts A and B of the peak hour warrant. The intersection is identified in the SR 29 South Corridor Engineered Feasibility Study to operate at LOS F in the future with a suggested improvement of either a traffic signal or a roundabout. Under either alternative, the intersection will operate at LOS C.

- **Cumulative plus Project Conditions, Access Option #1.** The SR 29 / Rancheria Road intersection will decline to a LOS F condition along the eastbound Rancheria Road approach to SR 29 intersection. This is below the acceptable LOS E threshold. Under either traffic signal or roundabout alternative improvement, the intersection will operate at LOS C.

- **Cumulative plus Project Conditions, Access Option #2.** The SR 29 / Rancheria Road intersection will decline to a LOS F condition along the eastbound Rancheria Road approach

to SR 29 intersection. This is below the acceptable LOS E threshold. Under either traffic signal or roundabout alternative improvement, the intersection will operate at LOS C.

- **Cumulative plus Project Conditions, Access Option #3.** The SR 29 / Rancheria Road intersection will decline to a LOS F condition along the eastbound Rancheria Road approach to SR 29 intersection. This is below the acceptable LOS E threshold. Under either traffic signal or roundabout alternative improvement, the intersection will operate at LOS C.

- **Cumulative plus Reduced Density Project Conditions, Access Option #1.** The SR 29 / Rancheria Road intersection will decline to a LOS F condition along the eastbound Rancheria Road approach to SR 29 intersection. This is below the acceptable LOS E threshold. Under either traffic signal or roundabout alternative improvement, the intersection will operate at LOS C.

INTRODUCTION

Study Purpose and Objectives

This study evaluates the traffic impacts associated with developing two projects in Middletown Rancheria. The first site, known as Martin Ranch, will consist of two existing single-family residences, 45 new single-family residential units and five new vacation cabins. Martin Ranch is located on the west side of State Route 29 (SR 29) south of Rancheria Road. The second project, known as Scott property, is located on the north side of the existing Twin Pine Casino and Hotel (casino/hotel). This project will consist of a new 21 space Recreational Vehicle (RV) park. Both sites are shown in Figure 1.

The Martin Ranch site plan is shown in Figure 2A. The project proposes two access points along SR 29. Three alternative site access options were analyzed and are depicted in Figure 2B. The first option uses the existing Western Mine Road and Rancheria Road intersections along SR 29 to access the property. The other two options consider upgrading the existing driveway located along SR 29 into a public road intersection. One option would use this new intersection and Western Mine Road to access the property via Western Mine Road Exd. A second option would use the new intersection and Rancheria Road to access the property. A reduced development alternative is also being considered. This alternative would construct 26 new homes totaling 28 homes on the property along with a vineyard and is shown in Figure 2C. Under this alternative, access would be provided via the Rancheria Road and Western Mine Road intersections.

A possible Scott property layout is shown in Figure 2D. Access to the RV park is proposed via Rancheria Road and through the existing hotel/casino parking lot.

The purpose of this study is to analyze the impacts of both sites in the local area and to determine the feasibility of developing access to the Martin Ranch site. This study addresses the following scenarios, and considers conditions occurring during the a.m. and p.m. peak hour periods:

1. Existing traffic conditions in Year 2021;
2. Existing Plus Martin / Scott property with Access Option # 1;
3. Existing Plus Martin / Scott property with Access Option # 2;
4. Existing Plus Martin / Scott property with Access Option # 3;
5. Existing Plus Reduced Martin Ranch Plus Scott property with Access Option # 1;
6. Future Cumulative (Year 2030) conditions without project;
7. Future Cumulative (Year 2030) Plus Martin / Scott property with Access Option # 1;
8. Future Cumulative (Year 2030) Plus Martin / Scott property with Access Option # 2;
9. Future Cumulative (Year 2030) Plus Martin / Scott property with Access Option # 3; and
10. Future Cumulative (Year 2030) Plus Reduced Martin Ranch Plus Scott property with Access Option # 1.

The objectives of this study are:

- To identify which existing and / or proposed access intersections will operate within accepted Level of Service thresholds.

- To evaluate the adequacy of access to both sites, with specific consideration of the need to provide intersection controls to the study intersections.

- To evaluate the adequacy of design features for the intersections including intersection control type as noted above, projected queue lengths and turn lane requirements including length of turn lanes, taper and transitions required for conventional intersections and conceptual roundabout information including the size of a roundabout based on design speed and queue requirements and truck or RV turning constraints.

- To evaluate long term impacts within the context of long term traffic conditions assuming development under the Lake County General Plan and regional traffic growth.

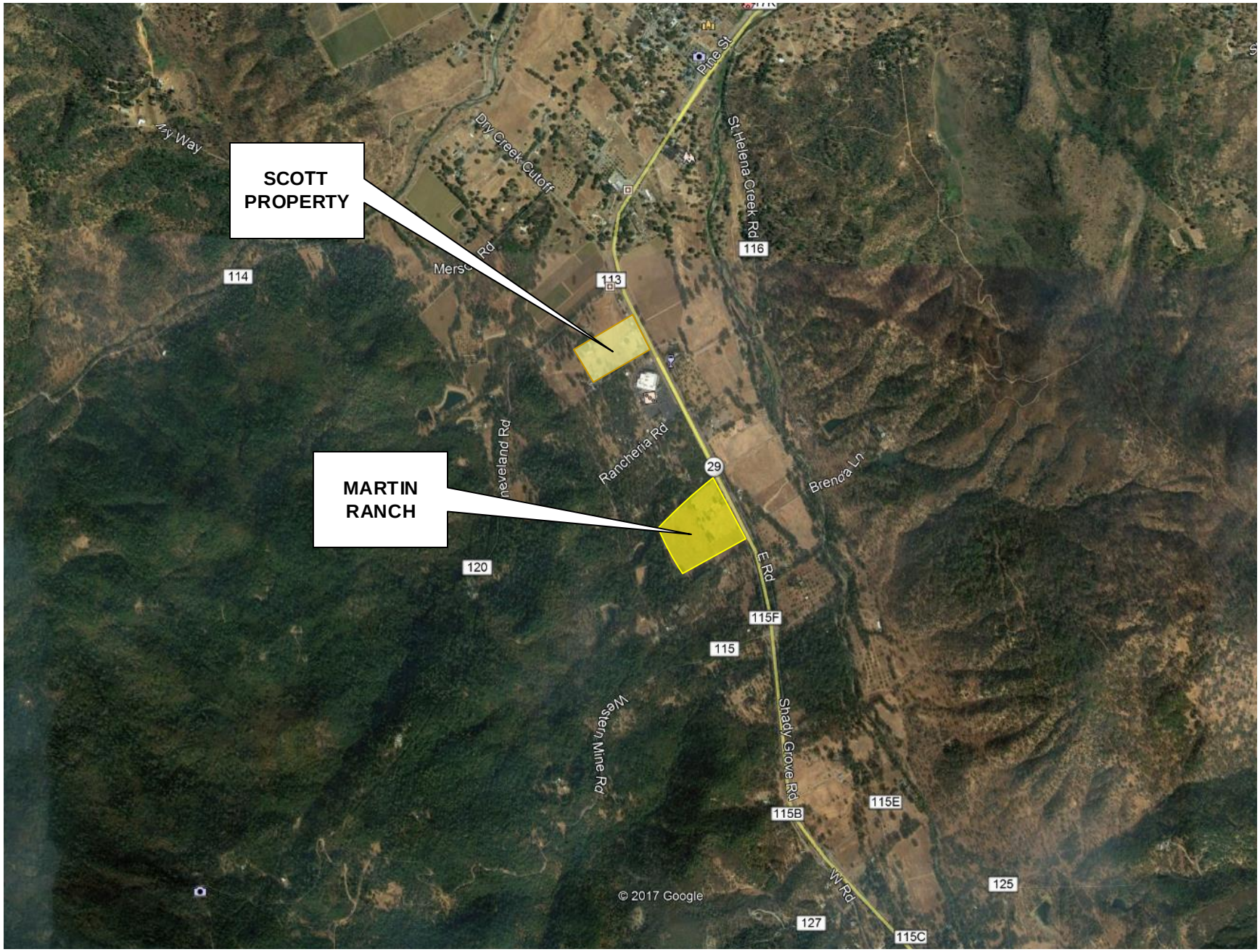
Project Descriptions

Martin Ranch: The Martin Ranch project is a residential development that is located south, and adjacent to the Middletown Rancheria in southern Lake County. The proposed project would construct 45 new homes and five cabins. The existing two homes on the site will remain, creating a total of 52 homes. Three access options are proposed for the project.

Access Option #1 provides access via two existing roadways, Rancheria Road and Western Mine Road Exd. Access Option #2 would utilize Western Mine Road Exd and create a new intersection at the existing private driveway along the project's SR 29 frontage. Access Option #3 would utilize Rancheria Road and the existing private driveway along the project's SR 29 frontage. Western Mine Road Exd intersects Western Mine Road ¼ mile to the south; Western Mine Road is a four-way intersection at SR 29 while Rancheria Road is a four- way intersection and provides access from SR 29 to the casino/hotel and the Middletown Rancheria.

A reduced density alternative was also considered for the project site. The reduced density alternative would keep the existing two homes on the site and construct 26 new homes, providing 28 total homes on the site. Access Option #1, using the Rancheria Road and Western Mine Road intersections was analyzed as part of this alternative.

Scott property: Scott property consists of about 6 acres of land north of the casino/hotel on the north side of the Middletown Rancheria. The proposed project will provide 21 Recreational Vehicle camp sites in a dedicated RV park setting. Access to the site would be from Rancheria Road and through the casino/hotel site.



VICINITY MAP

KD Anderson & Associates, Inc.
Transportation Engineers

5016-02 RA 6/8/2021

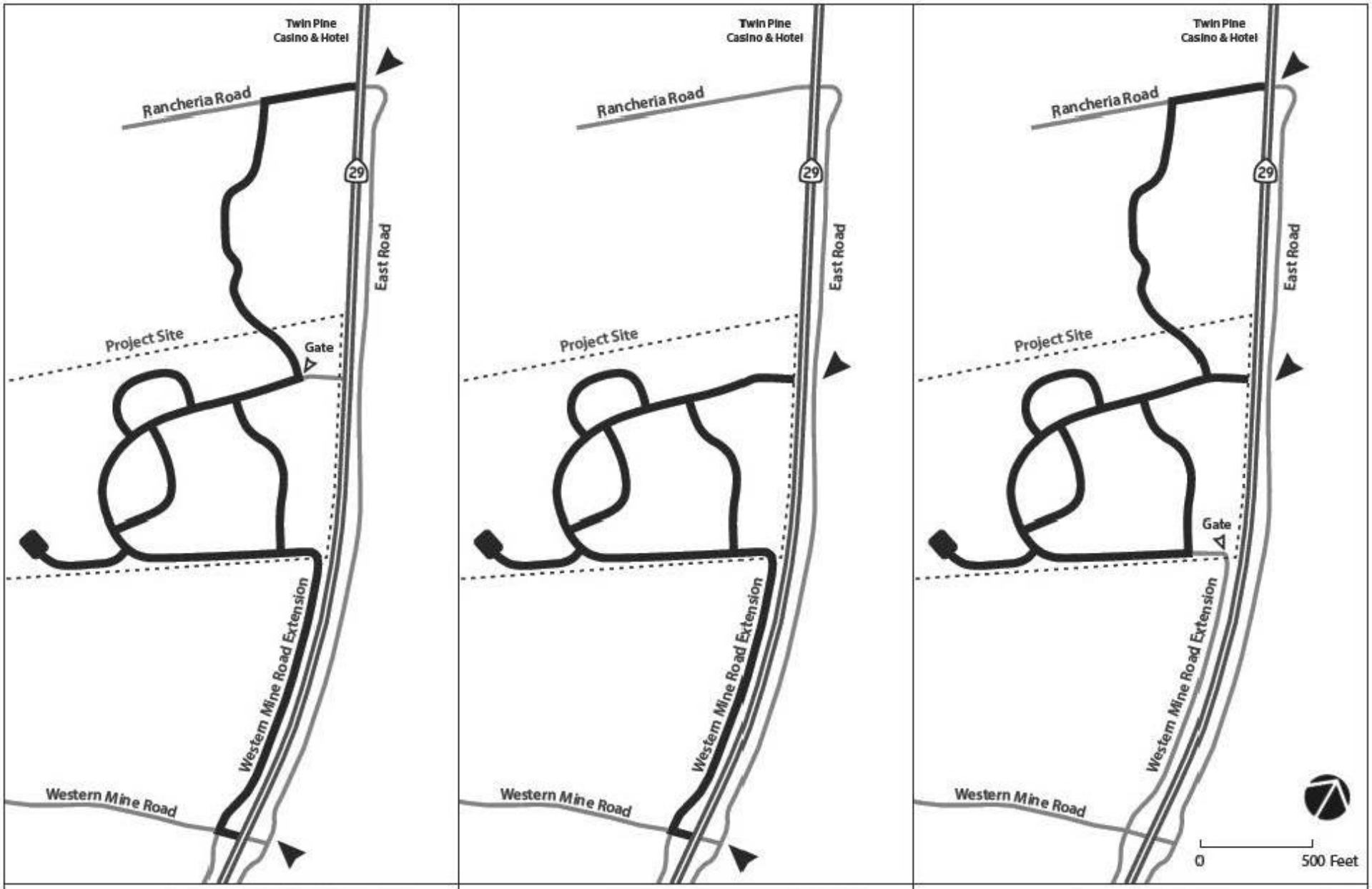
figure 1



EDS — *Middletown Rancheria - Martin Ranch FTT Project*

Figure 1
Martin Ranch Site Plan

SITE PLAN



Option 1 Access at Rancheria Road and Western Mine Road Extension

Option 2 Access at Project Driveway and Western Mine Road Extension

Option 3 Access at Project Driveway and Rancheria Road

ACCESSS OPTIONS - MARTIN RANCH

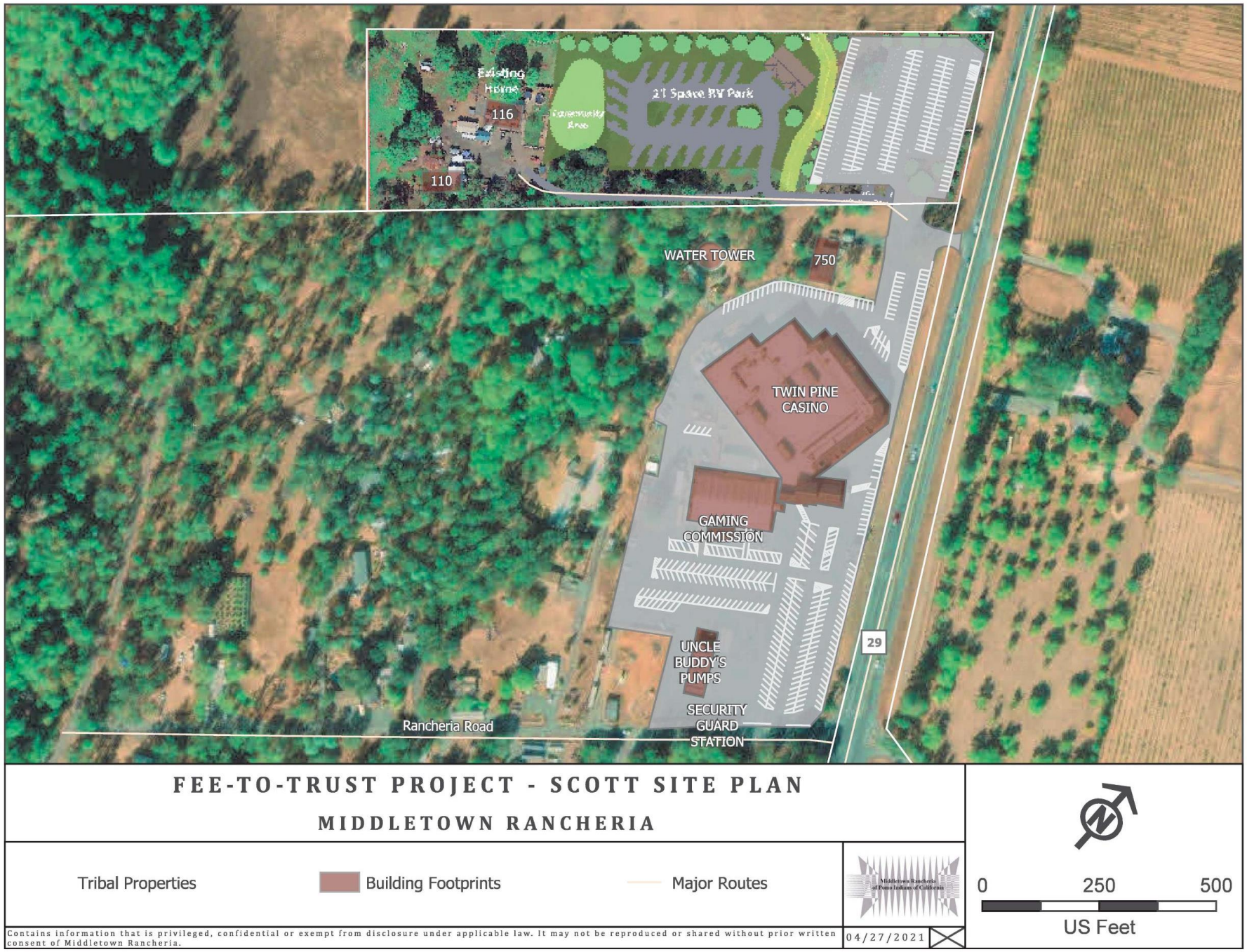


REDUCED DENSITY ALTERNATIVE

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5016-02 RA 6/8/2021

figure 2c



SCOTT PROPERTY RV PARK

KD Anderson & Associates, Inc.
Transportation Engineers

5016-02 RA 6/8/2021

figure 2d

EXISTING SETTING

Study Area Streets

This study addresses traffic conditions on State Route 29 (SR 29) within Lake County in the vicinity of the proposed project within a study area identified in consultation with Caltrans District 1 staff. Regional access to the project site in Middletown is provided by SR 29. The text that follows describes the existing facility.

Functionally, study area streets are classified as Arterials, Collectors or Local Streets. The applicable designation is presented in the State Route 29 Transportation Concept Report (TCR), Lake County Regional Transportation Plan and Lake County General Plan Circulation Element.

State Route 29. SR 29 begins at the Napa/Lake County line and continues north through the community of Middletown to the community of Lower Lake and then proceeds north-west through the community of Kelseyville and the City of Lakeport to its terminus on SR 29 in Lower Lake. The southern portion of SR 29 is classified a Rural Minor Arterial road. In the area of the proposed Martin Ranch SR 29 is a two-lane conventional highway with two 12' travel lanes and paved shoulders.

The California Department of Transportation (Caltrans) regularly monitors the volume of traffic on state highways. The most recent Caltrans traffic counts (2019) indicates that SR 29 carries an *Annual Average Daily Traffic (AADT)* volume of 9,100 vehicles per day (vpd) south of Rancheria Road and 9,900 vpd north of Rancheria Road.

According to data from Caltrans' Census Program, trucks comprise 3% of the daily traffic volume on the portion of SR 29 near the project. The portion of SR 29 between the Napa County line and SR 175 in Middletown is a 65' California Legal Advisory Route. The posted speed limit on SR 29 is 55 mph in the area of the proposed Martin Ranch site.

Bicycle and Pedestrian Facilities

There are no sidewalks or bike lanes along the roadway in the vicinity of the project SR 29. The existing paved shoulder along SR 29 along the project frontage ranges between 4' and 6'.

Public Transit

Lake Transit provides bus routes, regional flex route service and local dial-a-ride services within Lake County. One Lake Transit bus route utilizes SR 29 in the area of the project. Bus Route 3 which originates in the City of Clearlake uses SR 29 from Lower Lake and travels into Calistoga and Deer Park in Napa County; this route includes a stop at the casino/hotel. Service is provided Monday through Saturday with four trips per day in each direction; however, under current Covid-19 conditions, two trips per day have been suspended.

Study Area Intersections

The limits of this analysis were identified in consultation with Caltrans District 1 during preparation of previous versions of the project, in 2017 and 2019. Based on the proposed access requirements this study focuses on the SR 29 / Rancheria Road intersection, the SR 29 / Western Mine Road intersection and a project access intersection at the existing driveway to Martin Ranch.

Traffic counts were originally conducted in November 2017 and included counts from 6:00 a.m. to 7:00 p.m. The outbreak of the Covid-19 pandemic reduced traffic volumes throughout California roadways as places of employment, schools, social and recreational gatherings, sports events, restaurants, and many other types of activities were substantially reduced or prohibited. The use of new traffic volume count data collected during the pandemic could result in volumes that are unrepresentatively low. Based on Annual Average Daily Traffic (AADT) information provided on the Caltrans Traffic Census website (https://dot.ca.gov/programs/traffic-operations/census/traffic-volumes) traffic volumes along SR 29 in the project vicinity are consistent with previous count data. A new 12-position gas station was constructed in 2020 at the casino/hotel, and the projected traffic, based on ITE *Trip Generation* Land Use 944, was manually added to the network. The gas station generates 123 a.m. peak hour trips and 168 p.m. peak hour trips. After accounting for pass-by trips the gas station generates 49 new a.m. peak hour trips and 93 new p.m. peak hour trips.

SR 29 / Western Mine Road. Western Mine Road (County Road 115) is a local roadway that provides access to SR 29 for various properties along the west side of the highway. The road becomes Ida Clayton Road at the Sonoma County line and connects to SR 128. The roadway near SR 29 is paved and about 16' wide. Western Mine Road Exd is located about 100' from the SR 29 intersection. Western Mine Road Exd parallels SR 29 and extends north to the south side of the Martin Ranch property. Shady Grove Road is opposite Western Mine Road and provides access to SR 29 for properties east of the highway.

SR 29 / Rancheria Road. Rancheria Road is a local roadway that provides access to the Twin Pine Casino and Hotel and the Middletown Rancheria. The road is about 24' wide without paved shoulders between SR 29 and the casino/hotel driveways, after which it narrows to about 18'. East Road is opposite Rancheria Road and provides access to SR 29 for properties east of the highway. Both approaches to the intersection are single lane while the northbound SR 29 approach includes a 325' left turn lane and the southbound approach includes 300' left and right turn lanes.

Level of Service Analysis Methodology / Thresholds of Significance

Methodology. The *Highway Capacity Manual, 6th Edition* was used to provide a basis for describing the quality of existing traffic operating conditions and for evaluating the significance of project traffic impacts based on operating Level of Service. Level of Service (LOS) measures the *quality* of traffic flow and is represented by letter designations from "A" to "F", with a grade of "A" referring to the best conditions, and "F" representing the worst conditions. Table 1 presents typical Level of Service characteristics.

TABLE 1 LEVEL OF SERVICE DEFINITIONS			
Level of Service	**Signalized Intersection**	**Unsignalized Intersection**	**Roadway (Daily)**
"A"	Uncongested operations, all queues clear in a single-signal cycle. Delay ≤ 10.0 sec	Little or no delay. Delay ≤ 10 sec/veh	Completely free flow.
"B"	Uncongested operations, all queues clear in a single cycle. Delay > 10.0 sec and ≤ 20.0 sec	Short traffic delays. Delay > 10 sec/veh and ≤ 15 sec/veh	Free flow, presence of other vehicles noticeable.
"C"	Light congestion, occasional backups on critical approaches. Delay > 20.0 sec and ≤ 35.0 sec	Average traffic delays. Delay > 15 sec/veh and ≤ 25 sec/veh	Ability to maneuver and select operating speed affected.
"D"	Significant congestion of critical approaches but intersection functional. Cars required to wait through more than one cycle during short peaks. No long queues formed. Delay > 35.0 sec and ≤ 60.0 sec	Long traffic delays. Delay > 25 sec/veh and ≤ 35 sec/veh	Unstable flow, speeds and ability to maneuver restricted.
"E"	Severe congestion with some long standing queues on critical approaches. Blockage of intersection may occur if traffic signal does not provide for protected turning movements. Traffic queue may block nearby intersection(s) upstream of critical approach(es). Delay > 60.0 sec and ≤ 80.0 sec	Very long traffic delays, failure, extreme congestion. Delay > 35 sec/veh and ≤ 50 sec/veh	At or near capacity, flow quite unstable.
"F"	Total breakdown, stop-and-go operation. Delay > 80.0 sec	Intersection blocked by external causes. Delay > 50 sec/veh	Forced flow, breakdown.
Sources: Highway Capacity Manual, 6th Edition, Transportation Research Board (TRB).			

Level of Significance. Caltrans employs various minimum Level of Service standards for its facilities depending on the type of facility and the characteristics of the location. Caltrans general minimum standard of LOS C is noted in Caltrans' Traffic Study Guidelines, but exceptions to that standard are documented in various planning and policy documents. The *2013 SR 29 Transportation Concept Report (TCR)* identifies LOS E as the Concept Level of Service for SR 29 in the Middletown area.

The conditions described using Levels of Service vary for different types of intersections. Where traffic signals or all-way stops are installed, the Level of Service is based on the length of delays experienced by motorists stopped at the intersection, and overall average Level of Service is considered. At unsignalized intersections controlled by side street stop signs, individual Levels of Service can be determined for all motorists who must yield the right of way.

Existing Traffic Operating Conditions

Traffic Volumes. As previously identified, turning movement counts were conducted at the study intersections between 6:00 a.m. and 7:00 p.m. and included the a.m. peak hour (7:00 to 9:00 a.m.) and p.m. peak hour (4:00 to 6:00 p.m.).

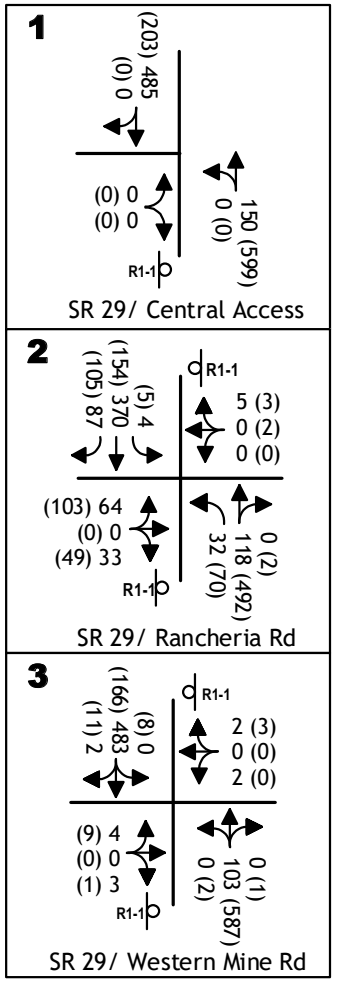
Figure 3 identifies the current intersection lane configuration used for the Level of Service analysis, as well as the results of the peak hour turning movement counts.

Intersection Levels of Service. Table 2 summarizes current Levels of Service at the study area intersections during the highest volume hour within each analysis period. The current Levels of Service are LOS D conditions in the p.m. peak hour at the SR 29 / Rancheria Road intersection and LOS C conditions in the p.m. peak hour at the SR 29 / Western Mine Road intersection. The SR 29 / Rancheria Road intersection exceeds the County's LOS C goal but is within the TCR goal of LOS E.

TABLE 2
EXISTING INTERSECTION LEVELS OF SERVICE

Location	Control	AM Peak Hour		PM Peak Hour	
		LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)
2. SR 29 / Rancheria Road	EB / WB				
NB Left	Stop	A	8.5	A	8.0
SB Left		A	7.5	A	8.5
EB		C	15.3	D	26.1
WB		A	8.9	C	15.3
3. SR 29 / Western Mine Road	EB / WB				
NB Left	Stop	---	---	A	7.6
SB Left		---	---	A	8.8
EB		B	13.2	C	17.6
WB		B	11.6	B	12.6





EXISTING TRAFFIC VOLUMES AND LANE CONFIGURATIONS

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figure 3

Traffic Signal Warrants. A traffic warrant analysis was conducted for the SR 29 / Rancheria Road intersection considering all applicable warrants. Of the nine traffic signal warrants six were studied, Warrants 1-3, and 6-8. Warrants 4 and 5 were not studied as fewer than 10 pedestrians were noted at the intersection. Warrant 6 was reviewed but not considered as the nearest signal is in Middletown, about 1½ miles away. Warrant 9 was not considered as a railroad grade crossing does not exist at the intersection. Below is a summary of the traffic signal warrants with worksheets presented in the Appendix. The warrant analysis considered the highest hours of the highest minor road approach. As noted in the CA MUTCD the satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Warrant No. 1 – EIGHT HOUR VEHICULAR VOLUME (MET – YES)
(Condition A or Condition B or combination of A and B must be satisfied)

Condition A (MET - YES). Two-way traffic conditions are met along SR 29 and Rancheria Road for the highest eight hours. The Minimum Vehicle Volumes will be met. The condition will also be satisfied for the 80% condition.

Condition B (MET – NO [Met for 80% condition]). The two-way traffic conditions along SR 29 are reached for seven of the highest eight hours; the condition requires volumes be met for at least eight hours a day. The approach volumes along Rancheria Road are reached for these eight hours under 100% conditions. The volumes for both facilities are met under the 80% condition.

Combination of Conditions A & B (MET - NO). The volume requirements at this intersection will be met under both Conditions, although an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has not been attempted.

Warrant No. 2 – FOUR HOUR VEHICULAR VOLUME (MET – YES)

All the four plotted points of the four highest hours are above the MUTCD four-hour vehicular volume curve.

Warrant No. 3 – PEAK HOUR (MET – YES)
(Part A or Part B must be satisfied)

Part A (MET - NO). The total delay experienced by traffic on the stop-controlled approach, Sub-part 1, does not equal four vehicle hours of delay; however, Sub-parts 2 and 3 are met.

Part B (MET - YES). The plotted point for vehicles per hour on both major approaches and highest minor approach during the peak hour volume are above the MUTCD peak hour curve; the peak hour volume warrant is satisfied.

Warrant No. 4 – PEDESTRIAN VOLUME (MET – NO)
(Parts 1 and 2 Must Be Satisfied)

No pedestrian volumes were noted at this intersection.

Warrant No. 5 – SCHOOL CROSSING (MET – N/A)
(Parts 1 and 2 Must Be Satisfied)

This warrant is not applicable.

Warrant No. 6 – COORDINATED SIGNAL SYSTEM (MET – NO)
(All Parts Must Be Satisfied)

This warrant is related to coordinated signal systems. The closest signalized intersection is about 1½ miles away in Middletown; however, the adjacent signal control will not collectively provide a progressive operation due to the distance to the study intersection. This intersection does not meet the Coordinated Signal System warrant.

Warrant No. 7 – CRASH EXPERIENCE WARRANT (MET – NO)
(All Parts Must Be Satisfied)

A review of crash data between January 1, 2018 and December 31, 2020 was reviewed to determine whether the intersection met the crash experience warrant. Crash data was obtained from the CHP I-SWITRS website (https://iswitrs.chp.ca.gov/). In 2018 three crashes occurred at the intersection. The primary collision factor (PCF) for two crashes was failure of the minor street traffic to stop and then yield the right-of-way; the third crash was DUI related. In 2019, one crash occurred at the intersection. The PCF for this crash was failure of the motorist to yield the right-of-way prior to entering the intersection. In 2020, two crashes occurred at the intersection. Both crashes were a result of failure of the motorist to stop and yield the right-of-way.

The crash warrant notes that the number of crashes in a 12-month period susceptible to correction by a traffic signal must be 5 or more. In none of the previous three-year periods, nor in a combination of multiple years equaling a 12-month period, did 5 or more crashes occur at the intersection. While the warrant is strictly not met it is apparent that some motorists may not be recognizing the stop control along the minor roadways.

Warrant No. 8 – ROADWAY NETWORK (MET – NO)
(All Parts Must Be Satisfied)

SR 29 serves as a Principal Roadway for traffic between Napa and the Clear Lake area. In order to meet this warrant both routes must meet any of the major route characteristics. Rancheria Road does not meet any; therefore, this warrant is not met.

Warrant No. 9 – INTERSECTION NEAR A GRADE CROSSING (MET – N/A)

This warrant is not applicable.

Of the six applicable traffic signal warrants studied, three of the warrants are met. While the Crash Experience Warrant is not met in a 12-month period, there have been five crashes within less than a three-year period. It is recommended that stop signs along the minor roadways be retrofitted with embedded LED's in the sign faces to enhance driver awareness of the traffic control signs should the intersection not be signalized.

PROJECT CHARACTERISTICS

The relative impacts of developing the Martin Ranch project and Scott Property and the adequacy of site access is dependent on the physical characteristics of the adjoining street system, as well as the amount of traffic generated by the proposed project. The amount of additional traffic on a particular section of the street network is dependent upon two factors:

I. Trip Generation, the number of new trips generated by the project, and
II. Trip Distribution and Assignment, the specific routes that the new traffic takes.

Trip Generation

The development of this project will generate traffic to and from the project site. The amount of additional traffic on a particular section of the street network is dependent upon two factors:

- Trip Generation, the number of new trips generated by the project, and
- Trip Distribution and Assignment, the specific routes that the new traffic takes.

Trip generation is determined by identifying the type and size of land use being developed. Recognized sources of trip generation data may then be used to calculate the total number of trip ends that the project creates.

The trip generation for the projects were calculated using trip generation rates published in the *Trip Generation Manual* (Institute of Transportation Engineers, 9th Edition, 2012 and 10th Edition, 2017). Applicable rates are found in land use (LU) categories 210 (Single-family Residential) and 416 (Camping and RV Park) and are shown in Table 3. The ITE 9th Edition was used for LU 210 as the rates generate more traffic, thereby providing a more conservative approach for the analysis. The 10th Edition was used for LU 416.

The fitted curve equation was used instead of the average rate for the Martin Ranch site while the average rates were used for the Scott Property. Under full buildout of Martin Ranch the total daily trips yield a total of 575 new daily trips; there are no daily rates available for RV parks. 52 total trips are projected in the a.m. peak hour while 67 trips are projected to be generated during the p.m. peak hour for both projects. Under the reduced density alternative, the projected daily trip generation is expected to be 326 daily trips for Martin Ranch while 36 a.m. trips and 42 p.m. trips will be generated for both properties during the peak hours.

TABLE 3
TRIP GENERATION RATES

Land Use / Source	Unit	Size	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Full Buildout Project – Martin Ranch									
Single-family Residential (LU 210) – Martin Ranch	Units	52	11.07†	25%	75%	0.89‡	63%	37%	1.12◊
Scott Property									
Camping & RV Park (LU 416)	Occupied Campsites	21	N/A	36%	64%	2.20	65%	35%	2.78
Single-family Residential Full Buildout – Martin Ranch			**575**	12	35	**46**	37	22	**58**
Camping & RV Park			*	2	4	**6**	5	3	**8**
Total Trips			**575**	14	39	**52**	42	24	**67**
Reduced Density Alternative									
Single-family Residential (LU 210) – Martin Ranch	Unit	28	11.63†	25%	75%	1.05‡	63%	37%	1.19◊
Single-family Res. Reduced Density – Martin Ranch			**326**	7	22	**29**	21	12	**33**
Camping & RV Park			*	2	4	**6**	5	3	**8**
Total Trips			**326**	10	26	**36**	26	15	**42**

Source: ITE *Trip Generation – 9th Edition*
† Ln (T) =0.92 Ln(X) + 2.72
‡ T = (0.70*X) + 9.74
◊ Ln (T) =0.90 Ln(X) + 0.51
N/A – not available
* daily rates not available
Numbers may not equal due to rounding

Trip Distribution

The distribution of project traffic was determined based existing traffic conditions and knowledge of the demographic distribution of residences in the south Lake County area as well as travel destinations in the Lake County area. It is projected that the majority of the new housing trips attracted to the Martin Ranch site will arrive from the north with a lesser share arriving from the south. The RV site is projected to have a similar equal distribution along SR 29 under existing conditions and a more even directional distribution in the future. The projected trip distribution is shown in Table 4.

TABLE 4 PROJECT TRIP DISTRIBUTION			
Direction	**Route**	**LU 210 Percentage of Trips**	**LU 416 Percentage of Trips**
North	SR 29	67% / 67%	50% / 40%
South	SR 29	33% / 33%	50% / 60%
	Total	100% / 100%	100% / 100%

AM / PM

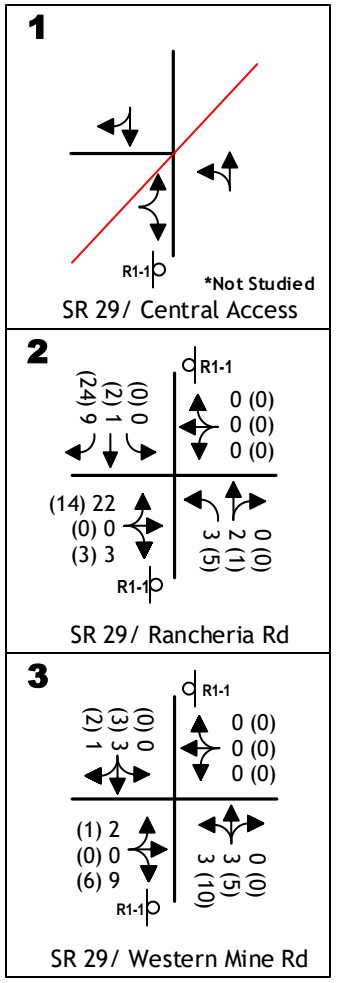
Trip Assignment

Martin Ranch: Project trips were assigned to the adjacent streets based on the three access options and the reduced density alternative. Full development of the project includes access options utilizing the existing Western Mine Road and Rancheria Road intersections. Access Option #1 uses both existing intersections while Access Options #2 and #3 use one of these intersections combined with a new intersection along the SR 29 project frontage. The reduced density alternative uses Access Option #1.

Scott Property: Project trips were assigned to SR 29 through the Rancheria Road intersection. Traffic will proceed through the casino/hotel parking lot to the north side of the site to enter the RV park.

Figure 4 presents the peak hour traffic volume forecasts with project access via Western Mine Road and Rancheria Road. Figure 5 presents the project traffic volume forecasts with access at Western Mine Road and the Martin Ranch driveway; Rancheria Road will provide access for the RV park. Figure 6 presents the traffic volume forecast with access at Rancheria Road and the Martin Ranch driveway. Figure 7, the reduced density alternative, presents the peak hour volume forecasts with project access via Western Mine Road and Rancheria Road.





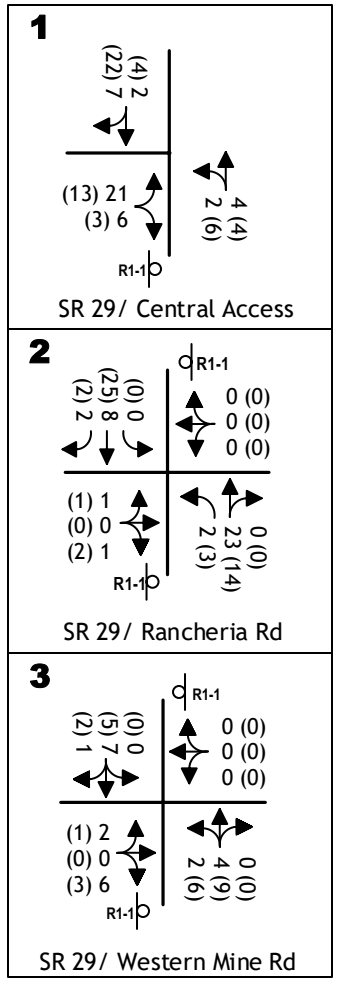
PROJECT ONLY TRAFFIC VOLUMES AND LANE CONFIGURATIONS
ACCESS OPTION 1 – RANCHERIA RD AND WESTERN MINE RD

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figure 4



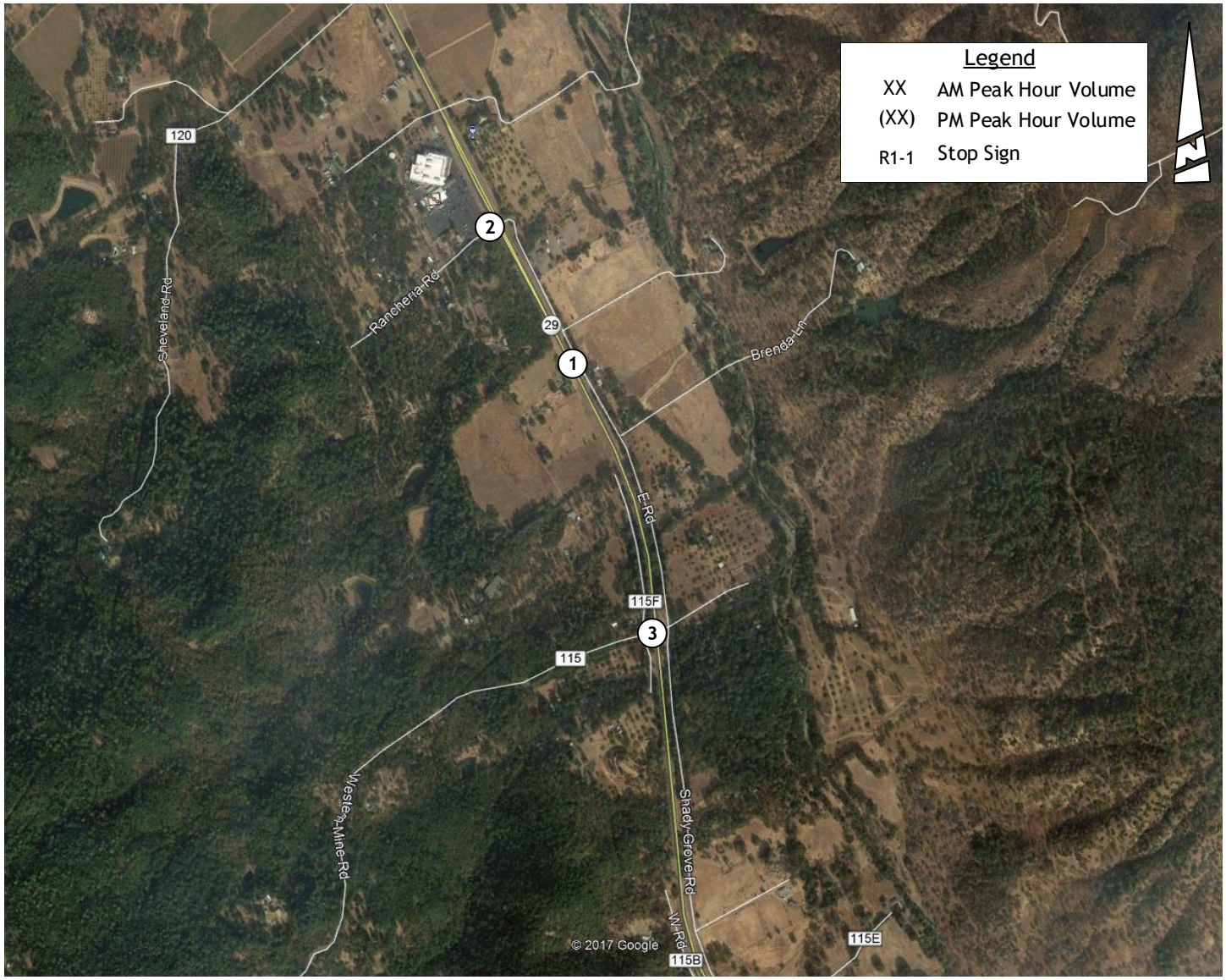


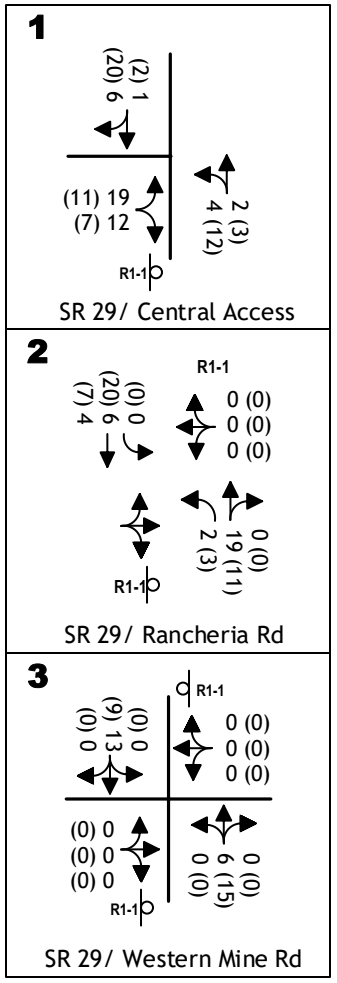
PROJECT ONLY TRAFFIC VOLUMES AND LANE CONFIGURATIONS
ACCESS OPTION 2 – CENTRAL ACCESS AND WESTERN MINE RD

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figure 5





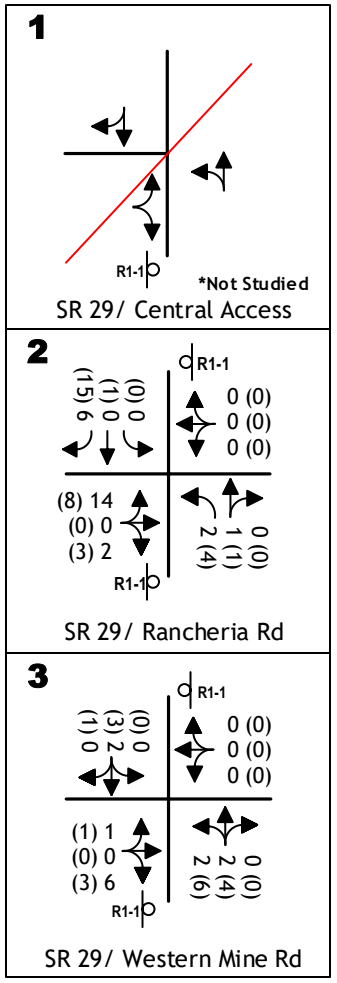
PROJECT ONLY TRAFFIC VOLUMES AND LANE CONFIGURATIONS
ACCESS OPTION 3 – RANCHERIA RD AND CENTRAL ACCESS

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figure 6





PROJECT ONLY TRAFFIC VOLUMES AND LANE CONFIGURATIONS
REDUCED DENSITY ALTERNATIVE WITH ACCESS OPTION 1

PROJECT IMPACTS

Existing Plus Project Traffic Conditions

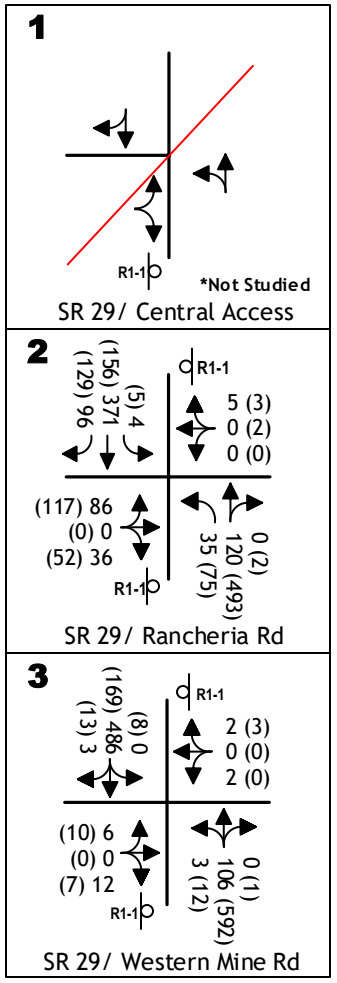
Martin Ranch Access Option #1 – Western Mine Road and Rancheria Road Access: The impacts of operating the proposed projects with access to Martin Ranch via the Western Mine Road and Rancheria Road intersections have been identified by superimposing project trips onto the existing background condition. Figure 8 presents the "Existing Plus Project" traffic volumes at each intersection under Access Option #1. Resulting intersection Levels of Service were then calculated and used as the basis for evaluating potential project impacts.

Intersection Levels of Service. Table 5 compares Existing and Plus Project peak hour Levels of Service and average delay per vehicle at the access intersections. Motorists entering SR 29 from either intersection will experience delays that are characteristic of up to LOS C conditions in the a.m. peak hour while the eastbound Rancheria Road approach to SR 29 will experience LOS D conditions in the p.m. peak hour; the remaining intersections and approaches will experience LOS C or better conditions.

TABLE 5
EXISTING PLUS PROJECT PEAK HOUR LEVELS OF SERVICE
ACCESS OPTION #1 – WESTERN MINE ROAD AND RANCHERIA ROAD ACCESS

Location	Control	AM Peak Hour				PM Peak Hour			
		Existing		Ex Plus Project (Opt #1 – Western Mine Rd & Rancheria Rd Access)		Existing		Ex Plus Project (Opt #1 – Western Mine Rd & Rancheria Rd Access)	
		LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)
2. SR 29 / Rancheria Road									
NB left		A	8.5	A	8.5	A	8.0	A	8.1
SB left		A	7.5	A	7.5	A	8.5	A	8.5
EB	EB/WB	C	15.3	C	16.7	D	26.1	D	30.7
WB	Stop	A	8.9	A	8.9	C	15.3	C	15.7
3. SR 29 / Western Mine Rd									
NB left		---	---	A	8.5	A	7.6	A	7.6
SB left		---	---	---	---	A	8.8	A	8.9
EB	EB/WB	B	13.2	B	12.9	C	17.6	C	15.4
WB	Stop	B	11.6	B	11.9	B	12.6	B	12.7





EXISTING PLUS PROJECT TRAFFIC VOLUMES AND LANE CONFIGURATIONS
ACCESS OPTION 1 RANCHERIA RD AND WESTERN MINE RD

Martin Ranch Access Option #2 – Western Mine Road Access: The impacts of operating the proposed projects have been identified by superimposing project trips onto the existing background condition. Figure 9 presents the "Existing Plus Project" traffic volumes with primary access to Martin Ranch at the driveway along the SR 29 project frontage and a second access at the SR 29 / Western Mine Road intersection; RV Park access will be via Rancheria Road.

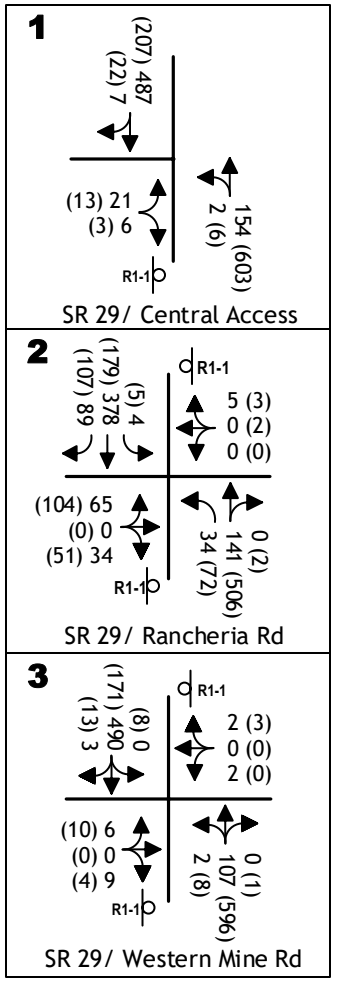
Resulting intersection Levels of Service were calculated and used as the basis for evaluating potential project impacts.

Intersection Levels of Service. Table 6 compares Existing and Plus Project peak hour Levels of Service and average delay per vehicle at the access intersections. Motorists entering SR 29 from any of the intersections will experience delays that are characteristic of up to LOS C conditions in the a.m. peak hour while the eastbound Rancheria Road approach to SR 29 will experience LOS D conditions in the p.m. peak hour; the remaining intersections and approaches will experience LOS C or better conditions.

TABLE 6
EXISTING PLUS PROJECT PEAK HOUR LEVELS OF SERVICE
ACCESS OPTION #2 – WESTERN MINE ROAD ACCESS

Location	Control	AM Peak Hour				PM Peak Hour			
		Existing		Ex Plus Project (Opt #2 – Western Mine Rd Access)		Existing		Ex Plus Project (Opt #2 – Western Mine Rd Access)	
		LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)
1. SR 29 / Central Access	EB Stop								
NB left		---	---	A	8.5	---	---	A	7.7
EB		---	---	B	14.1	---	---	C	16.0
2. SR 29 / Rancheria Road	EB/WB Stop								
NB left		A	8.5	A	8.5	A	8.0	A	8.1
SB left		A	7.5	A	7.5	A	8.5	A	8.6
EB		C	15.3	C	16.0	D	26.1	D	29.5
WB		A	8.9	A	9.1	C	15.3	C	15.9
3. SR 29 / Western Mine Rd	EB/WB Stop								
NB left		---	---	A	8.5	A	7.6	A	7.6
SB left		---	---	---	---	A	8.8	A	8.9
EB		B	13.2	B	13.1	C	17.6	C	16.6
WB		B	11.6	B	11.9	B	12.6	B	12.7





EXISTING PLUS PROJECT TRAFFIC VOLUMES AND LANE CONFIGURATIONS
ACCESS OPTION 2 – CENTRAL ACCESS AND WESTERN MINE RD

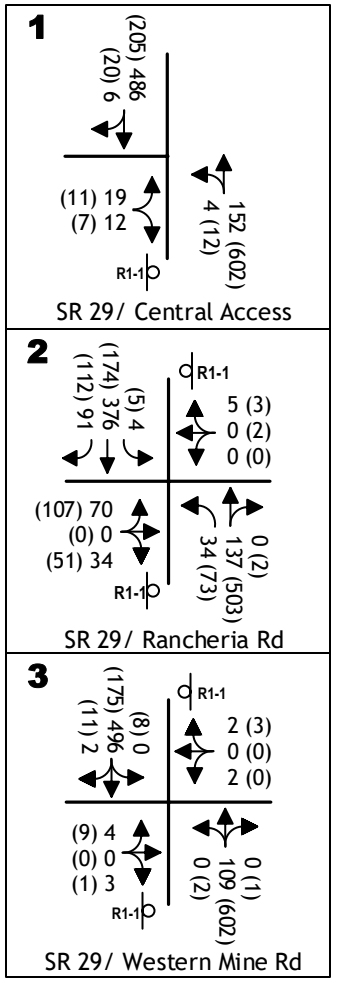
Martin Ranch Access Option #3 – Rancheria Road: The impacts of operating the proposed projects have been identified by superimposing project trips onto the existing background condition. Figure 10 presents the "Existing Plus Project" traffic volumes under Access Option #3 and provides access to Martin Ranch via Rancheria Road and a second access at the driveway along the SR 29 project frontage. Resulting intersection Levels of Service were then calculated and used as the basis for evaluating potential project impacts.

Intersection Levels of Service. Table 7 compares Existing and Plus Project peak hour Levels of Service and average delay per vehicle at the access intersections. Motorists entering SR 29 from any of the intersections will experience delays that are characteristic of up to LOS C conditions in the a.m. peak hour while the eastbound Rancheria Road approach to SR 29 will experience LOS D conditions in the p.m. peak hour; the remaining intersections and approaches will experience LOS C or better conditions.

TABLE 7
EXISTING PLUS PROJECT PEAK HOUR LEVELS OF SERVICE
ACCESS OPTION #3 – RANCHERIA ROAD ACCESS

Location	Control	AM Peak Hour				PM Peak Hour			
		Existing		Ex Plus Project (Opt #3 – Rancheria Rd Access)		Existing		Ex Plus Project (Opt #3 – Rancheria Rd Access)	
		LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)
1. SR 29 / Central Access	EB Stop								
NB left		---	---	A	8.5	---	---	A	7.8
EB		---	---	B	13.7	---	---	B	14.6
2 SR 29 / Rancheria Road	EB/WB Stop								
NB left		A	8.5	A	8.5	A	8.0	A	8.1
SB left		A	7.5	A	7.5	A	8.5	A	8.5
EB		C	15.3	C	16.3	D	26.1	D	30.0
WB		A	8.9	A	9.0	C	15.3	C	15.8
3. SR 29 / Western Mine Rd	EB/WB Stop								
NB left		---	---	---	---	A	7.6	A	7.6
SB left		---	---	---	---	A	8.8	A	8.9
EB		B	13.2	B	13.5	C	17.6	C	18.1
WB		B	11.6	B	11.8	B	12.6	B	12.8





EXISTING PLUS PROJECT TRAFFIC VOLUMES AND LANE CONFIGURATIONS
ACCESS OPTION 3 – CENTRAL ACCESS AND RANCHERIA RD

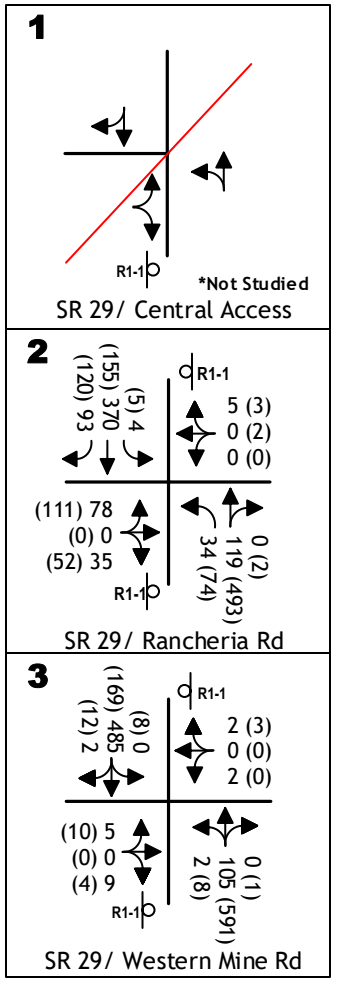
Reduced Density Alternative - Western Mine Road and Rancheria Road Access: The impacts of operating the proposed project under the reduced density alternative with access to Martin Ranch via the Western Mine Road and Rancheria Road intersections have been identified by superimposing project trips onto the existing background condition. Figure 11 presents the "Existing Plus Project" traffic volumes at each intersection. Resulting intersection Levels of Service were then calculated and used as the basis for evaluating potential project impacts.

Intersection Levels of Service. Table 8 compares Existing and Plus Project peak hour Levels of Service and average delay per vehicle at the access intersections. Motorists entering SR 29 from either intersection will experience delays that are characteristic of up to LOS C conditions in the a.m. peak hour while the eastbound Rancheria Road approach to SR 29 will experience LOS D conditions in the p.m. peak hour; the remaining intersections and approaches will experience LOS C or better conditions.

TABLE 8
EXISTING PLUS PROJECT PEAK HOUR LEVELS OF SERVICE
REDUCED DENSITY ALTERNATIVE –WESTERN MINE RD AND RANCHERIA RD ACCESS

Location	Control	AM Peak Hour				PM Peak Hour			
		Existing		Ex Plus Project (Reduced Density)		Existing		Ex Plus Project (Reduced Density)	
		LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)
2. SR 29 / Rancheria Road									
NB left	EB/WB Stop	A	8.5	A	8.5	A	8.0	A	8.0
SB left		A	7.5	A	7.5	A	8.5	A	8.5
EB		C	15.3	C	16.2	D	26.1	D	28.6
WB		A	8.9	A	8.9	C	15.3	C	15.5
3. SR 29 / Western Mine Rd									
NB left	EB/WB Stop	---	---	A	8.5	A	7.6	A	7.6
SB left		---	---	---	---	A	8.8	A	8.9
EB		B	13.2	B	12.8	C	17.6	C	16.4
WB		B	11.6	B	11.8	B	12.6	B	12.7





EXISTING PLUS PROJECT TRAFFIC VOLUMES AND LANE CONFIGURATIONS
REDUCED DENSITY ALTERNATIVE WITH ACCESS OPTION 1

Traffic Signal Warrants - SR 29 / Rancheria Road. Traffic signal warrants were considered with addition of the project traffic under Access Option #1, Rancheria Road and Western Mine Road access. This access option will assign the highest project volumes onto Rancheria Road.

Warrant No. 1 – EIGHT HOUR VEHICULAR VOLUME (MET – YES)
(Condition A or Condition B or combination of A and B must be satisfied)

Condition A (MET – YES). Two-way traffic conditions are met along SR 29 and Rancheria Road for the highest eight hours. The Minimum Vehicle Volumes will be met. The condition will also be satisfied for the 80% condition.

Condition B (MET – NO [Met for 80% condition]). The two-way traffic conditions along SR 29 are reached for seven of the highest eight hours; the condition requires volumes be met for at least eight hours a day. The approach volumes along Rancheria Road are reached for these eight hours under 100% conditions. The volumes for both facilities are met under the 80% condition.

Combination of Conditions A & B (MET - NO). The volume requirements at this intersection will be met under both Conditions, although an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has not been attempted.

Warrant No. 2 – FOUR HOUR VEHICULAR VOLUME (MET – YES)

All the plotted points of the four highest hours fall above the MUTCD four-hour vehicular volume curve.

Warrant No. 3 – PEAK HOUR (MET – YES)
(Part A or Part B must be satisfied)

Part A (MET - NO). The peak hour delay warrant will be satisfied under sub-parts 2 and 3, but not sub-part 1.

Part B (MET - YES). The plotted point for vehicles per hour on both major approaches and highest minor approach during the peak hour volume are above the MUTCD peak hour curve; the peak hour volume warrant is satisfied.

Warrant No. 4 – PEDESTRIAN VOLUME (MET – NO)
(Parts 1 and 2 Must Be Satisfied)

No pedestrian volumes were noted at this intersection. The addition of this project will not add pedestrian traffic sufficient to meet the pedestrian volume warrant.

Warrant No. 5 – SCHOOL CROSSING (MET – N/A)
(Parts 1 and 2 Must Be Satisfied)

This warrant is not applicable.

Warrant No. 6 – COORDINATED SIGNAL SYSTEM (MET – NO)
(All Parts Must Be Satisfied)

This warrant is related to coordinated signal systems. The closest signalized intersection is about 1½ miles away in Middletown; however, the adjacent signal control will not collectively provide a progressive operation due to the distance to the study intersection. This intersection does not meet the Coordinated Signal System warrant.

Warrant No. 7 – CRASH EXPERIENCE WARRANT (MET – NO)
(All Parts Must Be Satisfied)

Based on the 2018 through 2020 crash history and the added project traffic, it is not expected that five crashes would occur within a twelve-month period as a result of this project.

Warrant No. 8 – ROADWAY NETWORK (MET – NO)
(All Parts Must Be Satisfied)

SR 29 serves as a Principal Roadway for traffic between Napa and the Clear Lake area. In order to meet this warrant both routes must meet any of the major route characteristics. Rancheria Road will not be a Principal Roadway; therefore, this warrant is not met.

Warrant No. 9 – INTERSECTION NEAR A GRADE CROSSING (MET – N/A)

This warrant was not applicable.

Left Turn Channelization. Left turn channelization along SR 29 exists at the Rancheria Road intersection. Left turn channelization at the Western Mine Road or the proposed SR 29 frontage access was considered. The American Association of State Transportation and Highway Officials (AASHTO) has identified guidelines for the installation of left-turn lanes in their publication *A Policy on Geometric Design of Highways and Streets (Green Book)*. Their most recent guidelines (2018) provide suggested left-turn treatment guidelines based on results from benefit-cost evaluations. The two intersections were reviewed against the AASHTO graphs for rural road conditions to determine whether "a left-turn lane may be desirable, not necessarily where a left turn lane is definitely needed."

The tables for rural roadways were reviewed for three and four-leg intersections. The SR 29 / Western Mine Road intersection currently meets the guidelines where a left turn lane may be desirable. Under project conditions the Western Mine Road intersection and the Martin Ranch driveway intersection will meet these guidelines.

Internal Access. An *AutoTurn* assessment was prepared to determine the feasibility of motor home traffic accessing the Scott Property from Rancheria Road. *AutoTurn* software implements procedures described in the American Association of State and Highway Transportation Officials (AASHTO) document *A Policy on Geometric Design of Highways and Streets*, and the Caltrans *Highway Design Manual*. The program is a CADD based program that simulates turning

maneuvers for highway vehicles. The program is used to define vehicle tire tracking and sweep paths in order to design roadway features to meet minimum design vehicle constraints.

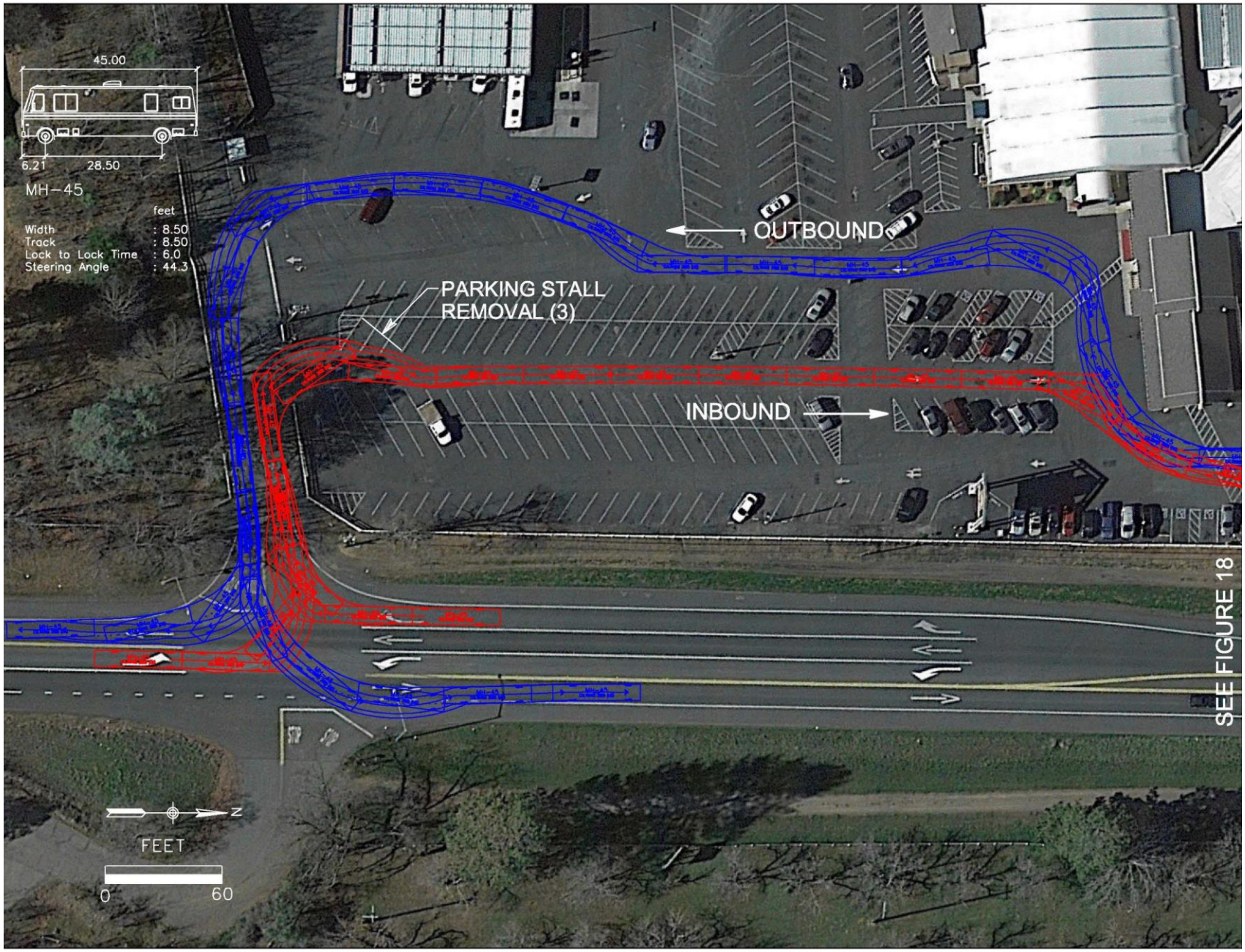
Overflow parking located on the north side of the casino / hotel, adjacent to the Scott Property, is currently accessed along the east side of the casino / hotel property. Motorhome traffic is intended to use the same access. Figures 17 and 18 illustrate the paths taken to reach the overflow parking area, from which the Scott Property will be accessible.

Figure 12 shows motorhomes completing turns, both inbound and outbound, at the SR 29 / Rancheria Road intersection. All turns can be made within the existing pavement. Inbound traffic will use the first driveway to enter the casino / hotel parking lot and travel north to the hotel entrance. Motorists will then turn right and head along the east side of the hotel to the "backside" of the site. A choke point is present between SR 29 and the hotel shown in Figure 13. Once past the choke point inbound motorhomes will make consecutive left and right turns to reach the overflow parking lot. Outbound motorhomes will exit the overflow parking area and veer to the left, so they have a direct line of sight past the choke point. Once past, the motorhomes will proceed along the hotel perimeter, and turn south to the northerly driveway.

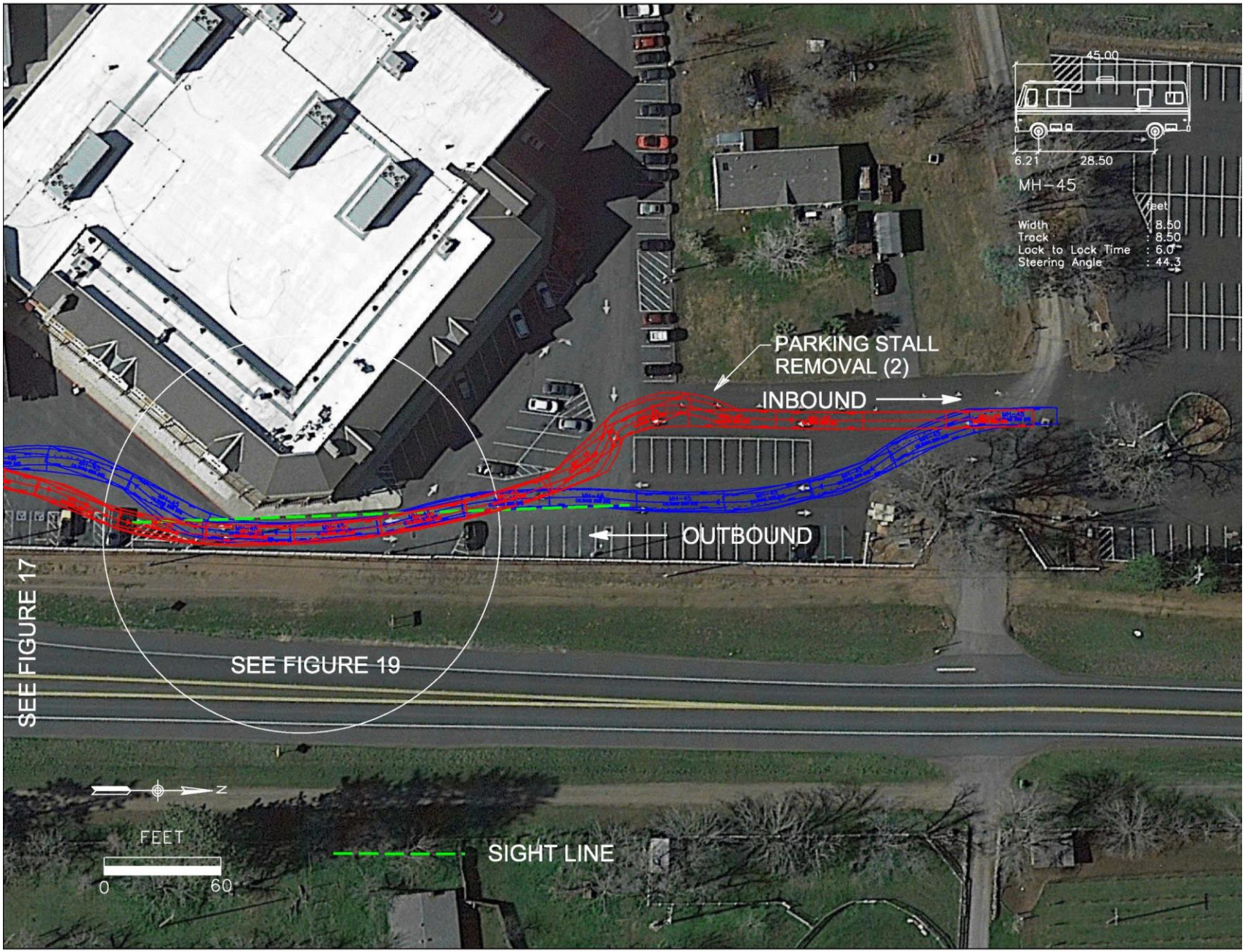
To allow motorhome traffic, changes in the traffic flow will be needed. The following recommendations are made and are illustrated in Figure 14:

- remove 3 parking stalls upon entering the casino / hotel parking lot;
- install northbound and southbound stop markings prior to entering the choke point;
- remove 3 parking stalls on the south side of the choke point to allow clear lines of sight between stopped motorhomes north and south of the choke point;
- modify the directionality of the parking aisles on the north side of the casino / hotel to allow southbound motorhomes a direct line of sight to the northbound stop location;
- remove 2 parking stalls on the north side of the casino / hotel.

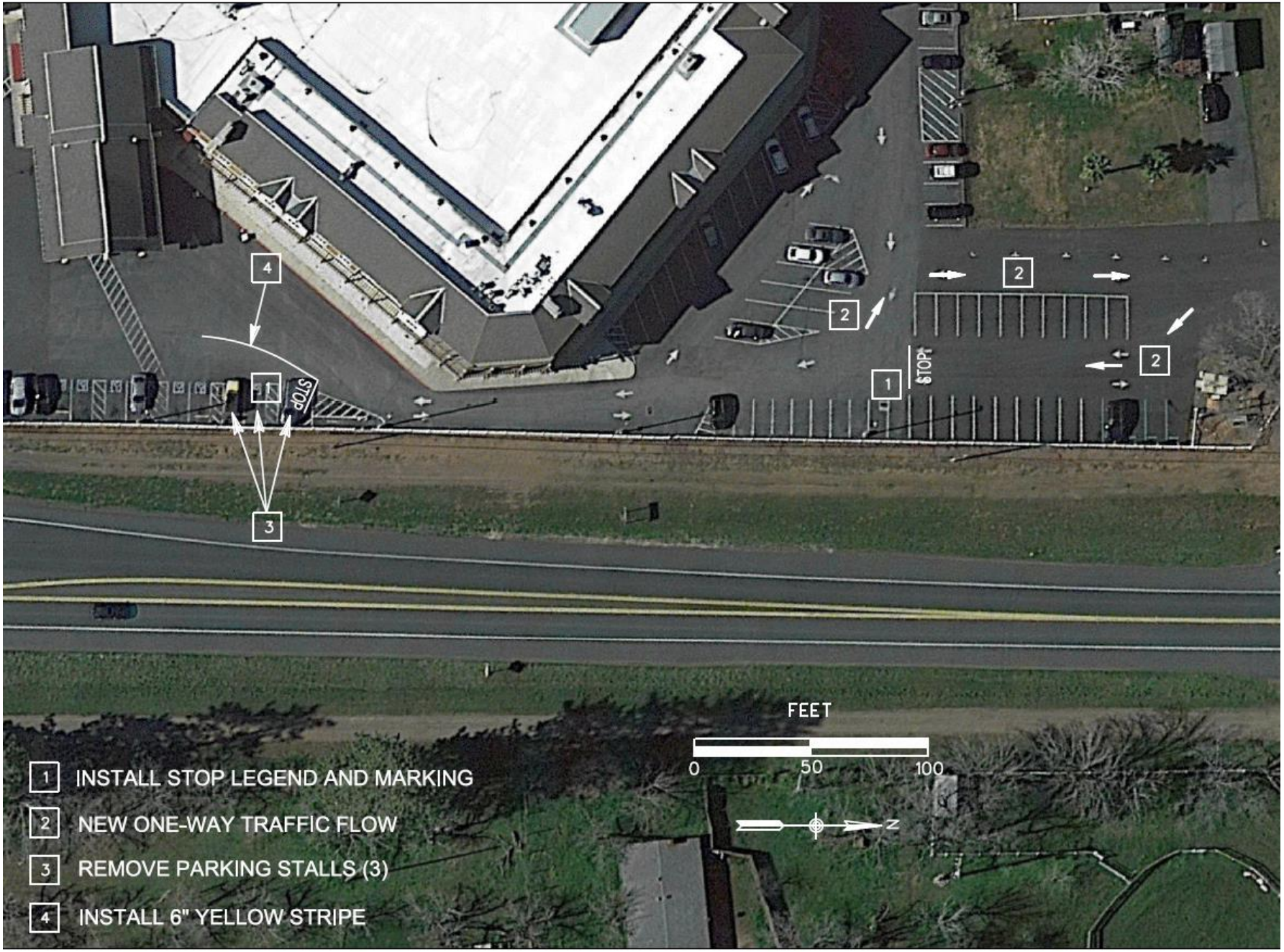
This alignment minimizes the removal of parking spaces; however, alternatives are available that would require additional restriping and could result in a loss of additional parking.



AUTOTURN (MOTORHOME) – SOUTH SIDE



AUTOTURN (MOTORHOME) – NORTH SIDE



AUTOTURN (MOTORHOME) – CHOKE POINT DETAIL

CUMULATIVE IMPACTS

Since 1984, Caltrans District 1 has projected growth factors based on a straight-line determinant method. The most recent growth factors were compiled in 2014 and Caltrans has identified a straight-line growth factor of 1.45 along SR 29. The 2014 SR 29 South Corridor Engineered Feasibility Study prepared by Omni Means for Caltrans District 1 identified a growth factor of 1.41 at the SR 29 / Rancheria Road intersection. The Omni Means study used the Lake County Area-wide Micro-simulation Model (LAMM) and resulted in predicted future volume increases of 8% northbound and 97% southbound. However, based on direction from Caltrans District 1 *(e-mail from David Carstensen February 7, 2018)* Caltrans noted that traffic volumes along SR 29 should be distributed evenly in both directions. No additional documents were identified although the Lake County Regional Transportation Plan is currently being updated.

To develop forecasts of future year peak hour intersection turning movement traffic volumes the following methodology was used: Based on roadway growth of 145% over 20 years the directional traffic was calculated using the District 1 straight line methodology. Development of future year intersection turning movement traffic volumes requires that the turning movements at each intersection "balance". To achieve the balance, inbound traffic volumes must equal the outbound traffic volumes, and the volumes must be distributed among the various left-turn, through, and right-turn movements at each intersection. The "balancing" of future year intersection turning movement traffic volumes was conducted using methods described in the Transportation Research Board's (TRB's) National Cooperative Highway Research Program (NCHRP) Report 255, *Highway Traffic Data for Urbanized Area Project Planning and Design*. The NCHRP 255 method (Furness Factoring) applies the desired peak hour directional volumes to the intersection turning movement volumes, using an iterative process to balance and adjust the resulting forecasts to match the desired peak hour directional volumes.

The Middletown Rancheria intends to add a 6,000 square foot convenience store to the existing 12-position gas station. Trip generation characteristics of a Super Convenience Store (C-store), Land Use 960, were compared to the existing gas station trip generation characteristics (LU 944), with the higher generating land use traffic added to traffic conditions along SR 29 and Rancheria Road. Pass-by trips were included in the overall traffic patterns. The C-store is projected to generate 499 a.m. peak hour trips and 416 p.m. peak hour trips. After accounting for pass-by trips the C-store is projected to generate 180 new a.m. peak hour trips and 174 new p.m. peak hour trips; this is higher than the 12-position gas station. Figure 15 identifies Cumulative traffic volumes based on the Caltrans growth factor, Furness Factoring and the C-store traffic.

Long Term Improvements. The extent of potential improvements to SR 29 in the study area was determined from review of the State Route 29 Transportation Concept Report (TCR) and the SR 29 South Corridor Engineered Feasibility Study. The TCR notes that capacity increasing improvements in the project vicinity are not necessary to maintain the concept LOS through 2035.

The SR 29 South Corridor Engineered Feasibility Study identified the following improvements in the project study area:

- Installation of a traffic signal or roundabout at the SR 29 / Rancheria Road intersection.

The following corridor enhancements were also identified:

- Installation of colorized shoulders, optical speed bars and a gateway monument at the Rancheria Road intersection to help reduce speeds and provide a sense of entry into the Middletown Community.

- Installation of a Class 1 bikeway and equestrian trail north from Rancheria Road to Middletown; the pathway could also be used by pedestrians.

None of the projects are funded.

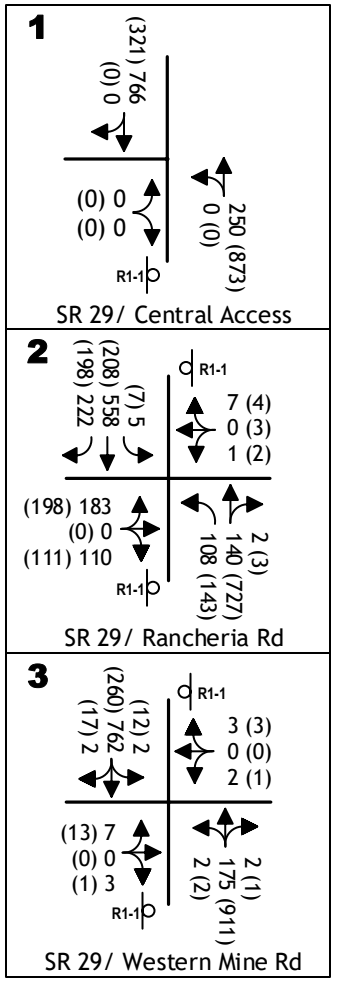
Cumulative Intersection Levels of Service. Table 9 identifies Cumulative year intersection Levels of Service without the proposed project. With background traffic increasing, the Level of Service for motorists entering SR 29 from the eastbound Rancheria Road approach will decline to LOS F in the a.m. and p.m. peak hours. This would exceed the LOS E TCR goal. The Western Mine Road intersection is projected to maintain acceptable levels of service in both a.m. and p.m. peak hours, at LOS D or better.

TABLE 9
CUMULATIVE PEAK HOUR LEVELS OF SERVICE

Location	Control	AM Peak Hour		PM Peak Hour	
		LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)
2. SR 29 / Rancheria Road	EB / WB				
NB Left	Stop	B	10.4	A	8.7
SB Left		A	7.5	A	9.4
EB		**F**	**193.0**	**F**	**574.3**
WB		B	12.7	D	34.7
3. SR 29 / Western Mine Road	EB / WB				
NB Left	Stop	A	9.5	A	7.9
SB Left		A	7.6	B	10.3
EB		C	20.6	D	34.1
WB		B	14.6	C	21.2

Bold indicates level of service threshold exceeded





CUMULATIVE TRAFFIC VOLUMES AND LANE CONFIGURATIONS

Cumulative Plus Project Traffic Conditions

Access Option #1 – Western Mine Road and Rancheria Road Access: The impacts of operating the proposed projects with access to Martin Ranch via the Western Mine Road and Rancheria Road intersections have been identified by superimposing project trips onto the cumulative background condition. Access for the Scott Property RV Park will be from Rancheria Road. Figure 16 presents the "Cumulative Plus Project" traffic volumes at each intersection under Access Option #1 with access at Rancheria Road and Western Mine Road. Resulting intersection Levels of Service were then calculated and used as the basis for evaluating potential project impacts.

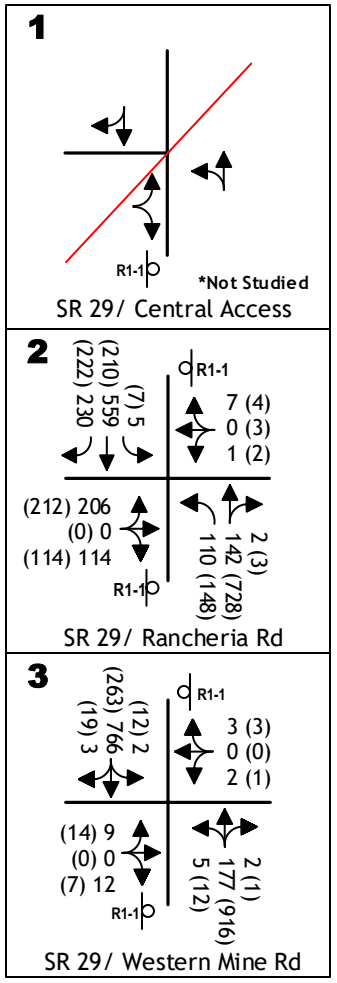
Intersection Levels of Service. Table 10 compares Cumulative and Plus Project peak hour Levels of Service and average delay per vehicle at the access intersections under Access Option #1. Motorists entering SR 29 from the eastbound approach at Rancheria Road will continue to experience LOS F delays in both the a.m. and p.m. peak hours. This exceeds the LOS E TCR threshold. The Western Mine Road intersection will operate at LOS D or better in both a.m. and p.m. peak hours.

TABLE 10
CUMULATIVE PLUS PROJECT PEAK HOUR LEVELS OF SERVICE
ACCESS OPTION #1 – WESTERN MINE ROAD AND RANCHERIA ROAD ACCESS

Location	Control	AM Peak Hour				PM Peak Hour			
		Cumulative		Cum Plus Project (Opt #1 – Western Mine Rd & Rancheria Rd Access)		Cumulative		Cum Plus Project (Opt #1 – Western Mine Rd & Rancheria Rd Access)	
		LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)
2. SR 29 / Rancheria Road									
NB left	EB/WB Stop	B	10.4	B	10.4	A	8.7	A	8.7
SB left		A	7.5	A	7.5	A	9.4	A	9.4
EB		**F**	**193.0**	**F**	**257.2**	**F**	**574.3**	**F**	**666.7**
WB		B	12.7	B	12.9	D	34.7	E	36.5
3. SR 29 / Western Mine Rd									
NB left	EB/WB Stop	A	9.5	A	9.5	A	7.9	A	7.9
SB left		A	7.6	A	7.6	B	10.3	B	10.3
EB		C	20.6	C	19.3	D	34.1	D	29.6
WB		B	14.6	C	15.0	C	21.2	C	21.9

Bold indicates level of service threshold exceeded





CUMULATIVE PLUS PROJECT TRAFFIC VOLUMES AND LANE CONFIGURATIONS
ACCESS OPTION 1 – RANCHERIA RD AND WESTERN MINE RD

Access Option #2 – Western Mine Road Access: The impacts of the proposed projects under Access Option #2, Western Mine Road and a new access location along the SR 29 project frontage for Martin Ranch, have been identified by superimposing project trips onto the cumulative background condition. Figure 17 presents the "Cumulative Plus Project" traffic volumes with access for Martin Ranch along the project frontage and a second access at the SR 29 / Western Mine Road intersection. Access for the Scott Property will be via Rancheria Road. Resulting intersection Levels of Service were then calculated and used as the basis for evaluating potential project impacts.

Intersection Levels of Service. Table 11 compares Cumulative and Plus Project peak hour Levels of Service and average delay per vehicle at the access intersections. Motorists along the eastbound Rancheria Road approach to SR 29 will continue to experience LOS F delays in the a.m. and p.m. peak hours. This exceeds the LOS E TCR threshold. The remaining intersections will operate at LOS D or better in both a.m. and p.m. peak hours.

TABLE 11
CUMULATIVE PLUS PROJECT PEAK HOUR LEVELS OF SERVICE
ACCESS OPTION #2 – WESTERN MINE ACCESS

Location	Control	AM Peak Hour				PM Peak Hour			
		Cumulative		Cum Plus Project (Opt #2 – Western Mine Rd Access)		Cumulative		Cum Plus Project (Opt #2 – Western Mine Rd Access)	
		LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)
1. SR 29 / Central Access	EB Stop								
NB left		---	---	A	9.6	---	---	A	8.1
EB		---	---	C	21.4	---	---	D	25.1
2. SR 29 / Rancheria Road	EB/WB Stop								
NB left		B	10.4	A	10.4	A	8.7	A	8.9
SB left		A	7.5	A	7.6	A	9.4	A	9.4
EB		**F**	**193.0**	**F**	**225.5**	**F**	**574.3**	**F**	**665.5**
WB		B	12.7	B	13.1	D	34.7	E	37.1
3. SR 29 / Western Mine Rd	EB/WB Stop								
NB left		A	9.5	A	9.6	A	7.9	A	7.9
SB left		A	7.6	A	7.6	B	10.3	B	10.3
EB		C	20.6	C	19.8	D	34.1	D	32.2
WB		B	14.6	C	15.0	C	21.2	C	21.8

Bold indicates level of service threshold exceeded



CUMULATIVE PLUS PROJECT TRAFFIC VOLUMES AND LANE CONFIGURATIONS
ACCESS OPTION 2 – CENTRAL ACCESS AND WESTERN MINE RD

Access Option #3 – Rancheria Road: The impacts of the proposed projects under Access Option #3, Rancheria Road and a new access along the SR 29 project frontage for Martin Ranch, have been identified by superimposing project trips onto the cumulative background condition. Access for the Scott Property will be via Rancheria Road. Figure 18 presents the "Cumulative Plus Project" traffic volumes under this access option. Resulting intersection Levels of Service were then calculated and used as the basis for evaluating potential project impacts.

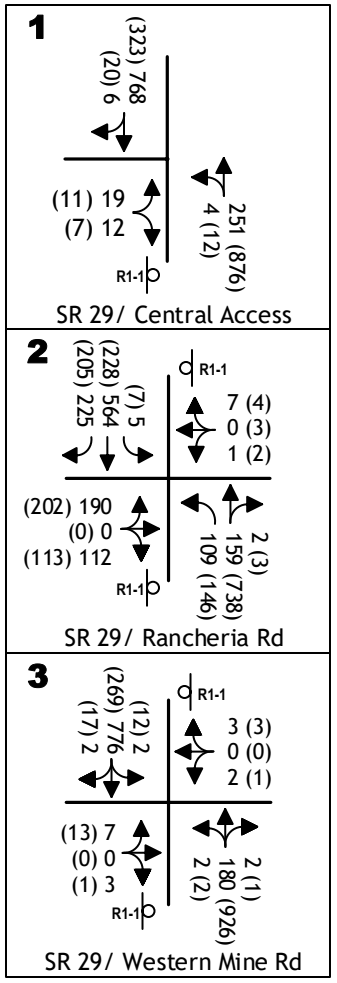
Intersection Levels of Service. Table 12 compares Cumulative and Plus Project peak hour Levels of Service and average delay per vehicle at the access intersections. Motorists along the eastbound Rancheria Road approach to SR 29 will continue to experience LOS F delays in the a.m. and p.m. peak hours. This exceeds the LOS E TCR threshold. The remaining intersections will operate at LOS E or better in both a.m. and p.m. peak hours.

TABLE 12
CUMULATIVE PLUS PROJECT PEAK HOUR LEVELS OF SERVICE
ACCESS OPTION #3 – RANCHERIA ROAD ACCESS

Location	Control	AM Peak Hour				PM Peak Hour			
		Cumulative		Cum Plus Project (Opt #3 – Rancheria Rd Access)		Cumulative		Cum Plus Project (Opt #3 – Rancheria Rd Access)	
		LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)
1. SR 29 / Central Access	EB Stop								
NB left		---	---	A	9.6	---	---	A	8.1
EB		---	---	C	20.5	---	---	C	21.9
2 SR 29 / Rancheria Road	EB/WB Stop								
NB left		B	10.4	B	10.4	A	8.7	A	8.9
SB left		A	7.5	A	7.6	A	9.4	A	9.4
EB		**F**	**193.0**	**F**	**232.0**	**F**	**574.3**	**F**	**660.5**
WB		B	12.7	B	13.1	D	34.7	D	37.1
3. SR 29 / Western Mine Rd	EB/WB Stop								
NB left		A	9.5	A	9.6	A	7.9	A	7.9
SB left		A	7.6	A	7.6	B	10.3	B	10.3
EB		C	20.6	C	21.1	D	34.1	E	35.3
WB		B	14.6	B	14.8	C	21.2	C	21.7

Bold indicates level of service threshold exceeded





CUMULATIVE PLUS PROJECT TRAFFIC VOLUMES AND LANE CONFIGURATIONS
ACCESS OPTION 3 – CENTRAL ACCESS AND RANCHERIA RD

REDUCED DENSITY ALTERNATIVE (Option #4) - Western Mine Road and Rancheria Road Access: The impacts of operating the proposed project under the reduced density option with access to Martin Ranch via the Western Mine Road and Rancheria Road intersections have been identified by superimposing project trips onto the cumulative background condition. Access for the Scott Property RV Park will be from Rancheria Road. Figure 19 presents the "Cumulative Plus Project" traffic volumes at each intersection. Resulting intersection Levels of Service were then calculated and used as the basis for evaluating potential project impacts.

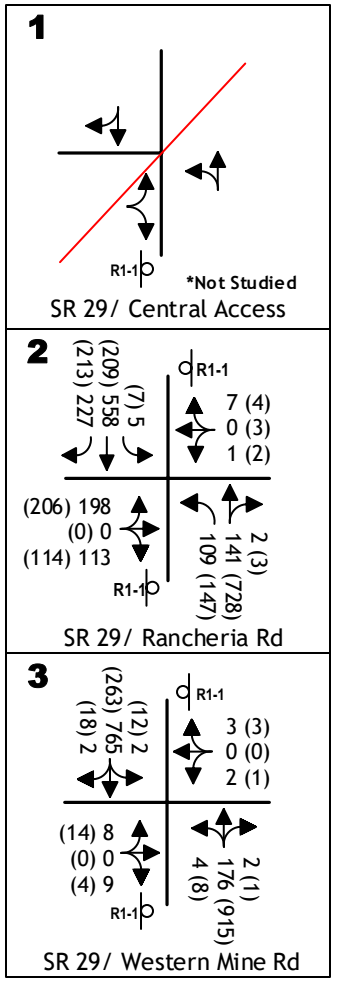
Intersection Levels of Service. Table 13 compares Cumulative and Plus Project peak hour Levels of Service and average delay per vehicle at the access intersections. Motorists entering SR 29 from the eastbound approach at Rancheria Road will continue to experience LOS F delays in both the a.m. and p.m. peak hours. This exceeds the LOS E TCR threshold. The Western Mine Road intersection will operate at LOS D or better in both a.m. and p.m. peak hours.

TABLE 13
CUMULATIVE PLUS PROJECT PEAK HOUR LEVELS OF SERVICE
REDUCED DENSITY OPTION –WESTERN MINE RD AND RANCHERIA RD ACCESS

Location	Control	AM Peak Hour				PM Peak Hour			
		Cumulative		Cum Plus Project (Reduced Density)		Cumulative		Cum Plus Project (Reduced Density)	
		LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)
2. SR 29 / Rancheria Road									
NB left	EB/WB Stop	B	10.4	B	10.4	A	8.7	A	8.8
SB left		A	7.5	A	7.5	A	9.4	A	9.4
EB		**F**	**193.0**	**F**	**230.9**	**F**	**574.3**	**F**	**627.2**
WB		B	12.7	B	12.8	D	34.7	E	36.0
3. SR 29 / Western Mine Rd									
NB left	EB/WB Stop	A	9.5	A	9.5	A	7.9	A	7.9
SB left		A	7.6	A	7.6	B	10.3	B	10.3
EB		C	20.6	C	19.3	D	34.1	D	32.0
WB		B	14.6	B	14.8	C	21.2	C	21.6

Bold indicates level of service threshold exceeded





CUMULATIVE PLUS PROJECT TRAFFIC VOLUMES AND LANE CONFIGURATIONS
REDUCED DENSITY ALTERNATIVE WITH ACCESS OPTION 1

Cumulative Conditions Traffic Signal Warrant - SR 29 / Rancheria Road. For the Cumulative conditions a traffic signal warrant analysis was conducted for only the peak hours; the Western Mine Road and possible new frontage access intersection will not have volumes along the minor road that meet minimum volume requirements. At the Rancheria Road intersection, Parts A and B of the peak hour warrant will be met.

Cumulative plus Project Conditions Traffic Signal Warrant - SR 29 / Rancheria Road. Similar to the Existing plus Project analysis the Cumulative plus Project conditions were considered under the worst-case scenario under Option #1, with project access via the Western Mine Road and Rancheria Road intersections. The SR 29 / Rancheria Road intersection will meet both Part A and Part B of the peak hour warrant. A review of Option #2 with driveway access was also reviewed. The Western Mine Road and frontage access intersection locations will not have volumes along the minor road that meet minimum volume requirements.

FINDINGS / RECOMMENDATIONS/IMPROVEMENTS

The preceding analysis has identified project impacts that may occur without improvements. The text that follows identifies a strategy of improvements for the proposed project. Recommendations are identified for facilities that have deficiencies in the roadway network without the project. If the project causes an impact, improvements are identified for the facility.

Existing Conditions

Both intersections operate within acceptable Caltrans LOS thresholds for the SR 29 roadway as identified in the Transportation Concept Report. The intersection will meet several traffic signal warrants including the Eight Hour, the Four Hour and the Peak Hour warrants. An analysis of crash history over the last three-year period between January 1, 2018 and December 31, 2020 noted several crashes occurring at the SR 29 / Rancheria Road intersection. The primary collision factor for most of the crashes was due to the failure of the motorist along Rancheria Road to yield the right-of-way prior to entering the intersection. The crash warrant notes that the number of crashes in a 12-month period susceptible to correction by a traffic signal must be 5 or more. In none of the previous three-year periods, nor in a combination of multiple years equaling a 12-month period, did five or more crashes occur at the intersection. While the warrant is strictly not met it is apparent that some motorists may not be recognize the stop control along the minor roadways.

Signalization of the SR 29 / Rancheria Road intersection would result in LOS B conditions. If the intersection is not signalized, it is recommended that stop signs along Rancheria Road and E Road be retrofitted with embedded LED's in the sign faces to enhance driver awareness of the traffic control devices.

Existing Plus Project Conditions, Access Option #1 - Mitigations

All intersections operate within acceptable Caltrans LOS thresholds for the SR 29 roadway as identified in the Transportation Concept Report. The SR 29 / Rancheria Road intersection will meet several traffic signal warrants including the Eight Hour, the Four Hour and the Peak Hour warrants. Signalization of the intersection will result in LOS B conditions in both a.m. and p.m. peak hours.

Existing Plus Project Conditions, Access Option #2 - Mitigations

All intersections operate within acceptable Caltrans LOS thresholds for the SR 29 roadway as identified in the Transportation Concept Report. The SR 29 / Rancheria Road intersection will meet several traffic signal warrants including the Eight Hour, the Four Hour and the Peak Hour warrants. Signalization of the intersection will result in LOS B conditions in both a.m. and p.m. peak hours.

Existing Plus Project Conditions, Access Option #3 - Mitigations

All intersections operate within acceptable Caltrans LOS thresholds for the SR 29 roadway as identified in the Transportation Concept Report. The SR 29 / Rancheria Road intersection will meet several traffic signal warrants including the Eight Hour, the Four Hour and the Peak Hour warrants. Signalization of the intersection will result in LOS B conditions in both a.m. and p.m. peak hours.

Existing Plus Project Conditions, Reduced Density Alternative with Access Option #1 - Mitigations

All intersections operate within acceptable Caltrans LOS thresholds for the SR 29 roadway as identified in the Transportation Concept Report. The SR 29 / Rancheria Road intersection will meet several traffic signal warrants including the Eight Hour, the Four Hour and the Peak Hour warrants. Signalization of the intersection will result in LOS B conditions in both a.m. and p.m. peak hours.

Cumulative Conditions - Recommendations

The SR 29 / Rancheria Road intersection will decline to a LOS F condition along the eastbound Rancheria Road approach to SR 29 intersection in both a.m. and p.m. peak hours. This is below the acceptable LOS E threshold. The SR 29 / Western Mine Road intersection will continue to operate at acceptable levels of service. The SR 29 / Rancheria Road intersection will meet Parts A and B of the peak hour warrant. The intersection is identified in the SR 29 South Corridor Engineered Feasibility Study to operate at LOS F in the future with a suggested improvement of either a traffic signal or a roundabout. Under either alternative, the intersection will operate at LOS C. Further discussion of these alternatives can be found in the Appendix.

Cumulative plus Project Conditions, Access Option #1 - Mitigations

The SR 29 / Rancheria Road intersection will decline to a LOS F condition along the eastbound Rancheria Road approach to SR 29 intersection. This is below the acceptable LOS E threshold. Under either traffic signal or roundabout alternative improvement, the intersection will operate at LOS C. Further discussion of each alternative can be found in the Appendix.

Cumulative plus Project Conditions, Access Option #2 - Mitigations

The SR 29 / Rancheria Road intersection will decline to a LOS F condition along the eastbound Rancheria Road approach to SR 29 intersection. This is below the acceptable LOS E threshold. Under either traffic signal or roundabout alternative improvement, the intersection will operate at LOS C. Further discussion of each alternative can be found in the Appendix.

Cumulative plus Project Conditions, Access Option #3 - Mitigations

The SR 29 / Rancheria Road intersection will decline to a LOS F condition along the eastbound Rancheria Road approach to SR 29 intersection. This is below the acceptable LOS E threshold. Under either traffic signal or roundabout alternative improvement, the intersection will operate at LOS C. Further discussion of each alternative can be found in the Appendix.

Cumulative plus Reduced Density Project Conditions, Access Option #1 - Mitigations

The SR 29 / Rancheria Road intersection will decline to a LOS F condition along the eastbound Rancheria Road approach to SR 29 intersection. This is below the acceptable LOS E threshold. Under either traffic signal or roundabout alternative improvement, the intersection will operate at LOS C. Further discussion of each alternative can be found in the Appendix.

REFERENCES

Documents Cited

California Department of Transportation. *California Manual on Uniform Traffic Control Devices for Streets and Highways* – 2014 Edition. Sacramento, CA

California Department of Transportation. District 1, *State Route 29 South Corridor Engineered Feasibility Study*, January 2014.
http://www.dot.ca.gov/dist1/planning/regional-system/sr29_south_corridor_efs_final_january_2014.pdf

California Department of Transportation. District 1, *Transportation Concept Report State Route 29*, August 2013. http://www.dot.ca.gov/dist1/planning/regional-system/tcr/tcr_29.pdf

California Department of Transportation. Traffic and Vehicle Data Systems. http://www.dot.ca.gov/hq/traffops/saferesr/trafdata/

California Department of Transportation. District 1 and Lake County / City Area Planning Council. *Middletown Community Action Plan*, January 2014
http://www.dot.ca.gov/dist1/planning/regional-system/final_mcap_020514.pdf

Lake County / City Area Planning Council. *2010 Lake County Regional Transportation Plan*, October 2010. http://www.lakeapc.org/docs/Final%20RTP%202010.pdf

Institute of Transportation Engineers. 2012. *Trip Generation*, 9th Edition. Washington, D.C. and 2017, 10th Edition

Transportation Research Board. *Highway Capacity Manual 6th Edition*. Washington, D.C.

Transportation Research Board. 1982. National Cooperative Highway Research Program (NCHRP) Report 255, *Highway Traffic Data for Urbanized Area Project Planning and Design.* Washington, D.C.

AASHTO. 2018. *A Policy on Geometric Design of Highways and Streets.* Washington, D.C.

Transportation Research Board. 2001. National Cooperative Highway Research Program (NCHRP) Report 457, *Evaluating intersection Improvements: An Engineering Study Guide.* Washington, D.C.

Institute of Transportation Engineers. 1990. ITE Committee 4A-22, *Guidelines for Left-Turn Lanes.* Washington, D.C.

APPENDIX

(Available on Request)

ICE SCREENING ASSESSMENT

The SR 29 / Rancheria Road intersection is projected to operate at LOS F in the Cumulative scenario with and without the proposed project. The ICE Screening Assessment is the first step in evaluating access solutions for intersections operating below accepted thresholds.

PLANNING LEVEL ANALYSIS

Three operational control alternatives were considered to improve the intersection to allow operations above the TCR threshold. An all-way stop, signalization and a single lane roundabout were considered. Table 1 below presents the level of service for the unsignalized intersection under mitigated conditions for each control based on HCS methodologies. HCS 6th Edition was used to determine level of service for all-way stop and signalized control while SIDRA was used to determine the projected LOS under roundabout control. The p.m. peak hour was evaluated based on the Level of Service analysis indicated LOS F conditions in that time period. The analysis considers the Cumulative plus Project scenario with Access Option #1.

Installation of an all way stop control would result in a LOS F condition for the intersection while a signal or roundabout would result in LOS C conditions. Based on these results an all-way stop was removed from further screening consideration.

TABLE 1
CONTROL ALTERNATIVE OVERVIEW

	Stop Control	Signalized Control	Roundabout Control
	PM	PM	PM
SR 29 / Rancheria Road	145.6 / F	23.9 / C	15.9 / C

ADDITIONAL CONSIDERATIONS

Geometric Considerations

Traffic Signal – The existing lane geometry will allow operation of a traffic signal within the acceptable LOS E threshold. As the intersection is in a rural area south of Middletown curb and sidewalk is not present. Installation of a traffic signal can be accomplished; however, barriers to signal equipment, such as curbing, would need to be installed as a part of the project to protect equipment. Additionally, the signal system will need to be developed considering installation of the multi-use pathway and equestrian trail parallel to the roadway.

Roundabout – A single lane "high speed" roundabout based on the posted 55 mph speed on SR 29 was reviewed. Roundabouts located on rural roads require different design considerations due to the high-speed approaches. Drivers need to be aware of the roundabout in a rural condition and this must be designed to allow the motorist to decelerate to the appropriate entry speed. The conditions along SR 29 include a cross section without curbs and with about 8-foot shoulders in the intersection area and 4- foot shoulders outside of the intersection area. The

lack of curbs permits the high speeds posted along the roadway. Approaching motorists will need to reduce their speed and a possible treatment includes a series of reverse curves with smaller radii through each successive curve until the design entry speed is reached. The installation of this roundabout may also include installation of a curb along the outside edge of pavement and a curbed median on the inside to narrow the approach roadway to indicate to drivers they are approaching a controlled intersection, requiring slower speeds.

A conceptual layout is shown in Figure A-1, consisting of a 160-foot inscribed diameter with a 16-foot circulatory lane and 9-foot truck apron. This will allow STAA and California Legal trucks to continue to travel along SR 29. A Cal-Legal truck was the assumed design vehicle on Rancheria Road while a motor home plus boat was assumed along the east side of the roundabout. E Road is shown to be realigned to and a new 90° tee intersection would be created east of the roundabout to access E Road. This conceptual layout provides for speeds entering the roundabout of about 25 mph. As noted in NCHRP 672, *Roundabouts, An Informational Guide*, if the difference in approach and entry speeds is greater than 12 mph it may be desirable to introduce geometric or cross-sectional features to reduce the speed of approaching traffic prior to the entry curvature. It is expected that the SR 29 approaches would have a series of reverse curves to slow down approaching vehicles to appropriate entry speeds.

Right-of-Way – Based on the conceptual plan shown in Figure A-1 it is expected that a traffic signal could be installed with limited, if any right-of-way acquisition. The roundabout would require acquisition of right-of-way as the inscribed diameter extends into the Twin Pine Casino parking lot. This is likely to also extend along SR 29 depending on the right-of-way needs relative to the reverse curve approaches identified under 'Geometric Considerations'.

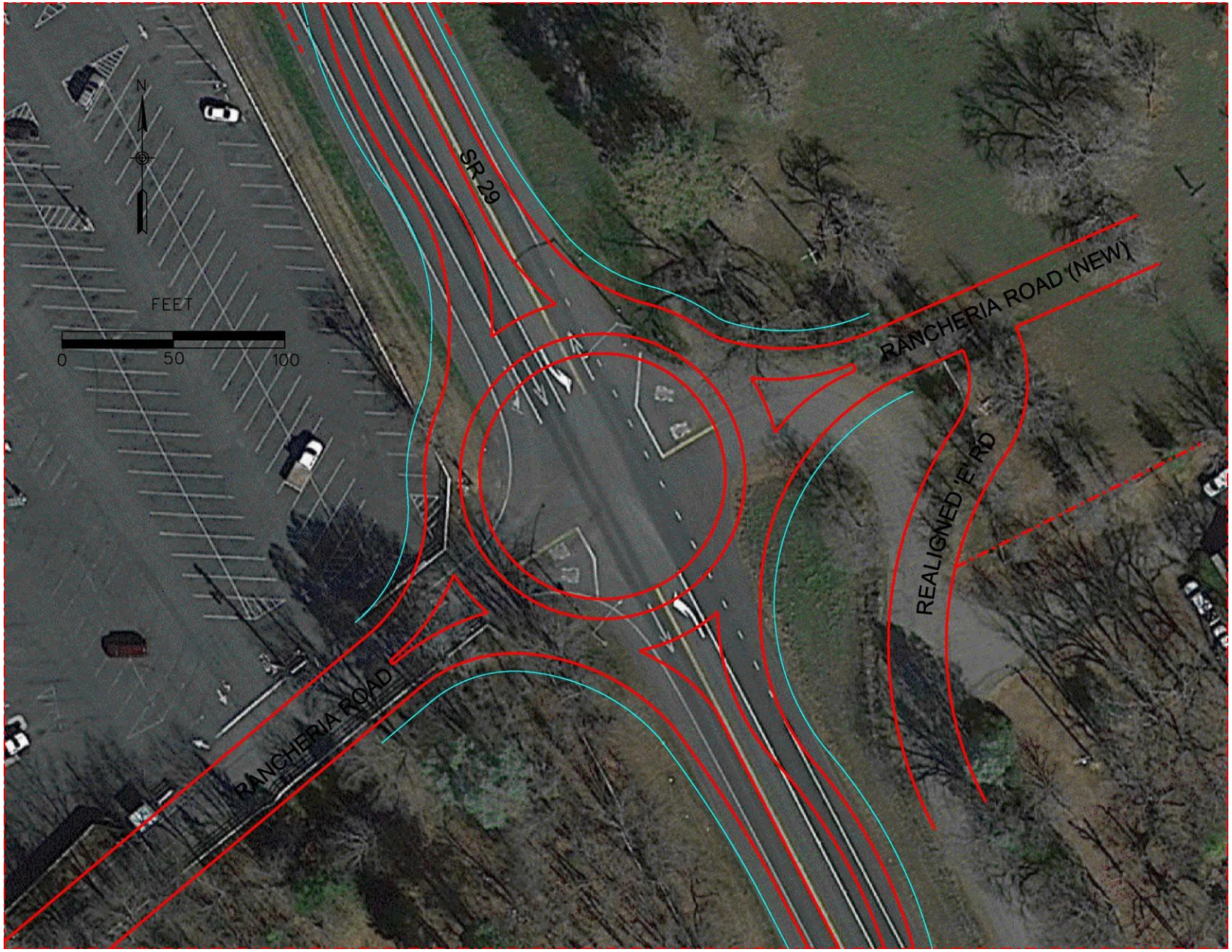
Modal Accessibility – A Class 1 bikeway with equestrian facility is planned along SR 29 north of Rancheria Road to Pine Street in Middletown. The facility will include a 10-foot off-roadway trail for bicyclists and pedestrians with a separate, but parallel equestrian trail. Accessibility to the trail at the SR 29 intersection can be facilitated by either signalization or installation of a roundabout at the intersection.

Conclusions

Under Cumulative traffic conditions the SR 29 / Rancheria Road intersections will operate at an unacceptable level of service with its current control. The following Levels of Service can be anticipated considering the three intersection alternatives:

- All-Way Stop Control – The intersection will operate with an unacceptable LOS F during the AM and PM peak hour.
- Traffic Signal – The intersection would operate with a LOS C during the PM peak hour.
- Single Lane Roundabout – The intersection would operate at LOS C during the PM peak hour.

From a feasibility standpoint, all-way stop control would be inadequate as LOS F conditions would be maintained while a traffic signal or roundabout will both provide LOS B conditions during the PM peak hour.



PRELIMINARY ROUNDABOUT LAYOUT (SR 29 AT RANCHERIA RD)

Appendix F
Farmland Conversion Form

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*	Date Of Land Evaluation Request December 2, 2021
Name of Project Middletown Rancheria-Martin/Scott FTT	Federal Agency Involved Bureau of Indian Affairs
Proposed Land Use Residential, RV Park, Open Space	County and State Lake County, California
PART II *(To be completed by NRCS)*	Date Request Received By NRCS 12/20/2021 / Person Completing Form: Luis Alvarez

Does the site contain Prime, Unique, Statewide or Local Important Farmland? *(If no, the FPPA does not apply - do not complete additional parts of this form)*	YES [x]	NO [ ]	Acres Irrigated: 13,906 / Average Farm Size: 218 ac
Major Crop(s): Winegrapes, Pears and Walnuts	Farmable Land In Govt. Jurisdiction Acres: 119,95% 14.1		Amount of Farmland As Defined in FPPA Acres: 42,33(% 5.0
Name of Land Evaluation System Used: CA Revised Storie Index	Name of State or Local Site Assessment System: None		Date Land Evaluation Returned by NRCS: 12/21/2021

PART III *(To be completed by Federal Agency)*	Alternative Site Rating Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly	23.2			
B. Total Acres To Be Converted Indirectly	0			
C. Total Acres In Site	23.2			
PART IV *(To be completed by NRCS)* Land Evaluation Information				
A. Total Acres Prime And Unique Farmland	9.40			
B. Total Acres Statewide Important or Local Important Farmland	0			
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted	0.0222			
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value	0.99			
PART V (To be completed by NRCS) Land Evaluation Criterion Relative Value of Farmland To Be Converted (Scale of 0 to 100 Points)	91			

PART VI *(To be completed by Federal Agency)* Site Assessment Criteria *(Criteria are explained in 7 CFR 658.5 b. For Corridor project use form NRCS-CPA-106)*	**Maximum Points**	Site A	Site B	Site C	Site D
1. Area In Non-urban Use	(15)				
2. Perimeter In Non-urban Use	(10)				
3. Percent Of Site Being Farmed	(20)				
4. Protection Provided By State and Local Government	(20)				
5. Distance From Urban Built-up Area	(15)				
6. Distance To Urban Support Services	(15)				
7. Size Of Present Farm Unit Compared To Average	(10)				
8. Creation Of Non-farmable Farmland	(10)				
9. Availability Of Farm Support Services	(5)				
10. On-Farm Investments	(20)				
11. Effects Of Conversion On Farm Support Services	(10)				
12. Compatibility With Existing Agricultural Use	(10)				
TOTAL SITE ASSESSMENT POINTS	160	0	0	0	0
PART VII ***(To be completed by Federal Agency)***					
Relative Value Of Farmland *(From Part V)*	100	91	0	0	0
Total Site Assessment *(From Part VI above or local site assessment)*	160	0	0	0	0
TOTAL POINTS ***(Total of above 2 lines)***	260	91	0	0	0

Site Selected:	Date Of Selection	Was A Local Site Assessment Used? YES [ ] NO [ ]

Reason For Selection:

Name of Federal agency representative completing this form:	Date:

(See Instructions on reverse side) **Form AD-1006 (03-02)**

Appendix G
Phase I ESAs

PHASE I ENVIRONMENTAL SITE ASSESSMENT OF THE MARTIN RANCH, 22433 HIGHWAY 29, MIDDLETOWN, CALIFORNIA



June 11, 2021

Prepared for:

The Middletown Rancheria Tribe of Pomo Indians of California

Prepared by:

G. O. Graening, PhD, MSE and Kristen Ahrens, M.S.

NATURAL INVESTIGATIONS CO.
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3104 O Street, #221, Sacramento, CA 95816

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SUMMARY

This report presents the findings of a Phase I Environmental Site Assessment (ESA) for the property at 22433 Highway 29, Middletown, California, Assessor Parcel Number (APN) 014-005-34. Natural Investigations Company has performed this Phase I ESA in conformance with the scope and limitations of the American Society for Testing and Materials (ASTM) Practice E1527-13 and in accordance with the prevailing standard of care for completing such assessments in California at this time. Exceptions to, or deletions from, this practice are described in Sections 1.3 and 8.3 of this report.

The subject property, 52.65 acres in size, consists of approximately 8 acres of residential area and pastureland for horses. There are 16 acres of vineyards on the Property. The remainder of the Property is open space and ponds. The following buildings and structures are located on the subject property: two single story homes, storage sheds, and a horse stable.

No environmental liens or value reductions were found in association with the Property. No indication of heavy industrial uses was detected from title review. The Property was not listed in any of the environmental databases queried. County (CUPA) records for the Property were regarding the on-site septic system; there were no records regarding hazardous materials, violations, or releases. CUPA records and reports available on Geo Tracker were reviewed for the following case, 1,800 feet north of the Property:

> Nella Oil Company, Middletown Spill Site, Highway 29
> Approximately 1,800 feet north of the Property, a SLIC case was initiated in 2005 following an accident on Highway 29 resulting in an overturned tanker; the tanker released 3,300 gallons of gasoline. Emergency response recovered approximately 750 gallons at the time of the incident, and subsequent soil excavation was performed. Groundwater monitoring wells were installed between 2006 and 2007 along Highway 29, with one well located on a property easterly adjacent to the highway spill site; no wells were installed on any properties directly adjacent to the Property. The groundwater plume was identified as shrinking in a quarterly monitoring report due to natural attenuation and the case was closed in March 2014. Given the case closure, the groundwater flow direction, and monitoring reports showing a localized plume restricted to an area several hundred feet north of the Property, the Nella Oil Company spill site does not appear to be a recognized environmental concern.

A review of physical setting sources and historical use information (topographic maps, aerial photography, fire insurance maps, city directories, and building permits) did not detect any indications of possible recognized environmental conditions on the Property. A site reconnaissance was first performed on March 31, 2017, a second site visit was conducted and March 19, 2019, and most recently, a site reconnaissance took place on May 31, 2021; no indications of possible recognized environmental conditions were noted on the Property.

On April 17, 2017, a hazardous materials questionnaire was completed by Justin Lond, the EPA director for the Middletown Rancheria of Pomo Indians; he had no knowledge of any recognized environmental conditions associated with the Property. On March 31, 2017, a hazardous materials questionnaire was completed by Julie Willis, a tenant of the Property for the past sixteen years; she had no knowledge of any recognized environmental conditions associated with the Property. On March 31, 2017, Natural Investigations associate Kristen Ahrens conducted an interview of Julie Willis: no indications of possible recognized environmental conditions were uncovered. A follow-up questionnaire sent to the tribe in May 2021 produced no new information.

There were a few minor data failures with the physical setting and historical information sources. However, a combination of other data sources was available such that no significant data gap existed, and the historical research objectives were achieved. There were no data gaps that significantly affected our ability to identify recognized environmental conditions associated with the Property. Except for the limitations and exceptions discussed in Sections 1.3 and 8.3, this Phase I ESA complies with the ASTM Practice E1527-13. No additional services beyond the scope of the ASTM Practice E1527-13 were conducted as part of this assessment.

The following de minimis conditions were found in connection with the Property pursuant to the ASTM Practice E1527-13:

- Usage of household quantities of hazardous materials, poor housekeeping practices, and the improper disposal of rubbish
- The possible presence of residual pesticides and/or heavy metals in soils, especially in pesticide handling areas of farm operations. Historical agricultural enterprises may have existed on the Property dating back to at least the 1940's, and may have stored, handled, and applied pesticides on the pastures, and later, on the vineyards. Pesticide (and/or heavy metal) residues may persist in soils of the Property. However, this assessment found no specific indication of soil or water contaminated with pesticides and it is assumed that any residual pesticides exist at concentrations that do not require regulatory action or remediation.

It is Natural Investigations Company's opinion that there are no historical or current recognized environmental conditions in connection with the Property pursuant to the ASTM Practice E1527-13. Records review, database searches, or interviews failed to identify any environmental conditions in connection with the Property. Therefore, no further site investigation is recommended.

This summary should only be read in conjunction with the full text of the report. The scope of work, significant assumptions, limitations, and exceptions should be understood prior to reading the site-specific information, findings, opinions, and conclusions. Except for any limitations and exceptions discussed in Section 1.3, this Phase I ESA complies with the ASTM Practice E1527-13. No additional services beyond the scope of the ASTM Practice E1527-13 were conducted as part of this assessment.

1. INTRODUCTION

1.1. PURPOSE

ASTM Practice E1527-13 defines the purpose of the Phase I ESA as quoted:

> "*The purpose of this practice is to define good commercial and customary practice in the United States of America for conducting an environmental site assessment of a parcel of commercial real estate with respect to the range of contaminants within the scope of Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)(42 U.S.C. §9601) and petroleum products. As such, this practice is intended to permit a user to satisfy one of the requirements to qualify for the innocent landowner, contiguous property owner, or bona fide prospective purchaser limitations on CERCLA liability (hereinafter, the 'landowner liability protections,' or 'LLPs'): that is, the practice that constitutes all appropriate inquiries into the previous ownership and uses of the property consistent with good commercial and customary practice as defined at 42 USC § 9601(35)(B)*." (page 1, ASTM 2013).

In 2002, the Small Business Liability Relief and Brownfields Revitalization Act was passed, and it directed the United States Environmental Protection Agency (USEPA) to promulgate a rule defining due diligence for compliance with the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). This rule, which is generally referred to as All Appropriate Inquiry, was adopted in 2005. ASTM Practice E1527-13 complies with the USEPA requirements for All Appropriate Inquiry, and in some cases, is more stringent than All Appropriate Inquiry.

1.2. GOALS AND DETAILED SCOPE OF SERVICES

ASTM Practice E1527-13 describes the goals and general scope of services in the following excerpts:

> "*In defining a standard of good commercial and customary practice for conducting an environmental site assessment of a parcel of a property, the goal of the processes established by this practice is to identify recognized environmental conditions. The term recognized environmental conditions means the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment*. De minimis *conditions are not recognized environmental conditions*." (page 1, ASTM 2013).

> "*The scope of this practice includes research and reporting requirements that support the user's ability to qualify for the LLPs. As such, sufficient documentation of all sources, records, and resources utilized in conducting the inquiry required by this practice must be provided in the written report*." (page 2, ASTM 2013).

The general scope of services of a Phase I ESA has four components: records review; site reconnaissance; interviews; and report (page 12, ASTM 2013). The scope of services was limited to a qualitative evaluation of environmental conditions of the Property. The detailed scope of services performed for this Phase I ESA consists of the following tasks:

- Records Review.
  - Summarize physical setting (e.g. soils, geology, hydrogeology, surface water)
  - Historical USGS topographic map and aerial photograph sequence analyses
  - Spatial query of SWRCB's GeoTracker database and DTSC's EnviroStor database
  - Query of federal, state, and private environmental databases
  - Review and summary of title research, as necessary
  - Building permit review, as necessary
  - Environmental case file reviews at County CUPA offices, as necessary
  - Summary of any previous environmental reports, where available
- Site Reconnaissance
  - Visual inspection of the Property

  - Photographic documentation
- Interviews
  - Interview current and historical property owners and occupants, or have them fill out a standard environmental questionnaire, where possible
  - As needed, contact and interview neighbors, or regulatory agencies via form letter, phone conversations, and/or personal interviews
  - Documentation of all correspondence
- Report Preparation
  - Provide all supporting documentation, to state the findings of the records reviews, site reconnaissance, and interviews, to give an official opinion of the impact upon the Property of known or suspect environmental conditions, and to state conclusions and provide a report signed by a Qualified Professional.

The scope of services does not include other services that are not described in this report. Section 1.3 details significant assumptions, limitations, and exceptions to the performance of this Phase I ESA.

1.3. LIMITING CONDITIONS, DEVIATIONS, EXCEPTIONS, SIGNIFICANT ASSUMPTIONS, AND SPECIAL TERMS AND CONDITIONS

ASTM Practice E1527-13 cites many assumptions, limitations, and exceptions in the performance of a Phase I ESA. Some of the most important are quoted in the following excerpts:

> "*This practice does not address whether requirements in addition to all appropriate inquiries have been met in order to qualify for the LLPs (for example, the duties specified in 42 U.S.C. § 9607(b)(3)(a) and (b)*." (page 1, ASTM 2013).
>
> "*This practice does not address requirements of any state or local laws or of any federal laws other than the all appropriate inquiry provisions of the LLPs. Users are cautioned that federal, state, and local laws may impose environmental assessment obligations that are beyond the scope of this practice. Users should also be aware that there are likely to be other legal obligations with regard to hazardous substances or petroleum products discovered on the property that are not addressed in this practice and that may pose risks of civil and/or criminal sanctions for non-compliance*." (page 1, ASTM 2013).
>
> "*Uncertainty Not Eliminated—No environmental site assessment can wholly eliminate uncertainty regarding the potential for recognized environmental conditions in connection with a property. Performance of this practice is intended to reduce, but not eliminate, uncertainty regarding the potential for recognized environmental conditions in connection with a property, and this practice recognizes reasonable limits of time and cost*." (page 10, ASTM 2013).
>
> "*Not exhaustive—Appropriate inquiry does not mean an exhaustive assessment of a property. There is a point at which the cost of information obtained or the time required to gather it outweighs the usefulness of the information and, in fact, may be a material detriment to the orderly completion of transactions. One of the purposes of this practice is to identify a balance between the competing goals of limiting the costs and time demands inherent in performing an environmental site assessment and the reduction of uncertainty about unknown conditions resulting from additional information*." (page 10, ASTM 2013).
>
> "*Level of Inquiry is Variable—Not every property will warrant the same level of assessment. Consistent with good commercial or customary practice, the appropriate level of environmental site assessment will be guided by the type of property subject to assessment, the expertise and risk tolerance of the user, and the information developed in the course of the inquiry*" (page 10, ASTM 2013).
>
> "*This practice does not include any testing or sampling of materials (for example, soil, water, air, building materials*." (page 13, ASTM 2013).
>
> "*There may be environmental issues or conditions at a property that parties may wish to assess in connection with commercial real estate that are outside of the scope of this practice (the non-scope considerations). As*

noted by the legal analysis in Appendix X1 of this practice, some substances may be present on the property in quantities and under conditions that may lead to contamination of the property or of nearby properties but are not included in CERCLA's definition of hazardous substances (42 U.S.C. § 9601(14)) or do not otherwise present potential CERCLA liability. In any case, they are beyond the scope of this practice." (pages 22-23, ASTM 2013).

"*Whether or not a user elects to inquire into non-scope considerations in connection with this practice or any other environmental site assessment, no assessment of such non-scope considerations is required for appropriate inquiry as defined by this practice.*" (page 23, ASTM 2013).

"*There may be standards of protocols for assessment of potential hazards and conditions associated with non-scope conditions developed by governmental entities, professional organizations, or other private entities.*" (page 23, ASTM 2013).

"*Following are several non-scope considerations that persons may want to assess in connection with commercial real estate...No implication is intended as to the relative importance of inquiry into such non-scope considerations, and this list of non-scope considerations is not intended to be all-inclusive: asbestos-containing materials; biological agents; cultural and historical resources; ecological resources; endangered species; health and safety; indoor air quality unrelated to releases of hazardous substances or petroleum products into the environment; industrial hygiene; lead-based paint; lead in drinking water; mold; radon; regulatory compliance; and wetlands.*" (page 23, ASTM 2013).

Natural Investigations Company, Inc. made the following assumptions in the preparation of this Phase I ESA:

- Groundwater Flow Direction – we interpreted and inferred the direction of the shallow groundwater movement based on the information we obtained and our experience. Actual groundwater flow may be locally influenced by many factors beyond the scope of this assessment. Subsurface investigation and modeling would be necessary to determine site-specific groundwater flow direction.
- Regulatory Agency Information – we considered all information provided by EDR, GeoTracker, EnviroStor, and CUPA records regarding regulatory status of facilities to be complete, accurate, and current.
- When provided with a current title report prepared by a reputable title company, we assumed that a separate chain-of-title research effort was redundant to identify any environmental liens or previous landowners with names indicative of industrial uses.
- Interviews – we considered all information provided through interviews to be complete, unbiased, and provided in good faith.

Natural Investigations Company, Inc., as an independent and impartial contractor, has completed this Phase I ESA in accordance with ASTM Practice E1527-13 and in accordance with the prevailing standard of care for completing such assessments in California at this time. Natural Investigations Company shall not be subject to any express or implied warranties whatsoever. Phase I ESAs are non-comprehensive by nature and are unlikely to identify all environmental problems and will not eliminate all risk. This report is a qualitative assessment. Although risk can never be eliminated, more detailed and extensive investigations yield more information, which may help the User understand and better manage risks associated with the Property. No warranty, either expressed or implied, is made. Land use, site conditions, and other factors will change over time. This report should not be relied upon after 180 days from the date of issuance, unless additional services are performed as defined in ASTM Practice E1527-13, Section 4.6.

The property owner is solely responsible for notifying all governmental agencies, and the public at large, of the existence, release, treatment, or disposal of, any hazardous substance or petroleum product occurring on the Property, either before, during, or after Natural Investigation Company's services. Natural Investigation Company assumes no responsibility or liability whatsoever for any claim, loss of property value, damage, or injury which results from pre-existing materials being encountered or being present on the Property, or from the discovery of such hazardous substances or petroleum products.

This report and other instruments or service are prepared and made available for the sole use of the User and their agents. The contents may not be used or relied upon by any other persons without the express written consent and authorization of the User.

There are no special terms or contractual conditions for this assessment. There were no limiting conditions or deviations from the ASTM Practice E1527-13 in the preparation of this Phase I ESA. There were no client/User-imposed constraints on the preparation of this Phase I ESA.

Any data gaps are listed in Section 8.3.

1.4. INFORMATION RELIANCE

ASTM Practice E1527-13 defines information reliance as:

> "*An environmental professional is not required to verify independently the information provided but may rely on information provided unless he or she has actual knowledge that certain information is incorrect or unless it is obvious that certain information is incorrect based on other information obtained in the Phase I Environmental Site Assessment or otherwise actually known to the environmental professional.*" (page 13, ASTM 2013).

This report is for the sole benefit and exclusive use of the User in accordance with the contract under which these services have been provided. It is possible that information exists beyond the scope of this assessment. Additional information, which was not found or available to Natural Investigations Company at the time of report preparation, may result in a modification of the conclusions and recommendations presented herein. Any reliance on this report by third parties shall be at their own risk.

2. SITE DESCRIPTION

2.1. LOCATION AND LEGAL DESCRIPTION

The subject property ("Property") of this Phase I ESA is the parcel with address of 22433 Highway 29 (APN 014-005-34), and is bounded by Highway 29 to the east, the Middletown Rancheria and Twin Pines Casino to the north, and agriculture and rural residences to the east and south, in the Census Designated Place of Middletown, Lake County, California (Figure 2.1.1). The Property consists of one parcel with an area of approximately 52.65 acres, and is currently used as rural residential with pasture and vineyard. The Lake County Assessor's office assigns this parcel land use code AZ-SC-WW with the following descriptions: Agricultural Preserve District, Scenic Combining District, and Waterway Combining District.

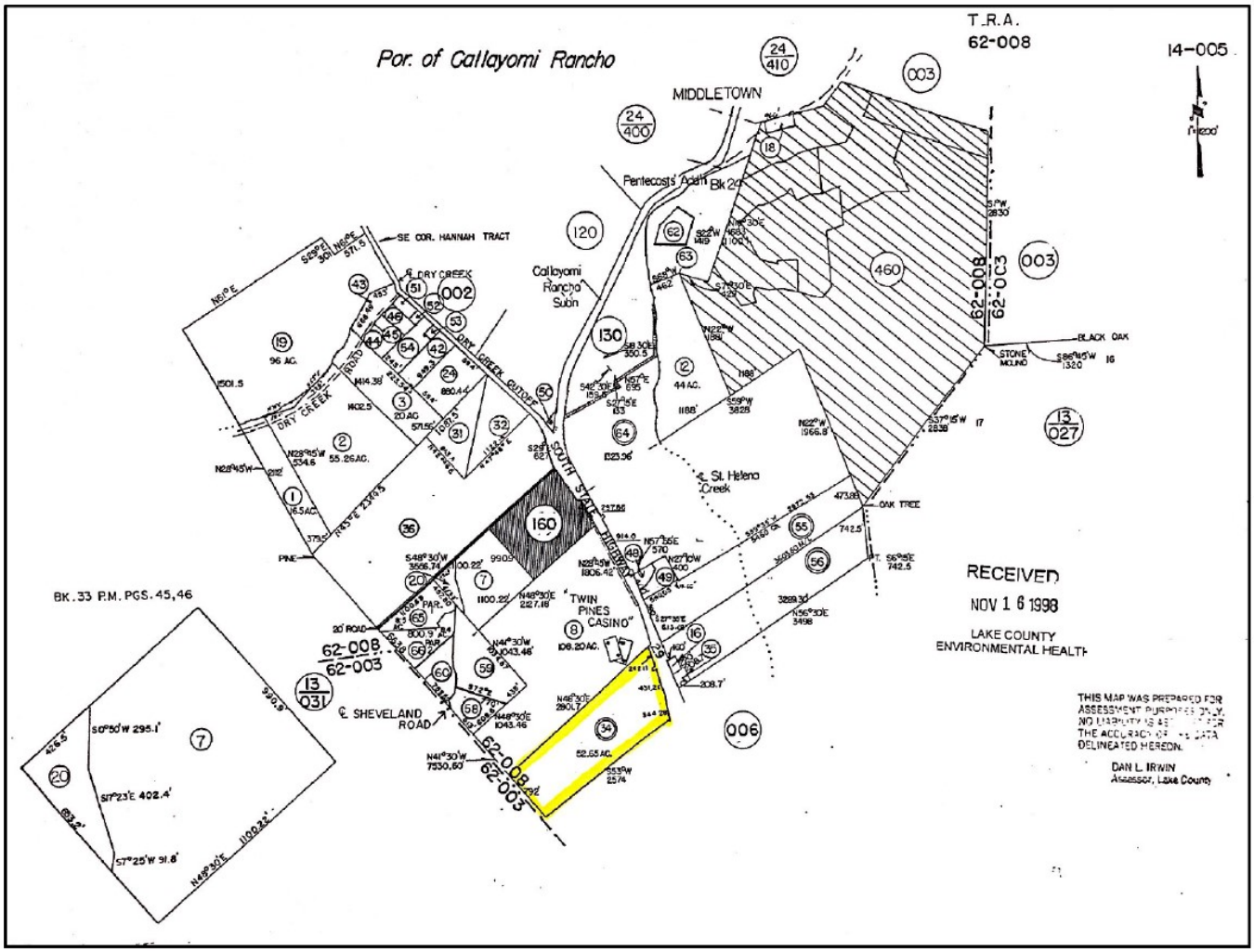


Figure 2.1.1. Assessor's Parcel Map, with subject property outlined in yellow.

2.2. SITE AND VICINITY GENERAL CHARACTERISTICS

The Property is a rural residence surrounded by agricultural land and open space. It is located in the Census-Dedicated Place of Middletown, in an area zoned for agricultural and rural residential uses. Fallow vineyards exist on the Property and surrounding parcels consist of rural residences with land uses including agriculture and animal husbandry, as well as a casino and Indian reservation.

2.3. CURRENT USE OF THE PROPERTY AND IMPROVEMENTS

A portion of the Property (approximately 8.1 acres) is used for residential space and pastureland for horses. There are 16 acres of vineyards on the Property which have been abandoned for several years and are no longer actively cultivated (Figure 2.3.1). Improvements consist of two single-story homes, storage sheds, and a horse stable. One home is located on the southwestern corner of the vineyard area and the second home and associated outbuildings are located centrally along the eastern Property boundary. The southwesterly half of the Property is 27 acres of primarily undeveloped, open space. Three spring-fed ponds are present in this area and may have historically been used to irrigate the vineyards. A small creek connects the southern and northern ponds. Dense vegetation and areas of steep terrain surround the ponds. Footpaths are present around the vineyards and to each pond. An additional pond is present between the pastureland and vineyards along the northern portion of the Property.

There is one groundwater well near the eastern Property boundary, northeast of the residence. Maps provided by the Middletown Rancheria Tribe of Pomo Indians staff indicate there are three additional wells on the Property, which are not in use and may have been abandoned due to inadequate yield. Wastewater is disposed of via two septic systems near each residence.

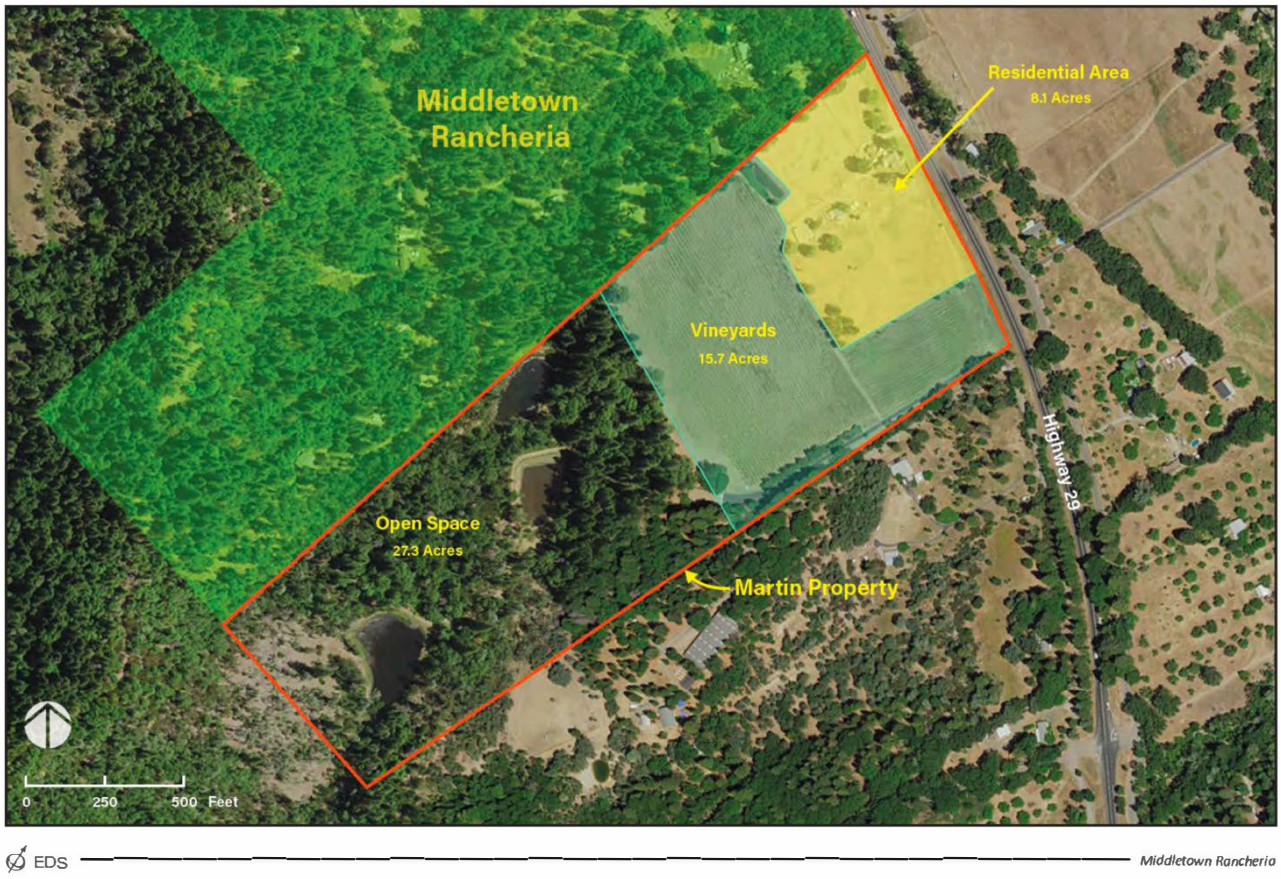


Figure 2.3.1. Aerial view of Property (outlined in red) depicting land uses.



Figure 2.3.2. Oblique aerial photo, view looking west, of subject property and surrounding properties (Google Maps).

2.4. CURRENT USES OF ADJOINING PROPERTIES

The parcels surrounding the Property are used for a mixture of agricultural, residential, and commercial purposes. To the north of the Property is a 110-acre parcel, the Middletown Rancheria, which includes several residential homes, mobile office trailer buildings, and the Twin Pines Casino and Hotel. Easterly and southerly adjacent to the Property are rural residences and agricultural land. To the west of the Property is undeveloped land.

3. USER-PROVIDED INFORMATION

The "User" is defined as the party seeking to use ASTM Practice E1527-13 to complete an environmental site assessment of the Property. A user may include, without limitation, a potential purchaser of property, a potential tenant of property, an owner of property, a lender, or a property manager. The user has specific obligations for completing a successful application of this practice outlined in Section 6 of ASTM Practice E1527-13.

In the case of this assessment, the User is the User is the Middletown Rancheria Tribe of Pomo Indians of California and their environmental consultant—Origin Environmental Planning.

3.1. USER'S RESPONSIBILITIES

User's responsibilities are defined by the ASTM E1527-13 standard, and include the following, as quoted:

> "*Any environmental liens and AULs known to the user should be reported to the environmental professional conducting a Phase I Environmental Site Assessment. Unless added by a change in the scope of work to be performed by the environmental professional, this practice does not impose on the environmental professional the responsibility to undertake a review of recorded land title records and judicial records for environmental liens and AULs. The user should either (1) engage a title company, real estate attorney, or title professional to undertake a review of reasonably ascertainable recorded land title records and lien records for environmental*

liens and AULs currently recorded against or relating to the property, or (2) negotiate such an engagement of a title company, real estate attorney, or title professional as an addition to the scope of work of the environmental professional." (page 12, ASTM 2013)

"*Specialized Knowledge or Experience of the User—Users must take into account their specialized knowledge to identify conditions indicative of releases or threatened releases. If the user has any specialized knowledge or experience that is material to recognized environmental conditions in connection with the property, the user should communicate any information based on such specialized knowledge or experience to the environmental professional. The user should do so before the environmental professional conducts the site reconnaissance.*" (page 12, ASTM 2013)

"*Actual Knowledge of the User—If the user has actual knowledge of any environmental lien or AULs encumbering the property or in connection with the property, the user should communicate such information to the environmental professional. The user should do so before the environmental professional conducts the site reconnaissance.*" (page 12, ASTM 2013)

"*Reason for Significantly Lower Purchase Price—In a transaction involving the purchase of a parcel of commercial real estate, the user shall consider the relationship of the purchase price of the property to the fair market value of the property if the property was not affected by hazardous substances or petroleum products. The user should try to identify an explanation for a lower price which does not reasonably reflect fair market value if the property was not contaminated, and make a written record of such explanation. Among the factors to consider will be the information that becomes known to the user pursuant to the Phase I Environmental Site Assessment. This practice does not require that a real estate appraisal be obtained in order to ascertain fair market value of the property. The user should inform the environmental professional if the user believes that the purchase price of the property is lower than the fair market value due to contamination. The user is not required to disclose the purchase price to the environmental professional.*" (page 12, ASTM 2013)

"*Commonly Known or Reasonably Ascertainable Information—Commonly known or reasonably ascertainable information within the local community about the property must be taken into account by the user. If the user is aware of any commonly known or reasonably ascertainable information within the local community about the property that is material to recognized environmental conditions in connection with the property, the user should communicate such information to the environmental professional. The user should do so before the environmental professional conducts the site reconnaissance. The user must gather such information to the extent necessary to identify conditions indicative of releases or threatened releases of hazardous substances or petroleum products.*" (page 12, ASTM 2013)

"*Either the user shall make known to the environmental professional the reason why the user wants to have the Phase I Environmental Site Assessment performed or, if the user does not identify the purpose of the Phase I Environmental Site Assessment, the environmental professional shall assume the purpose is to qualify for an LLP to CERCLA liability and state this in the report.*" (page 12, ASTM 2013).

In order to exert an LLP, the User must satisfy a number of statutory requirements that are generally referred to as Continuing Obligations, which are outside the Scope of Services of the Phase I ESA. Examples of Continuing Obligations include providing legally required notices stopping continuing releases and complying with land use restrictions. Failure to comply with these and other statutory post-acquisition requirements will jeopardize liability protection. It is the responsibility of the User to comply with the Continuing Obligations requirements of ASTM Practice E1527-13 and All Appropriate Inquiry.

3.2. REQUESTED DOCUMENTS AND INFORMATION

The following documents and information were requested of User and the landowners:

- Title reports
- Previous environmental site assessments or environmental compliance audit reports
- Environmental permits or hazardous waste generator notices/reports
- Registrations for aboveground or underground storage tanks
- Location of septic systems, oil wells, monitoring wells, or water wells

- Registrations for underground injection systems
- Material Safety Data Sheets; Community Right to Know Plans or Safety, Preparedness and prevention Plans; Spill Protection, Countermeasures and Control Plans
- Hazardous Material Business Plans
- Geotechnical studies or hydrological studies
- Notices or other correspondence from any government agency relating to past or current violations of environmental laws with respect to the Property or relating to environmental liens encumbering the Property
- Risk assessments
- Recorded Activity Use Limitations
- Proceedings regarding hazardous substances and petroleum products including any pending, threatened or past: litigation; administrative proceedings; or notices from any governmental entity regarding possible violations of environmental laws or other possible liability related to hazardous substances or petroleum products.

The following documents specific to the Property were provided in response to Natural Investigations' information request: map of domestic well locations, site maps, and documents pertaining to the Nella Oil Company SLIC case to the north of the Property.

3.3. TITLE RECORDS

No title reports were provided to Natural Investigations Co. EDR was commissioned to search for title liens and to build chain of title (see Appendix 14.1). EDR's Chain of Title Report identifies the current owner as the Middletown Rancheria of Pomo Indians of California. The Property was transferred to the current owner on 10/16/15 from James Stephen Martin and Margaret Celli Martin as part of the James and Margaret Martin Family Trust. No indication of heavy industrial uses was detected from title review.

3.4. ENVIRONMENTAL LIENS OR ACTIVITY AND USE LIMITATIONS

An environmental lien is a charge, security, or encumbrance upon the title to a property to secure the payment of a cost, damage, debt, obligation, or duty arising out of response actions, cleanup, or other remediation of hazardous substances or petroleum products upon the property. No environmental liens or activity and use limitations were made aware to Natural Investigations Company. No evidence of environmental liens was identified during the interview process, title review, or records review. EDR was commissioned to search for title liens. EDR's Environmental LienSearch Report detected no liens (see Appendix 14.1).

3.5. SPECIALIZED KNOWLEDGE OR ACTUAL KNOWLEDGE

No specialized knowledge or actual knowledge that is material to recognized environmental conditions in connection with the property was provided by the User to Natural Investigations Company.

3.6. VALUATION REDUCTION FOR ENVIRONMENTAL ISSUES

No valuation reductions for environmental issues were made aware to Natural Investigations Company. No valuation reductions were identified during the interview process or by the title review.

3.7. OWNER, PROPERTY MANAGER, AND OCCUPANT INFORMATION

The owner of the Property is designated as the Middletown Rancheria of Pomo Indians of California. The property is operated as residential homes and pastureland.

3.8. REASON FOR PERFORMING PHASE I ESA

Natural Investigations Company performed this Phase I ESA at the request of Josh Ferris (Origin Environmental Planning), for use in the environmental assessment/compliance process pertaining to

transfer of the land into federal trust. Origin Environmental Planning is an environmental consultant for the Middletown Rancheria of Pomo Indians of California. This is an update to a previous Phase I ESA conducted by Natural Investigations Co. on March 25, 2019.

4. RECORDS REVIEW

The purpose of the records review is to obtain and review records that will help identify recognized environmental conditions in connection with the property.

4.1. STANDARD ENVIRONMENTAL RECORD SOURCES

As part of this assessment, Natural Investigations Company retained the services of Environmental Data Resources, Incorporated (EDR), which queries and maintains comprehensive environmental databases and historical information, including proprietary databases, aerial photography, topographic maps, Sanborn Maps, and city directories. EDR's Phase I ESA standard package - "Radius Map with GeoCheck" was ordered and performed on June 1, 2021. In this report, EDR presents the results of searches of all reasonably ascertainable environmental databases (federal, state, local, and private) for records of potential environmental impacts of the Property and vicinity. EDR performed these database searches within the prescribed radii of ASTM Practice E1527-13. The databases queried by EDR included the following:

> Federal ASTM Standard and Supplemental – National Priority List (NPL); proposed NPL; Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS); CERCLIS No Further Remedial Action Planned; Corrective Action Report; Resource Conservation and Recovery Act (RCRA) Information; RCRA Large Quantity Generator; Emergency Response Notification System; Superfund Consent Decrees; Records of Decision; NPL Deletions, Hazardous Materials Information Reporting System; Material Licensing Tracking System; Mines Master Index File; Federal Superfund Liens; PCB Activity Database System; Department of Defense Sites; Indian Reservations; Uranium Mill Tailings Sites; Engineering Controls Sites List; Open Dump Inventory; Formerly Used Defense Sites; RCRA Administrative Action Tracking System; Toxic Chemical Release Inventory System; Toxic Substances Control Act (TSCA); Section 7 Tracking Systems; Federal Insecticide, Fungicide, and Rodenticide Act / TSCA; US Brownfields; US Institutional Control Sites; Voluntary Clean-up Program Properties; State ASTM Standard and Supplemental – Proposition 65 Records; Toxic Pits Cleanup Act Sites; Bond Expenditure Plan; List of Underground Storage Tank (UST) Facilities; Voluntary Cleanup Program Facilities; Leaking UST on Indian Land; UST on Indian Land; Waste Discharge System; Deed Restriction Listing; Properties Needing Further Evaluation; No Further Action Determination; Well Investigation Program Case List; Emissions Inventory Data; School Property Evaluation Program; Former Manufactured Gas Sites.

The complete EDR Radius Map report is provided in Appendix 14.2. Results are summarized in EDR's overview map (Figure 4.1.1) and detail map (Figure 4.1.2); numbered elements in EDR's maps correspond to numbered cases in EDR's report. The Property was not listed in any of the databases queried by EDR. Numerous properties in the vicinity of the Property are listed on various databases, as summarized in EDR's Executive Summary. The closest and most pertinent cases are listed below and include the presence of permitted UST's and the Nella Oil Company SLIC case, the latter which is discussed in Section 4.2.2.1.

MAPPED SITES SUMMARY

Target Property Address:
22433 S STATE HIGHWAY 29
MIDDLETOWN, CA 95461

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
1	UNCLE BUDDY'S PUMPS	22223 SOUTH HIGHWAY	RCRA-VSQG	Lower	1038, 0.197, North
2	NELLA OIL COMPANY	HIGHWAY 29	CPS-SLIC, CERS	Lower	1820, 0.345, North

It should be noted that the computerized geocoding technology used in the database search is based on available census data and is only accurate to ±300 feet. The EDR report indicates that poor or inadequate address information was provided for various properties that are potentially located in the vicinity of the Property; therefore, these sites could not be readily mapped by EDR. Because the location of these sites with respect to the Property could not be determined, the evaluation of the unmappable sites is limited in terms of determining the potential impact on the Property. Although the list of the unmappable sites was reviewed for adjacent or nearby properties observed during the site reconnaissance, locating each of the unmapped sites identified by EDR is not considered practicable.

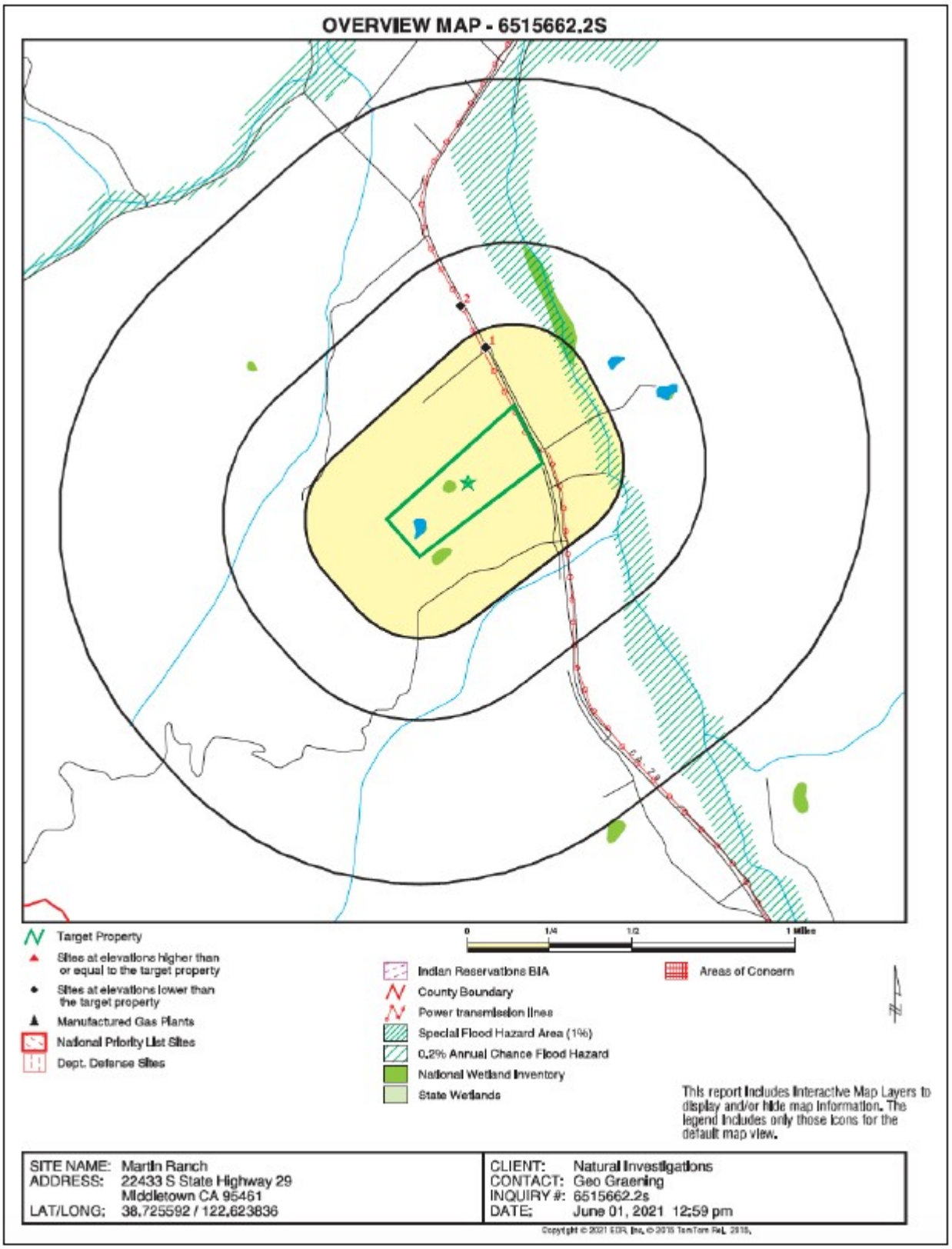


Figure 4.1.1. Overview map from EDR's Radius Map report

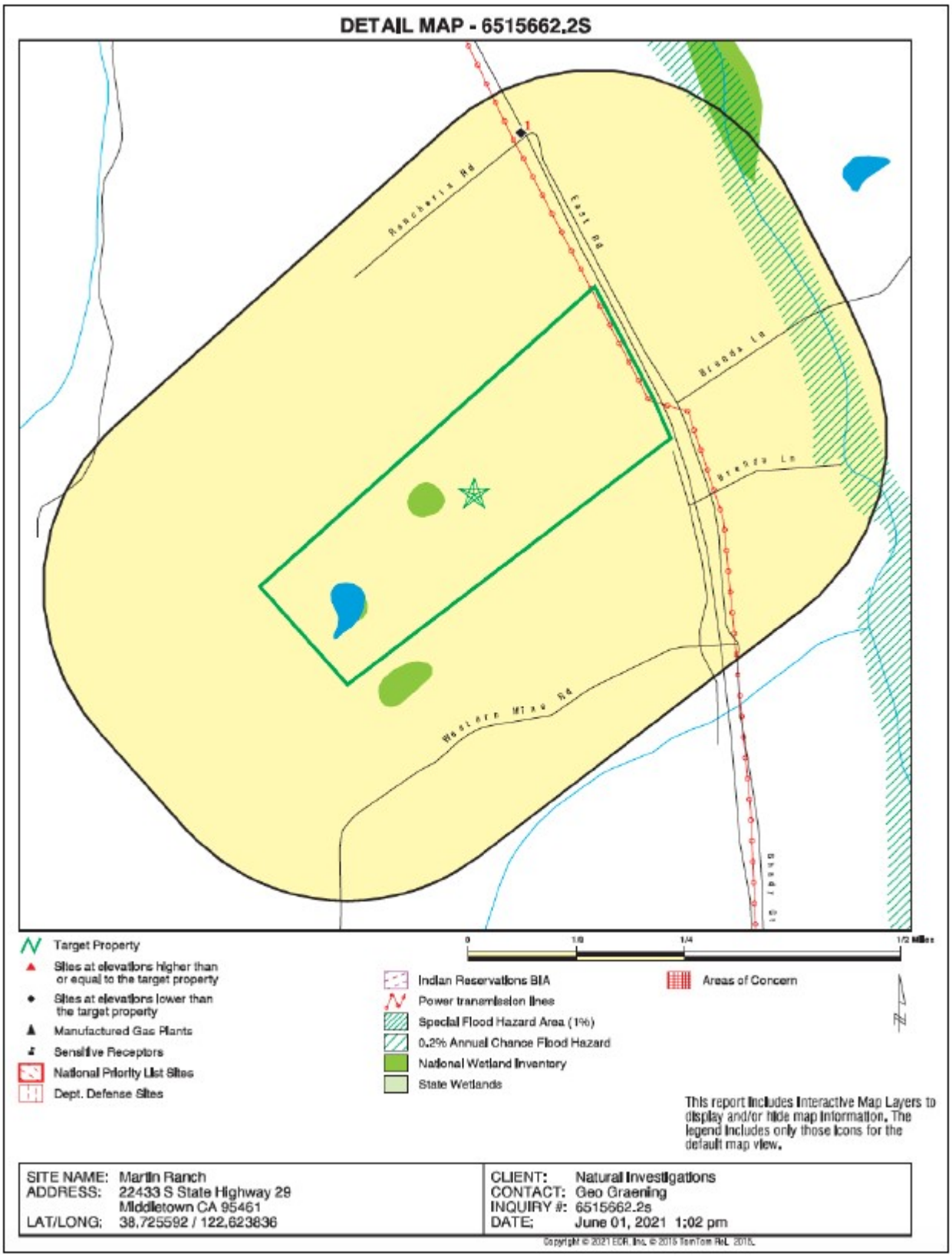


Figure 4.1.2. Detail map from EDR's Radius Map report

4.2. ADDITIONAL ENVIRONMENTAL RECORD SOURCES

4.2.1.State of California Department of Toxic Substances Control Records

4.2.1.1. EnviroStor Database

EnviroStor is an online search and Geographic Information System tool for identifying sites that have known contamination or sites for which there may be reasons to investigate further. Public Access to EnviroStor is accessible via the DTSC Web Page located at: http://www.envirostor.dtsc.ca.gov/public/. The EnviroStor database includes the following site types: Federal Superfund sites (National Priority List); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. You can obtain information that includes site name, site type, status, address, any restricted use (recorded deed restrictions), past use(s) that caused contamination, potential contaminants of concern, potential environmental media affected, site history, planned and completed activities. The EnviroStor database also contains current and historical information relating to Permitted and Corrective Action facilities. The EnviroStor database includes current and historical information on the following permit-related documents: facility permits; permit renewal applications; permit modifications to an existing permit; closure of hazardous waste management units (HWMUs) or entire facilities; facility corrective action (investigation and/or cleanup); and/or post-closure permits or other required post-closure activities.

The EnviroStor database was queried on June 1, 2021. The following screen capture (Figure 4.2.1) summarizes the results of the query. Pertinent documentation is provided in Appendix 14.2. No reported cases were found on the Property. No new information was retrieved beyond that already found from EDR's report, and the case closest to the Property (Nella Oil Company) is described in Section 4.2.2.1.

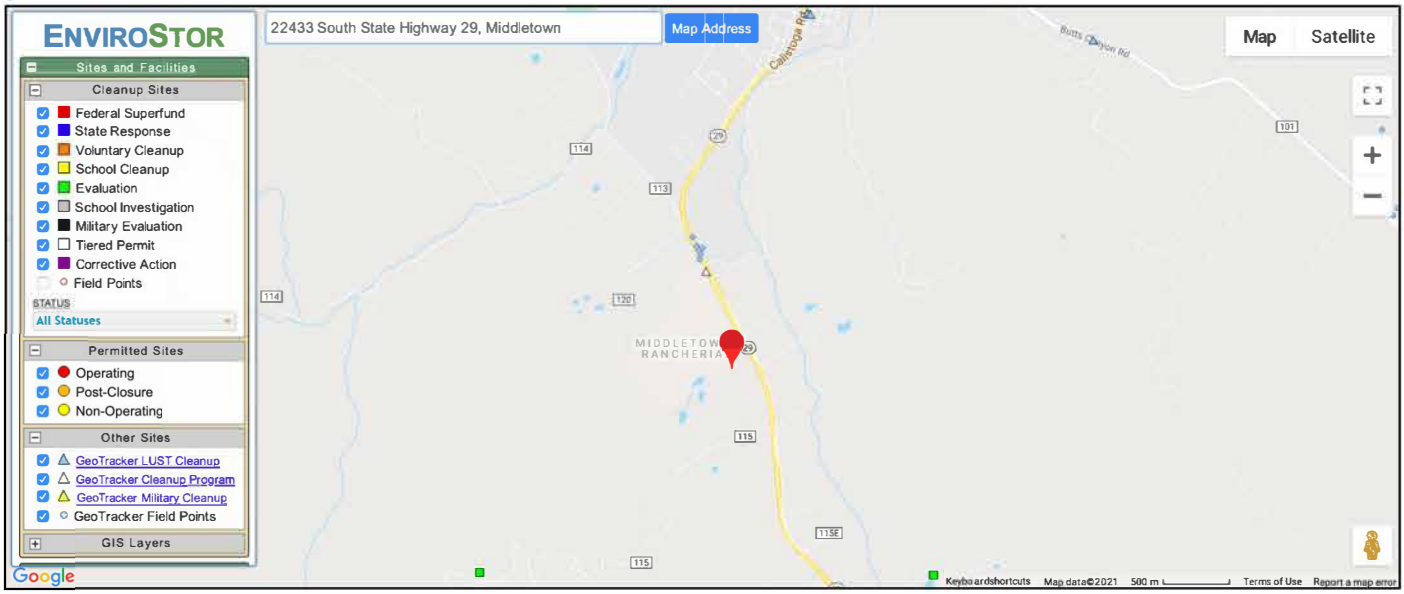


Figure 4.2.1. Screen capture of EnviroStor database query.

4.2.2.California State Water Resources Control Board / Regional Board Records

4.2.2.1. GeoTracker Database

GeoTracker is a geographic information system (GIS) maintained by the California State Water Resources Control Board (SWRCB) that provides online access to environmental data at the Internet address (URL) = http://geotracker.waterboards.ca.gov/. GeoTracker is the interface to the Geographic Environmental Information Management System (GEIMS), a data warehouse which tracks regulatory data about

underground fuel tanks, fuel pipelines, and public drinking water supplies. GeoTracker and GEIMS were developed pursuant to a mandate by the California State Legislature (AB 592, SB 1189) to investigate the feasibility of establishing a statewide GIS for leaking underground fuel tank (LUFT) sites. GEIMS can store extensive data related to LUFT sites, or any other contaminant release. In addition, GEIMS is used to store and display information from various agencies including water quality information, water use information, and infrastructure data needed to assess both water supplies and contaminant sites. For the SWRCB's groundwater quality assessment goal, GEIMS has been populated with LUFT, public drinking water wells, and fuel pipelines for California. Site information from the Spills, Leaks, Investigations, and Cleanups (SLIC) Program is also included in GeoTracker.

The GeoTracker database was queried for environmental data pertaining to the Property on June 1, 2021; results of the query are summarized in the following screen capture (Figure 4.2.2). Pertinent documentation is provided in Appendix 14.2. Using both spatial queries and text-based searches of bounding street addressees in GeoTracker, no reported cases were found on the Property.
The closest case in the vicinity of the Property is discussed further:

- Nella Oil Company, Middletown Spill Site, Highway 29
  Approximately 1,800 feet north of the Property, a SLIC case was initiated in 2005 following an accident on Highway 29 resulting in an overturned tanker; the tanker released 3,300 gallons of gasoline into the ditch on the side of Highway 29. Emergency response recovered approximately 750 gallons at the time of the incident, and subsequent soil excavation and removal was performed. Groundwater monitoring wells were installed between 2006 and 2007 along Highway 29, with one well located on a property easterly adjacent to the highway spill site; no wells were installed on any properties directly adjacent to the Property. In a quarterly monitoring report, the groundwater plume was identified as shrinking due to natural attenuation and the case was closed in March 2014.

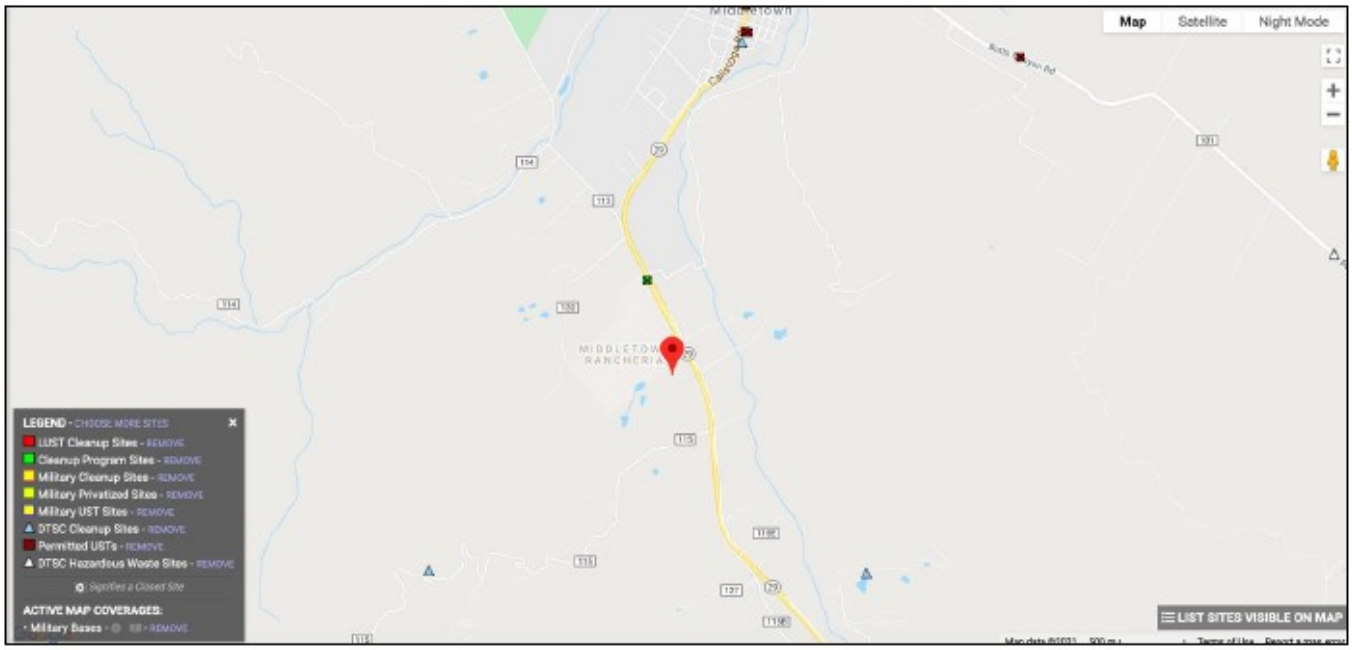


Figure 4.2.2. Spatial results of GeoTracker query

4.2.3.CalEPA / County / CUPA Records Search

The Unified Program (http://www.calepa.ca.gov/CUPA/) consolidates, coordinates, and makes consistent the administrative requirements, permits, inspections, and enforcement activities of six environmental and emergency response programs. Cal/EPA and other state agencies set the standards for their programs while local governments implement the standards—these local implementing agencies are called Certified Unified Program Agencies (CUPAs). For Lake County, Lake County Environmental Health is the CUPA.

The California Environmental Reporting System (CERS) (http://cers.calepa.ca.gov/) is a statewide web-based system to support CUPAs and Participating Agencies in electronically collecting and reporting various hazardous materials-related data as mandated by the California Health and Safety Code and new 2008 legislation (AB 2286). Under oversight by Cal/EPA, CUPAs implement Unified Program mandates that streamline and provide consistent regulatory activities. All businesses must now submit Unified Program-related information to CERS. Alternatively, some CUPAs have developed local web portals that businesses may use to meet this requirement. All hazardous materials business plans, chemical inventories, site maps, underground and aboveground tank data, and hazardous waste related data must be reported electronically.

Natural Investigations Co. associate Kristen Ahrens first reviewed case files and hazardous material inspection reports at the Lake County Environmental Health office on March 31, 2017 (see Appendix 14.2 for pertinent copies of the case file documentation). The only records for the Property were regarding the on-site sewage treatment system; no violations or releases were noted. Files for the northerly adjacent, Nella Oil Company SLIC case were also reviewed; no additional, pertinent information was identified beyond that previously described (Section 4.2.2.1).

Kristen Ahrens spoke with the hazardous materials specialist, Craig Wetherbee, on March 26, 2019, who verified there were no additional documents relevant to the Property since the time of the last file review. On June 1, 2021, Kristen Ahrens emailed Lake County Environmental Health requesting any new case files associated with the Property since 2018. On June 4, 2021, Tina Rubin, an Environmental Health Aide, stated that there were no new files associated with the property (see Appendix 14.2). No active cases were identified on the Property or adjacent properties.

4.2.4.Oil, Gas, and Geothermal Wells

A review of oil, gas, and geothermal resources maps was conducted online to identify oil, gas, and geothermal wells located on the Property or on the surrounding properties. Oil, gas, and geothermal resources maps were reviewed from California Department of Conservation, Division of Oil, Gas, and Geothermal Resources Well Finder (http://www.conservation.ca.gov/dog/Pages/WellFinder.aspx). The online mapping system shows the location of new, active producer, active injector, dual, and plugged.

Based on the review of the DOGGR Well Finder database and EDR's Radius Map Report (Appendix 14.2), there are no oil or gas wells on the Property or within 1 mile of the Property (Figure 4.3.1). There are two plugged and abandoned geothermal wells located within 1 mile of the Property; the closest geothermal well is approximately 900 feet north of the Property, and the second well is approximately 5,000 feet to the east.

4.3. PHYSICAL SETTING SOURCES

4.3.1.Geology, Soils, Topography, and Hydrology

The Property is located on the United States Geologic Survey (USGS) 7.5-degree minute (1:24,000) topographic maps “Detert Reservoir” and “Mount Saint Helena” (see historical topographic map series in Appendix 14.3). The Property ranges between 1,180 and 1,380 feet above mean sea level. The topography of the Property is varied, with some areas of steep terrain on the western, undeveloped portion of the Property; there is a general slope to the east. Soil on the Property consists of moderately well to well

drained “Jafa” soil series, according to EDR's Physical Setting Report. The geologic formation that underlies the Property is eugeosynclinal deposits of the Mesozoic Era.

The Property is located approximately 1,100 feet westerly of Saint Helena Creek. Contour lines from the USGS topographic map indicate that surface water flows east in the site vicinity. The area is largely undeveloped with considerable pervious surfaces. Generally, regional ground water flow direction is thought to be to the north-northwest, according to groundwater monitoring reports from 2013 accessed from GeoTracker for the northerly, Nella Oil Company tanker spill site (Section 4.2.2.1). There are no stormwater drains present on the Property.

The Property is not located within the floodplain of Saint Helena Creek, and the Property does not lie within a 100-year flood plain, as defined by the Federal Emergency Management Agency Flood Insurance Rate Maps, according to the EDR report (Figure 4.3.1). Public groundwater wells and public water supplies identified in EDR’s query of readily-available databases are not within ½ mile from the Property. There is a private groundwater well currently in use on the Property. No hydrogeologic data was readily available.

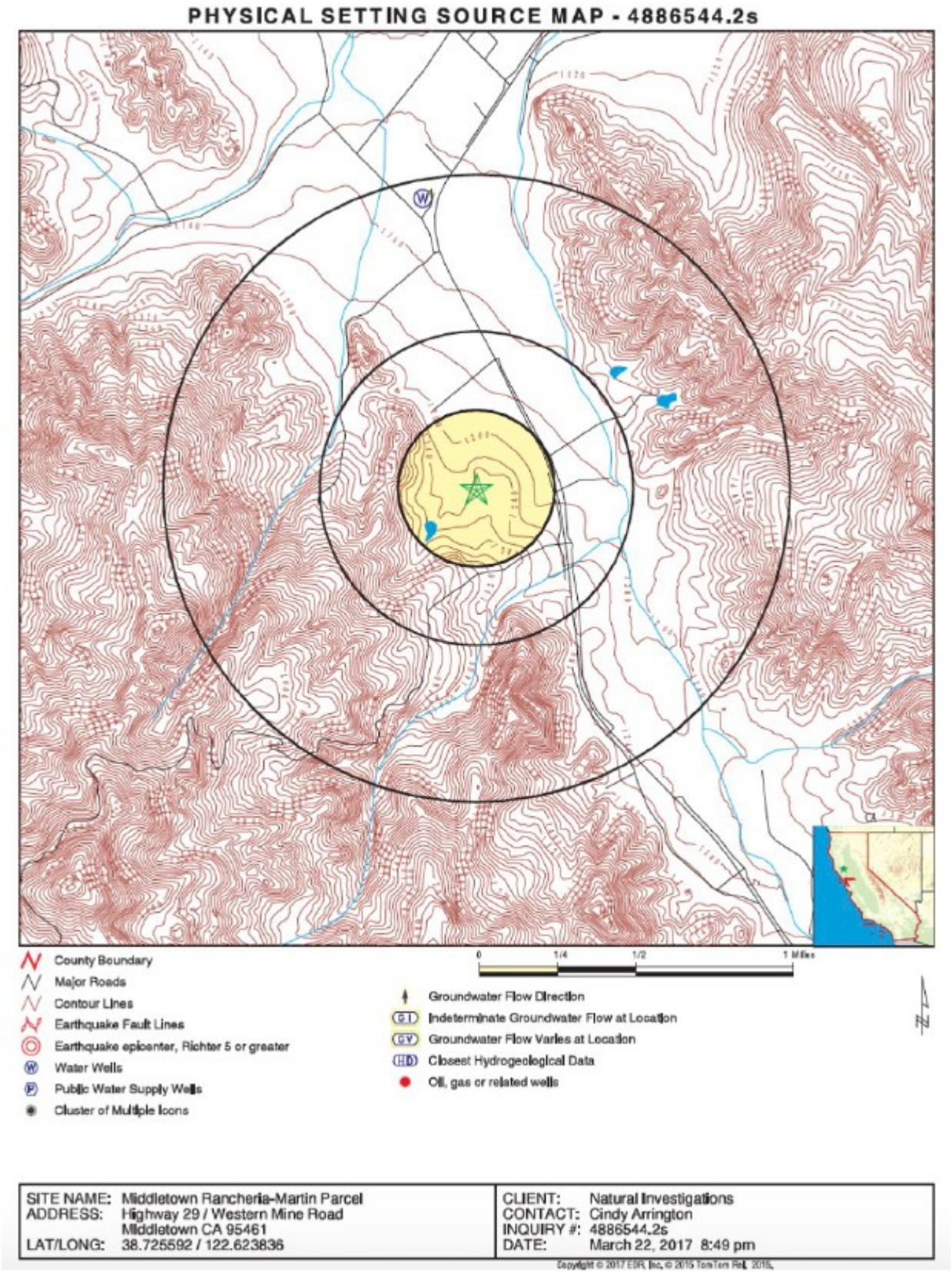


Figure 4.3.1. Physical Setting map from 2017 EDR Report

4.4. HISTORICAL USE INFORMATION ON THE PROPERTY

The objective of consulting historical sources is to develop a history of the previous uses of the property and surrounding area, in order to help identify the likelihood of past uses having led to recognized environmental conditions in connection with the property.

4.4.1.Topographic Map Analysis

Historical and current topographic maps of the Property were analyzed to determine any of the following: topography and inferred surface water and ground water flow direction; current and historical land use; and current and historical structures, utilities, and roads. All available USGS topographic quadrangle maps were obtained through EDR, including the 7.5 degree-minute quadrangle series and the 15 degree-minute quadrangle series (see Appendix 14.3 for the map excerpts).

It is possible that between two and four structures may have existed on the Property in the oldest topographic maps, dated 1943 and 1945, however the Property boundary is not easily ascertainable. Highway 29 is visible on both of the 1940s maps. The 1954 map shows evidence of two structure along the eastern boundary of the Property adjacent to Highway 29, where the home and storage shed currently exist; the northerly adjacent, Middletown Rancheria is also present. The structures on the Property are also evident on the 1959, 1980, 1993 and 1997 maps. The three westerly ponds are recorded on the 1980 map and all subsequent maps. The smaller pond on the northeastern area of the Property is recorded on the 1993 map and all subsequent maps. An additional, L-shaped building west of the two structures, as well as a fourth structure further west, are apparent on the 1993 and 1997 maps (Figure 4.4.1). No visual clues as to any possible recognized environmental conditions were found.

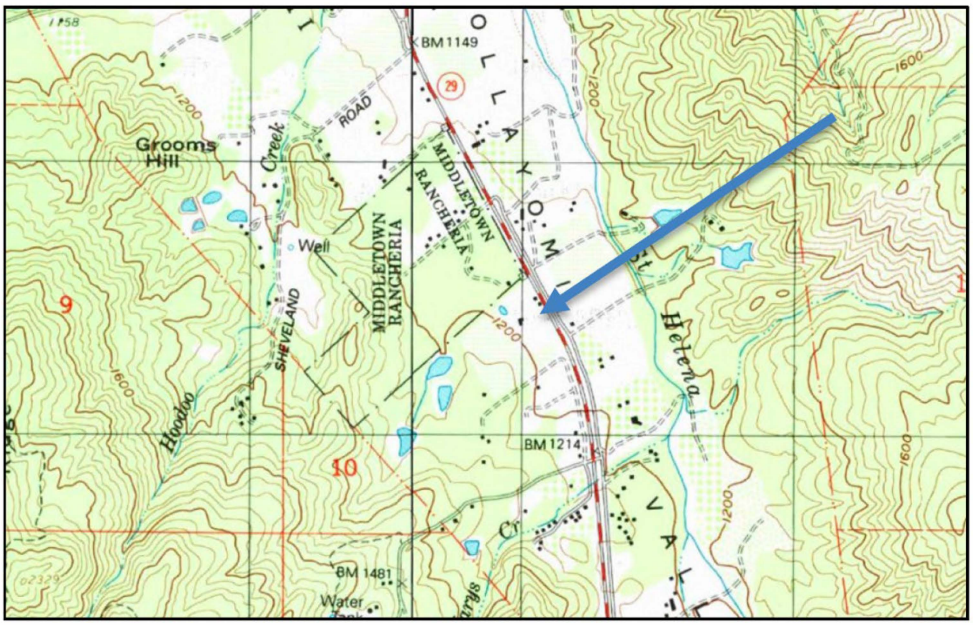


Figure 4.4.1. Excerpt of the USGS "Detert Reservoir" 7.5-minute quadrangle dated 1997, with subject property area denoted by arrow.

4.4.2.Aerial Photography Analysis

Historical aerial photographs of the Property were analyzed to determine the any of the following: current and historical land use; any current and historical structures, utilities, and roads; and any current or historical drum storage, above ground tanks, garbage dumps or landfills, or pits, ponds, or lagoons. A chronology of historical aerial photographs was obtained through EDR (see Appendix 14.3 for the photograph scans). The resolution of these maps was so coarse that only general land uses could be inferred. This constitutes a minor data failure.

Aerial photography does document the development of the Property and surrounding parcels. The 1942 aerial photograph and all subsequent photographs show evidence of farming or pastureland on the Property in the area where it currently exists today. The northeasterly pond is present in the 1956 photograph. Structures may be present on the Property in the 1970 photograph, centrally located within the pastureland area; two of the westerly ponds are also evident. The 1982 photograph shows all four ponds on the Property, and structures in similar locations and configurations in which they exist today. The vineyards on the easterly portion of the Property appear present in the 1982 photo; the resolution of the photographs makes the exact timing of their cultivation uncertain. The northerly adjacent Twin Pines Casino is evident in the 2005 photograph. No visual clues as to any possible recognized environmental conditions were found.

4.4.3.Fire Insurance (Sanborn Company) Maps

Fire insurance maps are historical city and building layout maps produced for private fire insurance companies (primarily by the former Sanborn Company). These historical city maps can indicate the presence of structures on, or uses of, properties at specified dates. EDR purchased the Sanborn Company, and provides any available fire insurance maps for the target address. EDR's Sanborn report indicated that there was no coverage of the Property by Sanborn maps, which is a minor data failure.

4.4.4.Building Permits

EDR queried the Middletown City building permit database (Appendix 14.3). EDR performed their Building Permit Report, but returned the conclusion of "data gap" as building permits were not available (Appendix 14.3).

4.4.5.City Directories

City directories have been published for cities and towns across the US since the 1700s. Originally a list of residents, the city directory developed into a tool for locating individuals and businesses in a particular urban or suburban area. Current directories are generally divided into three sections: a business index, a list of resident names and addresses, and a street index. With each address, the directory lists the name of the resident or, if a business is operated from this address, the name and type of business. While city directory coverage is comprehensive for large cities, it may be incomplete or unavailable for small towns and unincorporated, rural areas.

The target addresses was Highway 29 and Western Mine Road, Middletown, California. EDR found some listings in historical City Directories (Appendix 14.3). The Cole Information Services Directory Company indicates only one listing for the Property address of 22433 Highway 29: John B. Liscomb, 1992. None of the listings for surrounding properties give any evidence of industrial use or manufacturing. Surrounding property listings from 1992 until 2013 are primarily residential, with some commercial listings including the following categories: wineries, Twin Pines Casino, a veterinary hospital, and sporting goods stores. City directories review did not detect any indications of possible recognized environmental conditions.

4.5. HISTORICAL USE INFORMATION ON ADJOINING PROPERTIES

Sanborn Maps, building permits, city directories, and topographic maps provided historical use information on adjoining properties, which were discussed in the preceding sections. Other historical use information on adjoining properties is summarized in other sections of this report.

5. SITE RECONNAISSANCE

The objective of the site reconnaissance is to obtain information indicating the likelihood of identifying recognized environmental conditions in connection with the property.

5.1. METHODOLOGY AND LIMITING CONDITIONS

The site visit is limited to visual and/or physical observation of the exterior and interior of the Property and its improvements, the past and current uses of the Property and adjoining properties, and the condition of the Property. The site visit evaluated the Property and adjoining properties for potential hazardous materials/waste and petroleum product use, storage, disposal, or accidental release, including the following: presence of tank and drum storage; mechanical or electrical equipment likely to contain liquids; evidence of soil or pavement staining or stressed vegetation; ponds, pits, lagoons, or sumps; suspicious odors; fill and depressions; or any other condition indicative of potential contamination. The site visit did not evaluate the presence of asbestos-containing materials, radon, lead-based paint, mold, indoor air quality, or structural defects, or other non-scope items.

On May 31, 2021, Kristen Ahrens (Natural Investigations Company) performed a site reconnaissance of the Property. All accessible portions of the Property were observed by a pedestrian survey; adjoining properties were observed by a combination of pedestrian survey and windshield (automobile) survey. Photographic documentation accompanies the following summary of the site visit (Appendix 14.4). A previous site reconnaissance was conducted by Kristen Ahrens on March 31, 2017, as well as March 19, 2019.

5.2. EXTERIOR OBSERVATIONS

The following text discusses focus areas of the site reconnaissance. Poor housekeeping practices were noted on the Property at the time of the 2017 site reconnaissance, such as the presence of used oil containers not properly covered from rain. These are *de minimis* conditions.

5.2.1.Stained Soil / Distressed Vegetation / Odors

No stained soil, distressed vegetation, or unusual odors was noted during the site reconnaissance.

5.2.2.Roads

Roads surrounding the Property are all paved with asphalt or concrete, and show no suspicious staining other than *de minimis* quantities associated with parking stalls from parked automobiles that apparently leak engine fluids.

5.2.3.Wells / Potable Water Supply

A private groundwater well is located on the Property near Highway 29, northeast of the residence. Maps were provided of the Property which identify three additional wells; however, these wells were not identified during the site reconnaissance and only the well observed is in use.

5.2.4.Sewage Disposal System

Sewage for the residences is transported and treated via an on-site septic system.

5.2.5.Storage Tanks, Containers, or Drums

The following storage tanks / drum storage were noted on the Subject Property during the site reconnaissance: storage tanks relating to the septic system and agricultural irrigation. At the time of the 2017 site reconnaissance, a few 55-gallon drums of unknown contents were also observed. No evidence of a release of these materials was observed during site reconnaissance. Based on the lack of evidence of a release which could potentially impact the subsurface, Natural Investigations Co. does not consider the potential hazardous materials stored/used onsite to represent a recognized environmental condition. No

storage tanks or drum storage was noted on adjoining properties during the site reconnaissance. It is beyond the scope of this assessment to open any container.

5.2.6.Hazardous Substances and Petroleum Products

The following hazardous substances or petroleum product usage or storage was noted on the Subject Property during the site reconnaissance: propane tanks providing heat the residences, small quantities of motor oil, household cleaners, and paint products. The area around the vacant home on the southwestern Property showed evidence of poor housekeeping practices at the time of the 2017 site visit. This included piles of rubbish and an open container of paint and several other open, unlabeled containers of liquids.

No evidence of a release of these materials was observed during site reconnaissance. Based on the lack of evidence of a release which could potentially impact the subsurface and because of the small volumes of the containers, Natural Investigations Co. does not consider the hazardous materials stored/used onsite to represent a recognized environmental condition in connection with the subject property, but these are a de minimis concern.

5.2.7.Electrical or Mechanical Equipment Likely to Contain Fluids

Polychlorinated biphenyls, or PCBs, were commonly used historically in electrical equipment such as transformers, fluorescent lamp ballasts, and capacitors. According to United States EPA regulation 40 CFR, Part 761, there are three categories for classifying such equipment: <50 ppm of PCBs is considered “Non-PCB”; between 50 and 500 ppm is considered “PCB-Contaminated”; and >500 ppm is considered “PCB-Containing”. Pursuant to 15 U.S.C. 2605(e)(2)(A), the manufacture, process, or distribution in commerce or use of any polychlorinated biphenyl in any manner other than in a totally enclosed manner was prohibited after January 1, 1977.

No PCB-containing equipment (electric or hydraulic) was observed during the site reconnaissance. Pole-mounted transformers were observed in the vicinity, but appear to be modern and non-leaking. Overhead electrical service is provided by PG&E.

5.2.8.Pits / Ponds / Lagoons

No pits or lagoons were observed during the site reconnaissance. Four spring-fed ponds are located on the Property. Three of the ponds are present in the mostly undeveloped, southwesterly area of the Property and may have historically been used to irrigate the vineyards. A small creek connects the southern and northern ponds. Dense vegetation and areas of steep terrain surround the ponds. A fourth, smaller pond is located along the northern border of the Property, easterly of the vineyards. No evidence of discharges to the ponds were observed during the reconnaissance.

5.2.9.Storm Water / Pools of Liquid

The Property does not generate or discharge into a municipal stormwater sewer system. Roadside ditches are located in various areas.

5.2.10. Solid Waste

Municipal solid waste and recyclables generated on the Property and adjoining properties are collected in cans and hauled by South Lake Refuse.

5.3. INTERIOR OBSERVATIONS

At the time of the 2021 site reconnaissance, no interior observation of the residences were made; however, interior residential observation is beyond the scope of this assessment and does not constitute a limitation or data gap and is not necessary.

Natural Investigations Co. associate Kristen Ahrens was granted access to all interior spaces of the subject property at the time of the 2017 site reconnaissance, including residences. Small quantities of household cleaners, motor oil, and paints were observed in the homes and storage sheds. It is beyond the scope of this assessment to look behind walls or under the building or in the attic. No potential environmental concerns were detected during the interior walk-through.

5.4. LIMITATIONS

The western portion (27 acres) of the Property is undeveloped. Foot paths to the three western ponds allowed for pedestrian survey of portions of the undeveloped area; however, inability to penetrate thick vegetation prevented an exhaustive survey. There were no other limitations on the ability of the environmental professional to perform the site reconnaissance.

6. INTERVIEWS

ASTM Practice E1527-13 states that the objective of interviews is to obtain information indicating the likelihood of identifying recognized environmental conditions in connection with the property (ASTM 2013). The following text summarizes interviews performed and questionnaires answered.

6.1. INTERVIEW WITH OWNERS / SITE MANAGERS / OCCUPANTS

6.1.1.Interviews with Owners / Site Managers / Occupants

On March 31, 2017, Natural Investigations associate Kristen Ahrens conducted an interview of the current property tenant, Julie Willis. The interview lasted for approximately fifteen minutes and was conducted on the Property at the time of the site reconnaissance. Ms. Willis indicated that she and her family have been tenants on the Property for the past sixteen years. She has been a lifelong resident of the community and her family was aware of previous operations on the Property. According to Ms. Willis, the Property had operated as a chicken farm from the 1930s to 1950s and pastureland for horses in the 1960s. She stated that the vineyards on the Property had been abandoned approximately ten years ago. Ms. Willis stated that the private well on the Property is approximately 30 feet deep and is tested regularly; no contaminants have been identified. Ms. Willis had no knowledge of recognized environmental conditions associated with the Property.

6.1.2.Landowner Questionnaire of Hazards / Hazardous Substances

On April 17, 2017, questionnaire entitled “Landowner Questionnaire of Hazards / Hazardous Substances” was completed by Justin Lond, the EPA director for the Middletown Rancheria of Pomo Indians. He had no knowledge of any recognized environmental conditions associated with the Property. This hazardous materials questionnaire was also completed by the Property tenant in 2017, Julie Willis, on March 31, 2017 (see Appendix 14.5). All of the questions were answered with a “no” except for a “yes” response regarding the on-site private well, and two questions which were unknown to Ms. Willis. This indicates that the respondents had no knowledge of recognized environmental conditions associated with the Property. A follow-up questionnaire was e-mailed to the Tribe on May 28, 2021. This produced no new information.

7. FINDINGS

The Subject Property is located in a rural setting that has no known industrial history but has an extensive agricultural history (vineyard and pasture), which may have included the use of pesticides. There is evidence of current usage of household quantities of hazardous materials, and the presence of some rubbish.

7.1. RATIONALE FOR DETERMINATION OF SIGNIFICANT FINDINGS

Offsite properties identified in the vicinity of the Property were evaluated to determine if they are likely to have adversely affected the Property. The criteria used to evaluate whether an offsite property pose potential environmental concerns to the Property include:

- Distance from the Property: Offsite properties within one-quarter mile of the Property were evaluated. The one-quarter-mile radius was used because it is unlikely a hazardous material released to the subsurface will migrate laterally within the soil for a significant distance, although in some cases, a hazardous material can migrate in groundwater in a generally downgradient direction for distances greater than one-quarter mile.
- Expected depth and direction of groundwater and surface water flow: The identification of a site as potentially upgradient or downgradient is based on the expected direction of groundwater flow determined by site-specific measurement, where available, or inferred from the regional topography.
- The presence of documented contaminant releases at the identified sites.
- The media that the documented contaminant releases affected (i.e., soil and/or groundwater). For the evaluation of potential environmental contamination in the Property, offsite properties with releases to soil only are assumed to pose no significant impact on the Property, as the contaminants are unlikely to migrate towards the Property.

Based on the review and evaluation of information available in the environmental databases and regulatory agency files, no adverse environmental effect is expected for vicinity sites that have some or all the following conditions:

- the identified vicinity sites are in assumed down-gradient or cross-gradient locations
- the identified vicinity sites have obtained case closure
- the identified vicinity sites were contained at the ground surface, or releases to the subsurface affected soil only, in which case the contaminants are unlikely to migrate towards the Property in groundwater.
- offsite properties located further than one-quarter mile from the Property are not expected to adversely affect the Property conditions, as it is unlikely a hazardous material released to the subsurface will migrate laterally within the soil for a significant distance, although a hazardous material can migrate in groundwater in a generally downgradient direction.

7.2. VAPOR ENCROACHMENT SCREENING

ASTM Practice E1527-13 requires subsurface vapor migration to be evaluated as a possible contaminant pathway in the identification of a recognized environmental condition. However, ASTM Practice E1527-13 does not require any risk analysis to building occupants of vapor intrusion or the performance of a vapor encroachment screening. The USEPA defines vapor intrusion as "*the migration of volatile chemicals from the subsurface into overlying buildings. Volatile chemicals in buried wastes and/or contaminated groundwater can emit vapors that may migrate through subsurface soils and into indoor air spaces of overlying buildings in ways similar to that of radon gas seeping into homes*." (USEPA 2010, page 4). Volatile chemicals include volatile and semivolatile organic compounds as well as some inorganic substances such as hydrogen sulfide and radon (although radon is an out-of-scope item in this assessment).

The USEPA recommends evaluating vapor intrusion under certain circumstances:

> "*The draft guidance is suggested for use at RCRA Corrective Action, CERCLA (National Priorities List and Superfund Alternative Sites), and Brownfields sites, but is not recommended for use at Subtitle I Underground Storage Tank (UST) sites at this time. The draft guidance recommends certain conservative assumptions that may not be appropriate at a majority of the current 145,000 petroleum releases from USTs. As such, the draft guidance is unlikely to provide an appropriate mechanism for screening the vapor pathway at UST sites. We recommend that State and Regional UST corrective action programs continue to use a risk based decision making approach as described in OSWER Directive 9610.17: Use of Risk-Based Decision Making in UST Corrective Action Program to address this pathway. A majority of State programs are successfully implementing this directive at their UST cleanups and use the recommended approaches where appropriate, to prioritize and remediate their sites, including risk associated with vapor migration to indoor air in a manner that is protective of human health and the environment*." (USEPA 2010, page 2)

USEPA (2010) guidance describes Tier 1 – Primary Screening as having the following components: a) if chemicals of sufficient volatility and toxicity are present or reasonably suspected to be present; b) if inhabited buildings are located (or will be constructed under future development scenarios above or in close proximity to subsurface contamination; and c) if current conditions warrant immediate action. ASTM also provides guidance in the E2600-10 Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions. A vapor encroachment assessment was not deemed necessary at this time.

It should be noted that Leaking Underground Storage Tank and DTSC EnviroStor sites closed by the RWQCB or local agencies prior to April 1, 2008, would not necessarily have been closed based on a risk assessment that considered volatile organic compounds and the vapor intrusion pathway. Assembly Bill 422, which now requires such a risk assessment, did not take effect until January 1, 2008.

7.3. *DE MINIMIS* ENVIRONMENTAL CONDITIONS

De minimis environmental conditions are conditions that are not believed to present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies (ASTM 2013).

No minimal, or *de minimis*, environmental condition(s) exists pursuant to the ASTM Practice E1527-13 except for:

- usage of household quantities of hazardous materials, poor housekeeping practices, and the improper disposal of rubbish
- the possible presence of residual pesticides in soils, especially in pesticide handling areas of farm operations. Historical agricultural enterprises have probably stored, handled, and applied pesticides on the vineyards and pastures. Pesticide residues may persist in soils of the Property. However, this assessment found no specific indication of soil or water contaminated with pesticides. Natural attenuation may reduce such residual pesticides to undetectable levels. Residual pesticides from historical pesticide usage may also be diluted or buried during earth-moving (grading and building) if the Property were to be developed.

7.4. HISTORICAL RECOGNIZED ENVIRONMENTAL CONDITIONS

ASTM Practice E1527-13 defines a historical recognized condition as:

> "*...an environmental condition which in the past would have been considered a recognized environmental condition, but which may or may not be considered a recognized environmental condition currently. The final decision rests with the environmental professional and will be*

> *influenced by the current impact of the historical recognized environmental condition on the property. If a past release of any hazardous substances or petroleum products has occurred in connection with the property and has been remediated, with such remediation accepted by the responsible regulatory agency (for example, as evidenced by the issuance of a no further action letter or equivalent), this condition shall be considered an historical recognized environmental condition*." (p. 5, ASTM 2013)

No historical recognized environmental conditions were found in connection with the Property pursuant to the ASTM Practice E1527-13.

7.5. KNOWN OR SUSPECT RECOGNIZED ENVIRONMENTAL CONDITIONS

No recognized environmental conditions were found in connection with the Property pursuant to the ASTM Practice E1527-13.

8. OPINION AND RECOMMENDATION

8.1. IMPACT OF ENVIRONMENTAL CONDITIONS ON PROPERTY

It is the Environmental Professional's opinion that there are no current recognized environmental conditions, in connection with the Property pursuant to the ASTM Practice E1527-13. Records review, site reconnaissance, and interviews failed to identify any current environmental conditions in connection with the Property.

8.2. ADDITIONAL INVESTIGATION

It is the Environmental Professional's opinion that there are no historical or current recognized environmental conditions in connection with the Property pursuant to the ASTM Practice E1527-13. Records review, database searches, or interviews failed to identify any environmental conditions in connection with the Property. Therefore, no further site investigation is recommended.

8.3. DATA GAPS OR DELETIONS

ASTM Practice E1527-13 defines data failure as the failure to achieve the historical research objectives even after reviewing the standard historical sources that are reasonably ascertainable and likely to be useful. Data failure is one type of data gap. ASTM Practice E1527-13 defines a data gap as a lack, of or inability to obtain, information required by this practice despite good faith efforts by the Environmental Professional to gather such information. Data gaps may result from incompleteness in any of the activities required by this practice, including, but not limited to site reconnaissance (for example, an inability to conduct the site visit), and interviews (for example, an inability to interview the key site manager, regulatory officials, etc.). The available historical USGS quadrangle maps and aerial photography were too coarse in resolution to discern all specific land uses or structures on the Property or adjacent properties. These constitute data failures. Another data failure was no coverage by Sanborn Maps. However, a combination of other historical data sources was available such that no significant data gap existed, and the historical research objectives were achieved. There were no deletions from the ASTM Practice E1527-13.

9. CONCLUSIONS

We have performed a Phase I ESA in conformance with the scope and limitations of ASTM Practice E1527-13 of the property at 22433 Highway 29, Middletown, California, APN 014-005-34. Any exceptions to, or deletions from, this practice are described in Sections 1.3 and 8.3 of this report. This assessment has revealed no evidence of recognized environmental conditions in connection with Property.

10. ADDITIONAL SERVICES

No additional services beyond the scope of the ASTM Practice E1527-13 were conducted as part of this assessment.

There may be environmental issues or conditions at a property that parties may wish to assess in connection with commercial real estate that are outside the scope of this practice. No implication is intended as to the relative importance of inquiry into such non-scope considerations, and this list of non-scope considerations is not intended to be all-inclusive: asbestos-containing building materials, radon, lead-based paint, lead in drinking water, wetlands, regulatory compliance, cultural and historic resources, industrial hygiene, health and safety, ecological resources, endangered species, indoor air quality, biological agents, and mold.

Phase I ESAs are non-comprehensive by nature and are unlikely to identify all environmental problems or eliminate all risk. Natural Investigations Company offers a range of investigative and consulting services to suit the needs of our clients, including more quantitative investigations. Although risk can never be eliminated, more detailed and extensive investigations yield more information, which may help the User understand and better manage risks associated with their property. Since such detailed services involve greater expense and time, we ask that our clients participate in the identification of the level of service that will provide them with what they consider to be an acceptable level of risk. Please contact the signatory of this report if you would like to discuss the issue of risk further. Land use, site conditions, and other factors will change over time. This report should not be relied upon after 180 days from the date of issuance, unless additional services are performed as defined in Section 4.6 of ASTM E1527-13.

11. REFERENCES

American Society for Testing and Materials. 2010. Standard Guide for Vapor Encroachment Screening On Property Involved In Real Estate Transactions. Designation E2600-10. West Conshohocken, Pennsylvania. 33 pp.

American Society for Testing and Materials. 2013. Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process. Designation E 1527-13. West Conshohocken, Pennsylvania. 47 pp.

California Department of Conservation. 2019. Department of Oil, Gas, and Geothermal Resources Online Mapping System (DOMS) 2.0. Database. Available on the Internet at http://www.conservation.ca.gov/dog/Pages/WellFinder.aspx.

California Environmental Protection Agency. California Environmental Reporting System Database. Available on the Internet at http://cers.calepa.ca.gov/.

Department of Toxic Substances Control. 2019. EnviroStor Database Website. Available on the Internet at: http://www.envirostor.dtsc.ca.gov/public/.

State Water Resources Control Board. 2019. GeoTracker Database Website. Available on the Internet at: http://geotracker.swrcb.ca.gov/.

USEPA. 2002. OSWER Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils (Subsurface Vapor Intrusion Guidance). EPA530-D-02-004. Office of Solid Waste and Emergency Response. 178 pp. Available on the Internet at: http://www.epa.gov/epawaste/hazard/correctiveaction/eis/vapor.htm.

USEPA. 2019. Envirofacts Data Warehouse Multisystem Query Website. Available on the Internet at: http://www.epa.gov/enviro/html/multisystem.html.

USEPA. 2019. The Enforcement and Compliance History Online (ECHO) database maintained by the USEPA. Available on the Internet at: http://echo.epa.gov/?redirect=echo.

12. SIGNATURE OF ENVIRONMENTAL PROFESSIONAL

As required by 40 CFR 312.21(d), this report shall include the following statements of the environmental professional responsible for conducting the Phase I ESA and preparation of the report (page 22, ASTM 2013):

> *I declare that, to the best of my professional knowledge, I meet the definition of 'Environmental Professional' as defined in §312.10 of 40 CFR.*
>
> *I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.*



G. O. Graening, PhD, MSE
Environmental Assessor

13. QUALIFICATIONS OF ENVIRONMENTAL PROFESSIONAL

Dr. Gary O. Graening was certified by California Department of Toxic Substances Control as a Registered Environmental Assessor I (registration # 08060,) from 2005 to 2012, after which DTSC retired the certification program. Dr. Graening holds a PhD in Biological Sciences and a Master of Science in Engineering. Dr. Graening has over 16 years of experience in environmental research and site assessment, including preparation of program-level Phase I ESAs, limited Phase II investigations, as well as environmental impact assessments for National Environmental Policy Act compliance and California Environmental Quality Act compliance. Dr. Graening has completed the 40-hour OSHA Hazardous Waste Operations and Emergency Response certification (with 8-hour annual refresher courses). Dr. Graening's full résumé, and the Company's statement of qualifications, is available on the Internet at the Company's website: www.naturalinvestigations.com.

14. APPENDICES

Available on Request

PHASE I ENVIRONMENTAL SITE ASSESSMENT
OF THE SCOTT PROPERTY AT
22033 SOUTH STATE HIGHWAY 29, MIDDLETOWN, CALIFORNIA



August 7, 2021

Prepared for:

The Middletown Rancheria Tribe of Pomo Indians of California

Prepared by:

G. O. Graening, PhD, MSE and Kristen Ahrens, M.S.

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SUMMARY

This report presents the findings of a Phase I Environmental Site Assessment (ESA) for the property at 22033 South State Highway 29, Middletown, California, Assessor Parcel Number (APN) 014-160-09 and 014-160-05 (Property). Natural Investigations Company, Inc., has performed this Phase I ESA in conformance with the scope and limitations of the American Society for Testing and Materials (ASTM) Practice E1527-13 and in accordance with the prevailing standard of care for completing such assessments in California at this time. Exceptions to, or deletions from, this practice are described in Sections 1.3 and 8.3 of this report.

The Property consists of rural residences on the western portion of the parcel and an overflow parking area for the Twin Pines Casino on the eastern area of the parcel. The remainder of the Property is open space.

No environmental liens or value reductions were found in association with the Property. No indication of heavy industrial uses was detected from title review. The Property was not listed in any of the environmental databases queried, except for an NPDES permit, which is probably associated with wastewater or the off-site disposal of small quantities of hazardous materials. County (CUPA) records revealed no case files associated with the Property; the only documents available were related to domestic wells.

A review of physical setting sources and historical use information (topographic maps, aerial photography, fire insurance maps, city directories, and building permits) did not detect any indications of possible recognized environmental conditions on the Property. A site reconnaissance was performed on May 31, 2021; no indications of possible recognized environmental conditions were noted on the Property.

Information about past owners, operations or occupants was not reasonably ascertainable and constitutes a data gap. There were a few minor data failures with the physical setting and historical information sources. However, a combination of other data sources was available such that no significant data gap existed, and the historical research objectives were achieved. There were no data gaps that significantly affected our ability to identify recognized environmental conditions associated with the Property.

Except for the limitations and exceptions discussed in Sections 1.3 and 8.3, this Phase I ESA complies with the ASTM Practice E1527-13. No additional services beyond the scope of the ASTM Practice E1527-13 were conducted as part of this assessment.

One minimal, or *de minimis*, environmental condition(s) exists pursuant to the ASTM Practice E1527-13:

- *de minimis* quantities of petroleum product staining on paved surfaces associated with parking stalls from parked automobiles that apparently dripped engine fluids.

One historical recognized environmental condition was found in connection with the Property pursuant to the ASTM Practice E1527-13:

- groundwater was contaminated with gasoline and its additives (e.g. benzene) on the eastern portion of the Property from the Nella Oil Company tanker spill in 2005. Remediation of the spill was implemented and the contaminant plume reduced enough to close the case. Water quality sampling of monitoring wells on the Property indicated that chemicals of concern were at, or below, detection limits.

It is the Environmental Professional's opinion that there are no current recognized environmental conditions in connection with the Property pursuant to the ASTM Practice E1527-13. Records review, database searches, or interviews failed to identify any current environmental conditions in connection with the Property. Therefore, no further site investigation is recommended.

The exception would be if groundwater under the property is to be pumped and used. Because historical contamination from the Nella Oil Spill SLIC case contaminated groundwater under the Property, and even though the spill was remediated, Natural Investigations Co. does not recommend the use of groundwater under the Property before testing. A Phase II Environmental Site Assessment should be performed before use of groundwater under the Property.

This summary should only be read in conjunction with the full text of the report. The scope of work, significant assumptions, limitations, and exceptions should be understood prior to reading the site-specific information, findings, opinions, and conclusions. Except for any limitations and exceptions discussed in Section 1.3, this Phase I ESA complies with the ASTM Practice E1527-13. No additional services beyond the scope of the ASTM Practice E1527-13 were conducted as part of this assessment.

1. INTRODUCTION

1.1. PURPOSE

ASTM Practice E1527-13 defines the purpose of the Phase I ESA as quoted:

> "*The purpose of this practice is to define good commercial and customary practice in the United States of America for conducting an environmental site assessment of a parcel of commercial real estate with respect to the range of contaminants within the scope of Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)(42 U.S.C. §9601) and petroleum products. As such, this practice is intended to permit a user to satisfy one of the requirements to qualify for the innocent landowner, contiguous property owner, or bona fide prospective purchaser limitations on CERCLA liability (hereinafter, the 'landowner liability protections,' or 'LLPs'): that is, the practice that constitutes all appropriate inquiries into the previous ownership and uses of the property consistent with good commercial and customary practice as defined at 42 USC § 9601(35)(B)*." (page 1, ASTM 2013).

In 2002, the Small Business Liability Relief and Brownfields Revitalization Act was passed, and it directed the United States Environmental Protection Agency (USEPA) to promulgate a rule defining due diligence for compliance with the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). This rule, which is generally referred to as All Appropriate Inquiry, was adopted in 2005. ASTM Practice E1527-13 complies with the USEPA requirements for All Appropriate Inquiry, and in some cases, is more stringent than All Appropriate Inquiry.

1.2. GOALS AND DETAILED SCOPE OF SERVICES

ASTM Practice E1527-13 describes the goals and general scope of services in the following excerpts:

> "*In defining a standard of good commercial and customary practice for conducting an environmental site assessment of a parcel of a property, the goal of the processes established by this practice is to identify recognized environmental conditions. The term recognized environmental conditions means the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment.* De minimis *conditions are not recognized environmental conditions*." (page 1, ASTM 2013).

> "*The scope of this practice includes research and reporting requirements that support the user's ability to qualify for the LLPs. As such, sufficient documentation of all sources, records, and resources utilized in conducting the inquiry required by this practice must be provided in the written report*." (page 2, ASTM 2013).

The general scope of services of a Phase I ESA has four components: records review; site reconnaissance; interviews; and report (page 12, ASTM 2013). The scope of services was limited to a qualitative evaluation of environmental conditions of the Property. The detailed scope of services performed for this Phase I ESA consists of the following tasks:

- Records Review.
  - Summarize physical setting (e.g. soils, geology, hydrogeology, surface water)
  - Historical USGS topographic map and aerial photograph sequence analyses
  - Spatial query of SWRCB's GeoTracker database and DTSC's EnviroStor database
  - Query of federal, state, and private environmental databases
  - Review and summary of title research, as necessary
  - Building permit review, as necessary
  - Environmental case file reviews at County / CUPA offices, as necessary
  - Summary of any previous environmental reports, where available
- Site Reconnaissance
  - Visual inspection of the Property

  - Photographic documentation
- Interviews
  - Interview current and historical property owners and occupants, or have them fill out a standard environmental questionnaire, where possible
  - As needed, contact and interview neighbors, or regulatory agencies via form letter, phone conversations, and/or personal interviews
  - Documentation of all correspondence
- Report Preparation
  - Provide all supporting documentation, to state the findings of the records reviews, site reconnaissance, and interviews, to give an official opinion of the impact upon the Property of known or suspect environmental conditions, and to state conclusions and provide a report signed by a Qualified Professional.

The scope of services does not include other services that are not described in this report. Section 1.3 details significant assumptions, limitations, and exceptions to the performance of this Phase I ESA.

1.3. LIMITING CONDITIONS, DEVIATIONS, EXCEPTIONS, SIGNIFICANT ASSUMPTIONS, AND SPECIAL TERMS AND CONDITIONS

ASTM Practice E1527-13 cites many assumptions, limitations, and exceptions in the performance of a Phase I ESA. Some of the most important are quoted in the following excerpts:

> "*This practice does not address whether requirements in addition to all appropriate inquiries have been met in order to qualify for the LLPs (for example, the duties specified in 42 U.S.C. § 9607(b)(3)(a) and (b)*." (page 1, ASTM 2013).
>
> "*This practice does not address requirements of any state or local laws or of any federal laws other than the all appropriate inquiry provisions of the LLPs. Users are cautioned that federal, state, and local laws may impose environmental assessment obligations that are beyond the scope of this practice. Users should also be aware that there are likely to be other legal obligations with regard to hazardous substances or petroleum products discovered on the property that are not addressed in this practice and that may pose risks of civil and/or criminal sanctions for non-compliance*." (page 1, ASTM 2013).
>
> "*Uncertainty Not Eliminated—No environmental site assessment can wholly eliminate uncertainty regarding the potential for recognized environmental conditions in connection with a property. Performance of this practice is intended to reduce, but not eliminate, uncertainty regarding the potential for recognized environmental conditions in connection with a property, and this practice recognizes reasonable limits of time and cost*." (page 10, ASTM 2013).
>
> "*Not exhaustive—Appropriate inquiry does not mean an exhaustive assessment of a property. There is a point at which the cost of information obtained or the time required to gather it outweighs the usefulness of the information and, in fact, may be a material detriment to the orderly completion of transactions. One of the purposes of this practice is to identify a balance between the competing goals of limiting the costs and time demands inherent in performing an environmental site assessment and the reduction of uncertainty about unknown conditions resulting from additional information*." (page 10, ASTM 2013).
>
> "*Level of Inquiry is Variable—Not every property will warrant the same level of assessment. Consistent with good commercial or customary practice, the appropriate level of environmental site assessment will be guided by the type of property subject to assessment, the expertise and risk tolerance of the user, and the information developed in the course of the inquiry*" (page 10, ASTM 2013).
>
> "*This practice does not include any testing or sampling of materials (for example, soil, water, air, building materials*." (page 13, ASTM 2013).
>
> "*There may be environmental issues or conditions at a property that parties may wish to assess in connection with commercial real estate that are outside of the scope of this practice (the non-scope considerations). As*

noted by the legal analysis in Appendix X1 of this practice, some substances may be present on the property in quantities and under conditions that may lead to contamination of the property or of nearby properties but are not included in CERCLA's definition of hazardous substances (42 U.S.C. § 9601(14)) or do not otherwise present potential CERCLA liability. In any case, they are beyond the scope of this practice." (pages 22-23, ASTM 2013).

"*Whether or not a user elects to inquire into non-scope considerations in connection with this practice or any other environmental site assessment, no assessment of such non-scope considerations is required for appropriate inquiry as defined by this practice*." (page 23, ASTM 2013).

"*There may be standards of protocols for assessment of potential hazards and conditions associated with non-scope conditions developed by governmental entities, professional organizations, or other private entities*." (page 23, ASTM 2013).

"*Following are several non-scope considerations that persons may want to assess in connection with commercial real estate...No implication is intended as to the relative importance of inquiry into such non-scope considerations, and this list of non-scope considerations is not intended to be all-inclusive: asbestos-containing materials; biological agents; cultural and historical resources; ecological resources; endangered species; health and safety; indoor air quality unrelated to releases of hazardous substances or petroleum products into the environment; industrial hygiene; lead-based paint; lead in drinking water; mold; radon; regulatory compliance; and wetlands*." (page 23, ASTM 2013).

Natural Investigations Company, Inc. made the following assumptions in the preparation of this Phase I ESA:

- Groundwater Flow Direction – we interpreted and inferred the direction of the shallow groundwater movement based on the information we obtained and our experience. Actual groundwater flow may be locally influenced by many factors beyond the scope of this assessment. Subsurface investigation and modeling would be necessary to determine site-specific groundwater flow direction.
- Regulatory Agency Information – we considered all information provided by EDR, GeoTracker, EnviroStor, and CUPA records regarding regulatory status of facilities to be complete, accurate, and current.
- When provided with a current title report prepared by a reputable title company, we assumed that a separate chain-of-title research effort was redundant to identify any environmental liens or previous landowners with names indicative of industrial uses.
- Interviews – we considered all information provided through interviews to be complete, unbiased, and provided in good faith.

Natural Investigations Company, Inc., as an independent and impartial contractor, has completed this Phase I ESA in accordance with ASTM Practice E1527-13 and in accordance with the prevailing standard of care for completing such assessments in California at this time. Natural Investigations Company shall not be subject to any express or implied warranties whatsoever. Phase I ESAs are non-comprehensive by nature and are unlikely to identify all environmental problems and will not eliminate all risk. This report is a qualitative assessment. Although risk can never be eliminated, more detailed and extensive investigations yield more information, which may help the User understand and better manage risks associated with the Property. No warranty, either expressed or implied, is made. Land use, site conditions, and other factors will change over time. This report should not be relied upon after 180 days from the date of issuance, unless additional services are performed as defined in ASTM Practice E1527-13, Section 4.6.

The property owner is solely responsible for notifying all governmental agencies, and the public at large, of the existence, release, treatment, or disposal of, any hazardous substance or petroleum product occurring on the Property, either before, during, or after Natural Investigation Company's services. Natural Investigation Company assumes no responsibility or liability whatsoever for any claim, loss of property value, damage, or injury which results from pre-existing materials being encountered or being present on the Property, or from the discovery of such hazardous substances or petroleum products.

This report and other instruments or service are prepared and made available for the sole use of the User and their agents. The contents may not be used or relied upon by any other persons without the express written consent and authorization of the User.

There are no special terms or contractual conditions for this assessment. There were no limiting conditions or deviations from the ASTM Practice E1527-13 in the preparation of this Phase I ESA. There were no client/User-imposed constraints on the preparation of this Phase I ESA.

Any data gaps are listed in Section 8.3.

1.4. INFORMATION RELIANCE

ASTM Practice E1527-13 defines information reliance as:

> "*An environmental professional is not required to verify independently the information provided but may rely on information provided unless he or she has actual knowledge that certain information is incorrect or unless it is obvious that certain information is incorrect based on other information obtained in the Phase I Environmental Site Assessment or otherwise actually known to the environmental professional*." (page 13, ASTM 2013).

This report is for the sole benefit and exclusive use of the User in accordance with the contract under which these services have been provided. It is possible that information exists beyond the scope of this assessment. Additional information, which was not found or available to Natural Investigations Company at the time of report preparation, may result in a modification of the conclusions and recommendations presented herein. Any reliance on this report by third parties shall be at their own risk.

2. SITE DESCRIPTION

2.1. LOCATION AND LEGAL DESCRIPTION

The subject property ("Property") of this Phase I ESA is two parcels with address of 22033 South State Highway 29: APN 014-160-09, 8.39 acres and APN 014-160-05, 0.46 acres. The Property is bounded by Highway 29 and vineyards to the east and Twin Pines Casino to the south in the Census Designated Place of Middletown, Lake County, California (Figure 2.1.1). The Property consists of one parcel with an area of approximately 8.39 acres, and is used for rural residences and overflow parking for Twin Pines Casino. The Lake County Assessor's office assigns this parcel land use code RR-SC with the description of rural residential district-scenic combining district.

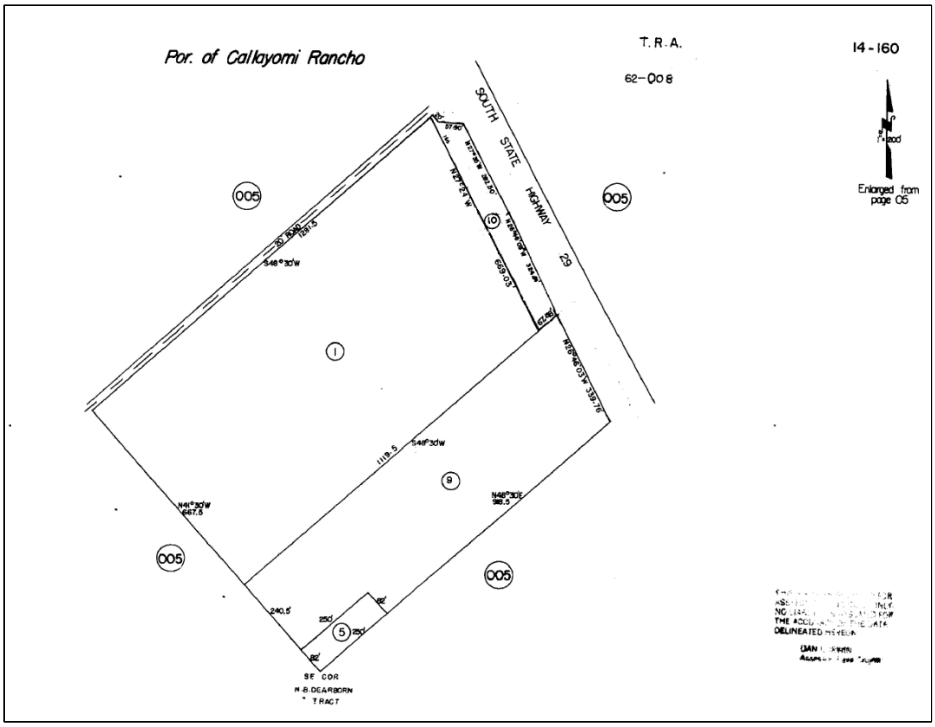


Figure 2.1.1. Assessor's Parcel Map, with subject property outlined in red.

2.2. SITE AND VICINITY GENERAL CHARACTERISTICS

The Property is located in the Census Designated Place of Middletown in an area zoned for agricultural, rural residential, and commercial purposes.

2.3. CURRENT USE OF THE PROPERTY AND IMPROVEMENTS

There are several rural residences on the western-southwestern portion of the Property. An overflow parking area for the Twin Pines Casino is present on the eastern portion of the Property. The remainder of the Property is open space.



Figure 2.3.1. Oblique aerial photo, view looking west of subject property and surrounding properties (Google Maps).

2.4. CURRENT USES OF ADJOINING PROPERTIES

The parcels surrounding the Property are used for a mixture of agricultural, residential, and commercial purposes. To the north are rural residences and pastureland, and to the south is Twin Pines Casino. Pastureland and open space are west of the Property, while Highway 29 and vineyards are present to the east.

3. USER-PROVIDED INFORMATION

The "User" is defined as the party seeking to use ASTM Practice E1527-13 to complete an environmental site assessment of the Property. A user may include, without limitation, a potential purchaser of property, a potential tenant of property, an owner of property, a lender, or a property manager. The user has specific obligations for completing a successful application of this practice outlined in Section 6 of ASTM Practice E1527-13.

In the case of this assessment, the User is the Middletown Rancheria Tribe of Pomo Indians of California and the U.S. Bureau of Indian Affairs.

3.1. USER'S RESPONSIBILITIES

User's responsibilities are defined by the ASTM E1527-13 standard, and include the following, as quoted:

> "*Any environmental liens and AULs known to the user should be reported to the environmental professional conducting a Phase I Environmental Site Assessment. Unless added by a change in the scope of work to be performed by the environmental professional, this practice does not impose on the environmental professional the responsibility to undertake a review of recorded land title records and judicial records for environmental liens and AULs. The user should either (1) engage a title company, real estate attorney, or title professional to undertake a review of reasonably ascertainable recorded land title records and lien records for environmental liens and AULs currently recorded against or relating to the property, or (2) negotiate such an engagement of a title company, real estate attorney, or title professional as an addition to the scope of work of the environmental professional*." (page 12, ASTM 2013)

> "*Specialized Knowledge or Experience of the User—Users must take into account their specialized knowledge to identify conditions indicative of releases or threatened releases. If the user has any specialized knowledge or experience that is material to recognized environmental conditions in connection with the property, the user should communicate any information based on such specialized knowledge or experience to the environmental professional. The user should do so before the environmental professional conducts the site reconnaissance*." (page 12, ASTM 2013)

> "*Actual Knowledge of the User—If the user has actual knowledge of any environmental lien or AULs encumbering the property or in connection with the property, the user should communicate such information to the environmental professional. The user should do so before the environmental professional conducts the site reconnaissance*." (page 12, ASTM 2013)

> "*Reason for Significantly Lower Purchase Price—In a transaction involving the purchase of a parcel of commercial real estate, the user shall consider the relationship of the purchase price of the property to the fair market value of the property if the property was not affected by hazardous substances or petroleum products. The user should try to identify an explanation for a lower price which does not reasonably reflect fair market value if the property was not contaminated, and make a written record of such explanation. Among the factors to consider will be the information that becomes known to the user pursuant to the Phase I Environmental Site Assessment. This practice does not require that a real estate appraisal be obtained in order to ascertain fair market value of the property. The user should inform the environmental professional if the user believes that the purchase price of the property is lower than the fair market value due to contamination. The user is not required to disclose the purchase price to the environmental professional*." (page 12, ASTM 2013)

> "*Commonly Known or Reasonably Ascertainable Information—Commonly known or reasonably ascertainable information within the local community about the property must be taken into account by the user. If the user is aware of any commonly known or reasonably ascertainable information within the local community about the property that is material to recognized environmental conditions in connection with the property, the user should communicate such information to the environmental professional. The user should do so before the environmental professional conducts the site reconnaissance. The user must gather such information to the extent necessary to identify conditions indicative of releases or threatened releases of hazardous substances or petroleum products*." (page 12, ASTM 2013)

> "*Either the user shall make known to the environmental professional the reason why the user wants to have the Phase I Environmental Site Assessment performed or, if the user does not identify the purpose of the Phase I Environmental Site Assessment, the environmental professional shall assume the purpose is to qualify for an LLP to CERCLA liability and state this in the report*." (page 12, ASTM 2013).

In order to exert an LLP, the User must satisfy a number of statutory requirements that are generally referred to as Continuing Obligations, which are outside the Scope of Services of the Phase I ESA. Examples of Continuing Obligations include providing legally required notices stopping continuing releases and complying with land use restrictions. Failure to comply with these and other statutory post-acquisition requirements will jeopardize liability protection. It is the responsibility of the User to comply with the Continuing Obligations requirements of ASTM Practice E1527-13 and All Appropriate Inquiry.

3.2. REQUESTED DOCUMENTS AND INFORMATION

The following documents and information were requested of User and the landowners:

- Title reports
- Previous environmental site assessments or environmental compliance audit reports
- Environmental permits or hazardous waste generator notices/reports
- Registrations for aboveground or underground storage tanks
- Location of septic systems, oil wells, monitoring wells, or water wells
- Registrations for underground injection systems
- Material Safety Data Sheets; Community Right to Know Plans or Safety, Preparedness and prevention Plans; Spill Protection, Countermeasures and Control Plans
- Hazardous Material Business Plans
- Geotechnical studies or hydrological studies
- Notices or other correspondence from any government agency relating to past or current violations of environmental laws with respect to the Property or relating to environmental liens encumbering the Property
- Risk assessments
- Recorded Activity Use Limitations
- Proceedings regarding hazardous substances and petroleum products including any pending, threatened or past: litigation; administrative proceedings; or notices from any governmental entity regarding possible violations of environmental laws or other possible liability related to hazardous substances or petroleum products.

No documents specific to the Property were provided in response to Natural Investigations' information request.

3.3. TITLE RECORDS

No title reports were provided to Natural Investigations Co. EDR was commissioned to search for title liens and to build chain of title (see Appendix 14.1). One grant deed was available, which listed the owner as the Middletown Rancheria of Pomo Indians of California; the title was transferred from David G. and Emily Scott in April 2019. EDR's Environmental LienSearch Report detected no liens (see Appendix 14.1). No indication of heavy industrial uses was detected from title review. No environmental liens were identified from this title review, but the search was not exhaustive.

3.4. ENVIRONMENTAL LIENS OR ACTIVITY AND USE LIMITATIONS

An environmental lien is a charge, security, or encumbrance upon the title to a property to secure the payment of a cost, damage, debt, obligation, or duty arising out of response actions, cleanup, or other remediation of hazardous substances or petroleum products upon the property. No environmental liens or activity and use limitations were made aware to Natural Investigations Company. No evidence of environmental liens was identified during the interview process, title review, or records review. EDR was

commissioned to search for title liens. EDR's Environmental LienSearch Report detected no liens (see Appendix 14.1).

3.5. SPECIALIZED KNOWLEDGE OR ACTUAL KNOWLEDGE

No specialized knowledge or actual knowledge that is material to recognized environmental conditions in connection with the property was provided by the User to Natural Investigations Company.

3.6. VALUATION REDUCTION FOR ENVIRONMENTAL ISSUES

No valuation reductions for environmental issues were made aware to Natural Investigations Company. No valuation reductions were identified during the interview process or by the title review.

3.7. OWNER, PROPERTY MANAGER, AND OCCUPANT INFORMATION

The owner of the Property is the Middletown Rancheria Tribe of Pomo Indians of California. The property is operated as rural residences and a parking area associated with the southerly adjacent Twin Pines Casino.

3.8. REASON FOR PERFORMING PHASE I ESA

Natural Investigations Company performed this Phase I ESA at the request of Josh Ferris (Origin Environmental Planning, Inc.), for use in the environmental regulation/compliance process for fee-to-trust transfer of the Property. Origin Environmental Planning, Inc. is the environmental consultant for the Middletown Rancheria of Pomo Indians of California.

4. RECORDS REVIEW

The purpose of the records review is to obtain and review records that will help identify recognized environmental conditions in connection with the property.

4.1. STANDARD ENVIRONMENTAL RECORD SOURCES

As part of this assessment, Natural Investigations Company retained the services of Environmental Data Resources, Incorporated (EDR), which queries and maintains comprehensive environmental databases and historical information, including proprietary databases, aerial photography, topographic maps, Sanborn Maps, and city directories. EDR's Phase I ESA standard package - "Radius Map with GeoCheck" was ordered and performed on June 1, 2021. In this report, EDR presents the results of searches of all reasonably ascertainable environmental databases (federal, state, local, and private) for records of potential environmental impacts of the Property and vicinity. EDR performed these database searches within the prescribed radii of ASTM Practice E1527-13. The databases queried by EDR included the following:

> Federal ASTM Standard and Supplemental – National Priority List (NPL); proposed NPL; Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS); CERCLIS No Further Remedial Action Planned; Corrective Action Report; Resource Conservation and Recovery Act (RCRA) Information; RCRA Large Quantity Generator; Emergency Response Notification System; Superfund Consent Decrees; Records of Decision; NPL Deletions, Hazardous Materials Information Reporting System; Material Licensing Tracking System; Mines Master Index File; Federal Superfund Liens; PCB Activity Database System; Department of Defense Sites; Indian Reservations; Uranium Mill Tailings Sites; Engineering Controls Sites List; Open Dump Inventory; Formerly Used Defense Sites; RCRA Administrative Action Tracking System; Toxic Chemical Release Inventory System; Toxic Substances Control Act (TSCA); Section 7 Tracking Systems; Federal Insecticide, Fungicide, and Rodenticide Act / TSCA; US Brownfields; US Institutional Control Sites; Voluntary Clean-up Program Properties; State ASTM Standard and Supplemental – Proposition 65 Records; Toxic Pits Cleanup Act Sites; Bond Expenditure Plan; List of Underground Storage Tank (UST) Facilities; Voluntary Cleanup Program Facilities; Leaking UST on Indian Land; UST on Indian Land; Waste Discharge System; Deed Restriction Listing; Properties Needing Further Evaluation; No Further Action Determination; Well Investigation Program Case List; Emissions Inventory Data; School Property Evaluation Program; Former Manufactured Gas Sites.

The complete EDR Radius Map report is provided in Appendix 14.2. Results are summarized in EDR's overview map (Figure 4.1.1) and detail map (Figure 4.1.2); numbered elements in EDR's maps correspond to numbered cases in EDR's report. The Property was listed in one of the databases queried by EDR: the National Pollutant Discharge Elimination System (NPDES). This may be related to municipal waste water or stormwater or disposal of minor amounts of hazardous chemicals. Some properties in the vicinity of the Property are also listed on various databases, as summarized in EDR's Executive Summary. The case closest to the Property (Nella Oil Company) is detailed further in Section 4.2.2.1. The other mapped sites (presented below) document the current or historical presence of underground storage tanks within a mile of the Property.

MAPPED SITES SUMMARY

Target Property Address:
22033 SOUTH STATE HIGHWAY 29
MIDDLETOWN, CA 95461

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
1	TWIN PINES CASINO PA	22033 STATE HWY 29	NPDES		TP
2	NELLA OIL COMPANY	HIGHWAY 29	CPS-SLIC, CERS	Higher	221, 0.042, East
3	UNCLE BUDDY'S PUMPS	22223 SOUTH HIGHWAY	RCRA-VSQG	Higher	989, 0.187, ESE

It should be noted that the computerized geocoding technology used in the database search is based on available census data and is only accurate to ±300 feet. The EDR report indicates that poor or inadequate address information was provided for various properties that are potentially located in the vicinity of the Property; therefore, these sites could not be readily mapped by EDR. Because the location of these sites with respect to the Property could not be determined, the evaluation of the unmappable sites is limited in terms of determining the potential impact on the Property. Although the list of the unmappable sites was reviewed for adjacent or nearby properties observed during the site reconnaissance, locating each of the unmapped sites identified by EDR is not considered practicable.

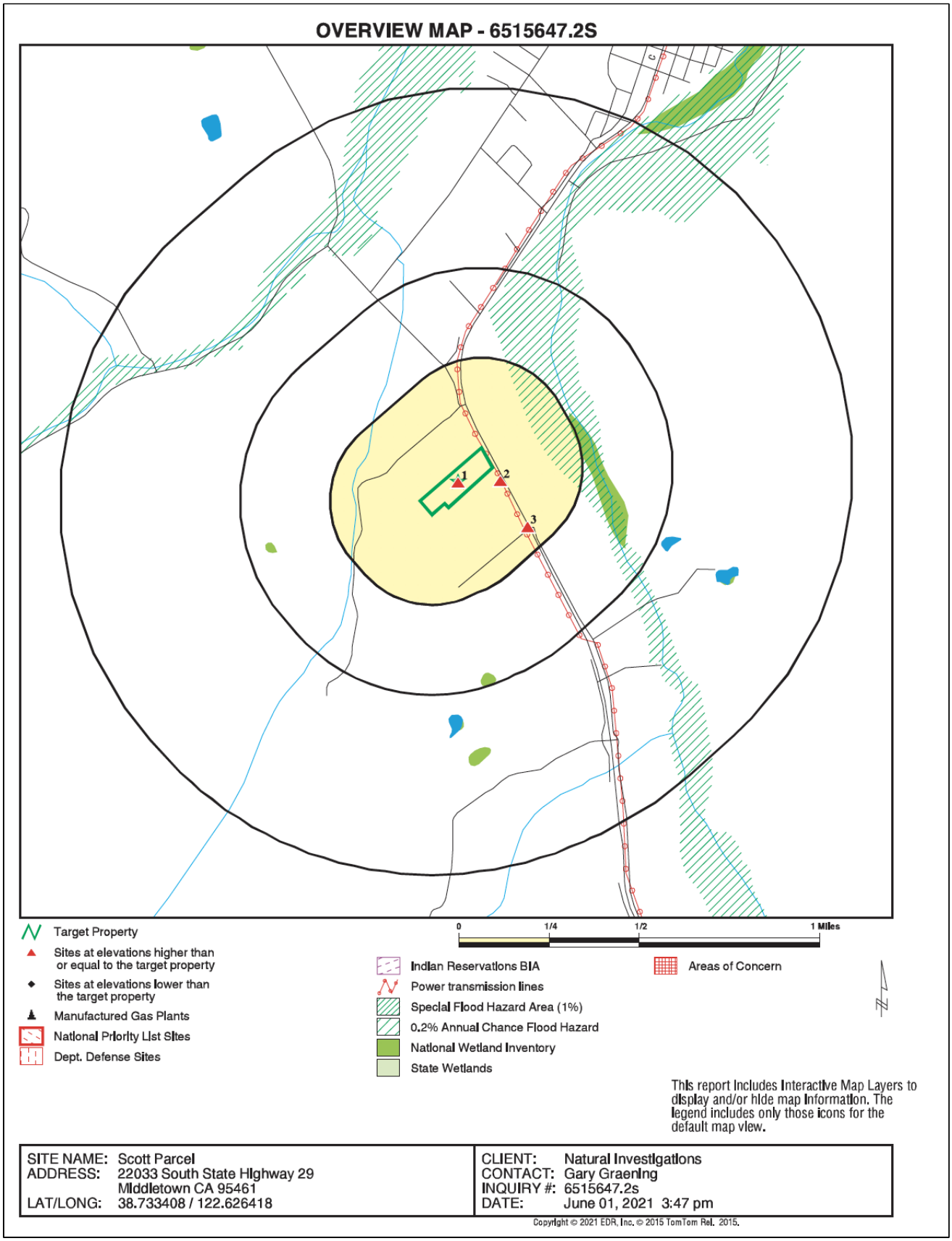


Figure 4.1.1. Overview map from EDR's Radius Map report

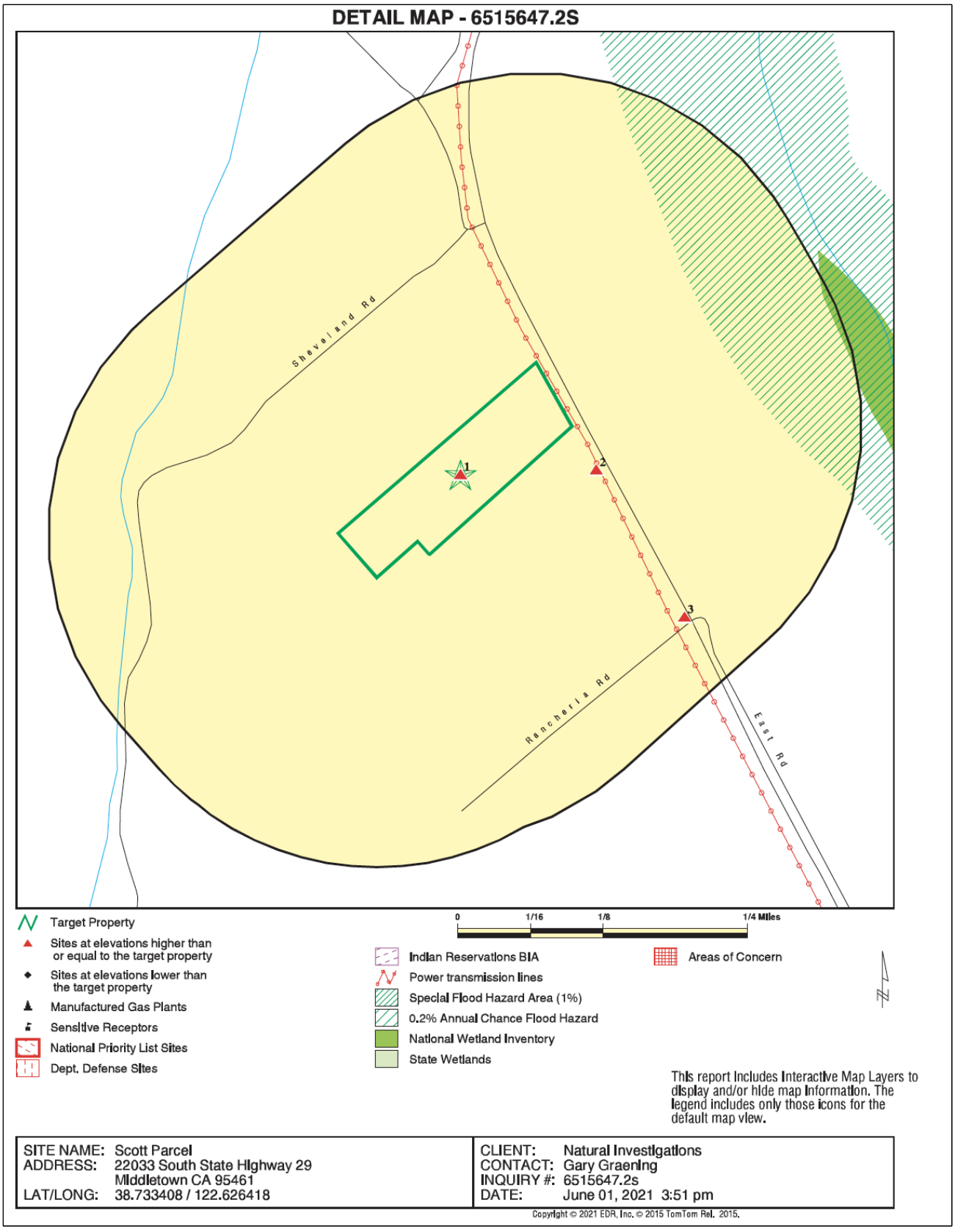


Figure 4.1.2. Detail map from EDR's Radius Map report

4.2. ADDITIONAL ENVIRONMENTAL RECORD SOURCES

4.2.1.State of California Department of Toxic Substances Control Records

4.2.1.1. EnviroStor Database

EnviroStor is an online search and Geographic Information System tool for identifying sites that have known contamination or sites for which there may be reasons to investigate further. Public Access to EnviroStor is accessible via the DTSC Web Page located at: http://www.envirostor.dtsc.ca.gov/public/. The EnviroStor database includes the following site types: Federal Superfund sites (National Priority List); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. You can obtain information that includes site name, site type, status, address, any restricted use (recorded deed restrictions), past use(s) that caused contamination, potential contaminants of concern, potential environmental media affected, site history, planned and completed activities. The EnviroStor database also contains current and historical information relating to Permitted and Corrective Action facilities. The EnviroStor database includes current and historical information on the following permit-related documents: facility permits; permit renewal applications; permit modifications to an existing permit; closure of hazardous waste management units (HWMUs) or entire facilities; facility corrective action (investigation and/or cleanup); and/or post-closure permits or other required post-closure activities.

The EnviroStor database was queried on June 1, 2021. The following screen capture (Figure 4.2.1) summarizes the results of the query. Pertinent documentation is provided in Appendix 14.2. One reported case was found associated with the Property—the Nella Oil Company spill site—which is described in Section 4.2.2.1. No other cases were found on the Property or adjacent parcels.

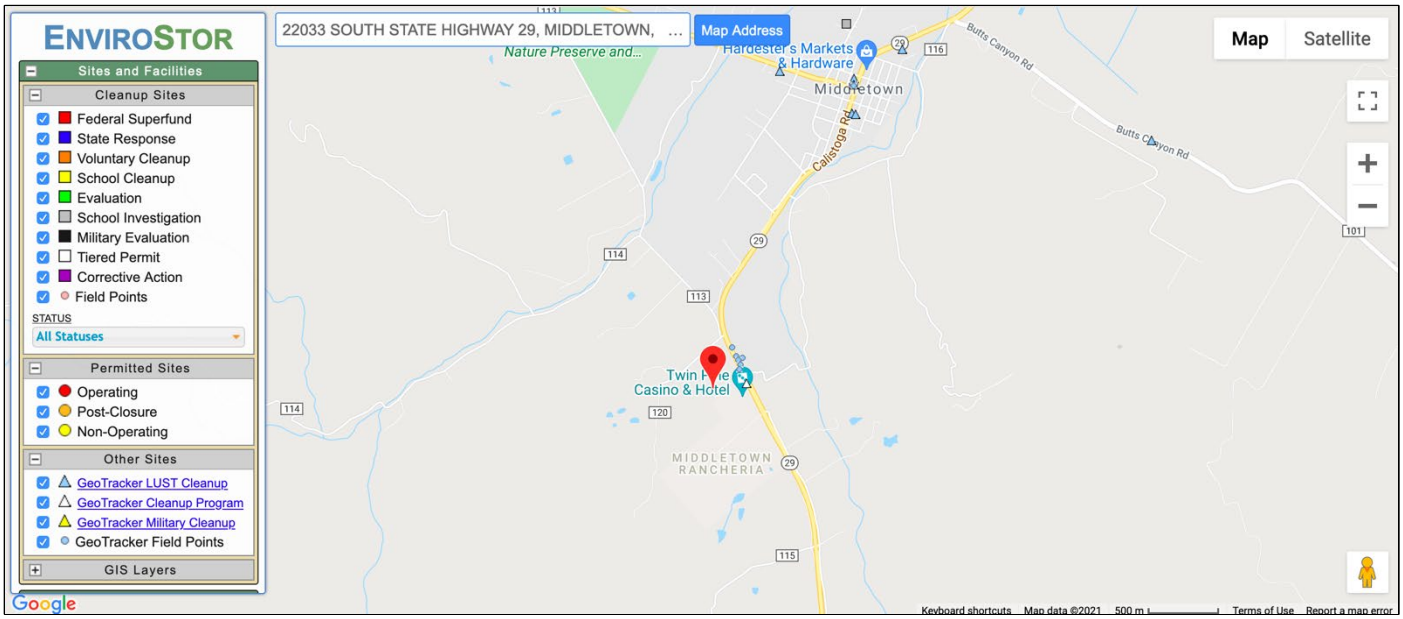


Figure 4.2.1. Screen capture of EnviroStor database query.

4.2.2.California State Water Resources Control Board / Regional Board Records

4.2.2.1. GeoTracker Database

GeoTracker is a geographic information system (GIS) maintained by the California State Water Resources Control Board (SWRCB) that provides online access to environmental data at the Internet address (URL) = http://geotracker.waterboards.ca.gov/. GeoTracker is the interface to the Geographic Environmental Information Management System (GEIMS), a data warehouse which tracks regulatory data about underground fuel tanks, fuel pipelines, and public drinking water supplies. GeoTracker and GEIMS were developed pursuant to a mandate by the California State Legislature (AB 592, SB 1189) to investigate the feasibility of establishing a statewide GIS for leaking underground fuel tank (LUFT) sites. GEIMS can store extensive data related to LUFT sites, or any other contaminant release. In addition, GEIMS is used to store and display information from various agencies including water quality information, water use information, and infrastructure data needed to assess both water supplies and contaminant sites. For the SWRCB's groundwater quality assessment goal, GEIMS has been populated with LUFT, public drinking water wells, and fuel pipelines for California. Site information from the Spills, Leaks, Investigations, and Cleanups (SLIC) Program is also included in GeoTracker.

The GeoTracker database was queried for environmental data pertaining to the Property on June 1, 2021; results of the query are summarized in the following screen capture (Figure 4.2.2). Pertinent documentation is provided in Appendix 14.2. Using both spatial queries and text-based searches of bounding street addressees in GeoTracker, one reported cases was found associated with the Property, the Nella Oil Company SLIC site described in further detail below.

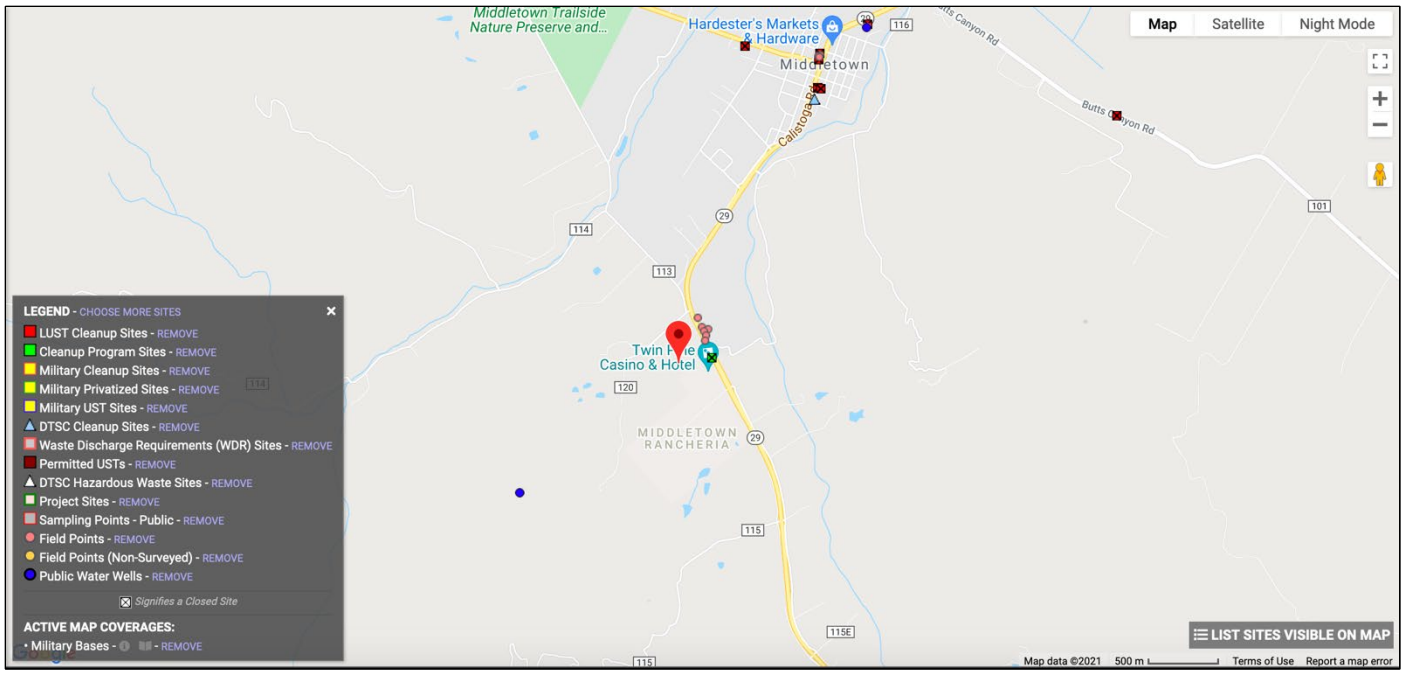


Figure 4.2.2. Spatial results of GeoTracker query

Nella Oil Company Tanker Spill Incident

Along Highway 29, directly adjacent to the Property, a SLIC case was initiated in 2005 following an accident resulting in an overturned tanker that released 3,300 gallons of gasoline. Emergency response recovered approximately 750 gallons at the time of the incident, and subsequent soil excavation was performed. Groundwater monitoring wells were installed between 2006 and 2007 along Highway 29, including one along the eastern Property boundary (MW-5). Taber (2013) reported that the groundwater plume was shrinking due to natural attenuation and the case was closed in March 2014. Taber (2013) estimated that it would take 11 years to achieve the taste and odor thresholds for groundwater contaminated with gasoline (100 ug/L TPH-G). The target date is 2024. The center of the plume, however, is east of Highway 29. The final groundwater monitoring report indicated that groundwater under the Property was remediated to a point at, or near, detection limits. However, the groundwater under the eastern portion of the Property may still be contaminated with gasoline due to the spill. Therefore, the Nella Oil Company Tanker Spill Incident is considered a historical Recognized Environmental Condition. This incident does not represent a current Recognized Environmental Condition.

The following are excerpts from:

- Taber. 2013. Middletown Spill Site First 2013 Semi-Annual Monitoring Report and No Further Action Request State Highway 29, Middletown, California Taber Project No. 2011-0179. 144 pp.

> At this location, east of Hwy 29, the Callayomi Water District serves all residences south of Middletown to 22223 Hwy 29, the Twin Pines Casino (see Appendix A, Section 3 enumerated paragraph 3, December 2010 NFAR). The spill occurred within Caltrans right of way west of Hwy 29, diminishing the prospects a future well installation immediately adjacent to a state route that is likely to expand. Additionally, the groundwater plume intercepted by monitoring well MW-3 is located in 30 feet of fine-grained silts and clays that would not be a good candidate for a productive water supply well. A water supply well is unlikely to be constructed on Caltrans right of way and any potential well in the area is likely to be located outside the limits of the current groundwater plume, would be drilled between 100 and 300 feet deep and have a sanitary seal to 50 feet, similar to other wells east of Hwy 29 (see Appendix A, Section 3 enumerated paragraph 3 and Table 5, December 2010 NFAR). Given the limited extent of the groundwater plume, its steady attenuation, the plume proximity to Hwy 29, and the protective construction of a potential well, it is reasonable to assert that future water supplies are not threatened, in keeping with the intent of the low-threat closure policy.

Spill and Emergency Response

On July 9, 2005 approximately 3300 gallons of gasoline were spilled within the Caltrans right of way two miles south of Middletown on State Route 29 (Hwy 29). Emergency cleanup was conducted between July 9 and July 14, 2005. Approximately 750 gallons of gasoline were recovered. The spill extended in the borrow pit approximately 127 feet to the north and approximately 65 feet to the south. Approximately 200 cubic yards of impacted soil were excavated to a depth of 5 feet below ground surface (bgs). The excavated area measured approximately 270 feet long and four feet wide. Based on analytical results, approximately 35 gallons of gasoline were recovered during excavation activities. Soil samples analyses indicated impacts from Total Petroleum Hydrocarbons as gasoline (TPH-G), benzene, ethyl benzene, toluene, and xylenes (Collectively BTEXT). No methyl tertiary butyl ether (MtBE), fuel stabilizers or other oxygenates were detected above laboratory reporting limits in the soil samples taken during excavation.

Groundwater Monitoring

In April 2006 monitoring wells MW-1 and MW-2 were installed. Monitoring well MW-1 was located near the center of the excavated area. In monitoring well MW-1, concentrations of TPH-G and BTEX attenuated to below laboratory detection limits within 26 months. Monitoring well MW-2 was

CONCLUSIONS AND RECOMMENDATIONS

Concentrations of TPH-G in monitoring well MW-3 groundwater samples continue to decline, and the concentration of benzene has declined to below laboratory reporting limits. While concentrations at the site vary in response to the groundwater elevation, the local concentration maxima across comparable groundwater elevations indicate decreasing TPH-G concentrations in groundwater in the vicinity of monitoring well MW-3.

This petroleum-only release at the site occurred in the summer of 2005. The resulting groundwater plume stabilized within two years, rapidly attenuating in coarser textured soils. The remainder of impacted groundwater is located within fine-textured soils with low hydraulic conductivity.

The smear zone near monitoring well MW-3 is between approximately 10 and 18 feet bgs. Active remediation of TPH-G near monitoring well MW-3 is likely to yield poor results due to fine-textured silts and high-plasticity clays. Ultimately, the best remedial strategy near monitoring well MW-3 is natural attenuation.

The CVRQWB requested calculations for the time frame for groundwater to meet the taste and odor threshold WQO of 100 µg/l TPH-G. Taber Consultants estimates the time to reach the WQO of 100 µg/l TPH-G is approximately 11 years near monitoring well MW-3. This estimate is based on the complete record of concentrations in groundwater samples from MW-3, however the time to reach WQO is likely less because the average concentration of TPH-G is lower than the maximum concentrations reported in the monitoring wells.

In contrast to a typical UST release, where releases occurred over unknown time periods and leaked unknown quantities, the impacts of this single release are well known, defined and documented. The concentrations within the petroleum-only plume show a clear declining trend, the areal extent of the plume is small, there are no downgradient receptors and the location is unsuitable for a groundwater well within the vertical and lateral extent of the plume. Based on the State Water Resource Control Board's Low-Threat Underground Storage Tank Case Closure Policy, if this site had been a UST site it would be a likely candidate for closure. Numerous UST sites have been closed statewide in response to the reformed regulatory policy, many of which had been monitored for tens of years with no constructive effect. Applying the science and low-threat closure criteria of the policy is appropriate for this site.

Based on the documentation presented herein, in conjunction with the data presented in the December 2010 NFAR included in Appendix A, Taber Consultants recommends No Further Action Required status for this site.

Regarding the monitoring well (MW-5) on the eastern boundary of the Property, Taber Consultants outlined the following:

> As shown in Table 4, COC concentrations in MW-4, MW-5, and MW-6 have always been below or near laboratory detection limits. As shown on the concentration trend plots provided on Figures 6a and 6b, COC concentrations in MW-1 and MW-2 have generally declined over time. Specifically, COC concentrations in MW-1 have been below or near detection limits since September 2007. And no COCs were detected in MW-2 during the most recent monitoring event, completed in August 2010. TPH G, benzene and ethylbenzene levels in MW-3 are above applicable water quality goals. However, as shown in the trend plots, COC concentrations in MW-3 are declining with time.

> Impacts to groundwater appear to be limited to the immediate vicinity of well MW-3. Petroleum hydrocarbons remaining in site groundwater do not pose a viable threat to human health via contact with the groundwater exposure pathway because water supply wells located in the site vicinity are not threatened by the impacted plume as evidenced by below laboratory detection limits concentrations in MW-4 and MW-5. Inhalation of vapor phase COCs in indoor air does not represent a complete exposure pathway because no buildings are located in the vicinity of the impacted plume. In addition, exposure to COCs potentially present in outdoor air does not represent a pathway of concern due to the absence of human receptors such as workers or residents in the immediate vicinity of the spill site.

4.2.3.CalEPA / County / CUPA Records Search

The Unified Program (http://www.calepa.ca.gov/CUPA/) consolidates, coordinates, and makes consistent the administrative requirements, permits, inspections, and enforcement activities of six environmental and emergency response programs. Cal/EPA and other state agencies set the standards for their programs while local governments implement the standards—these local implementing agencies are called Certified Unified Program Agencies (CUPAs). For Lake County, Lake County Environmental Health is the CUPA.

The California Environmental Reporting System (CERS) (http://cers.calepa.ca.gov/) is a statewide web-based system to support CUPAs and Participating Agencies in electronically collecting and reporting various hazardous materials-related data as mandated by the California Health and Safety Code and new 2008 legislation (AB 2286). Under oversight by Cal/EPA, CUPAs implement Unified Program mandates that streamline and provide consistent regulatory activities. All businesses must now submit Unified Program-related information to CERS. Alternatively, some CUPAs have developed local web portals that businesses may use to meet this requirement. All hazardous materials business plans, chemical inventories, site maps, underground and aboveground tank data, and hazardous waste related data must be reported electronically.

Natural Investigations Co. associate Kristen Ahrens reviewed case files for the Nella Oil Company SLIC case at the Lake County Environmental Health office on March 31, 2017; no additional, pertinent

information was identified beyond that previously described (Section 4.2.2.1). On June 1, 2021, Kristen Ahrens emailed Lake County Environmental Health to request records related to the Property. On June 4, 2021, Tina Rubin, an Environmental Health Aide, confirmed the only documents related to the Property were regarding domestic wells. No active cases were identified on the Property or adjacent properties.

4.2.4.Oil, Gas, and Geothermal Wells

A review of oil, gas, and geothermal resources maps was conducted online to identify oil, gas, and geothermal wells located on the Property or on the surrounding properties. Oil, gas, and geothermal resources maps were reviewed from California Department of Conservation, Division of Oil, Gas, and Geothermal Resources Well Finder (http://www.conservation.ca.gov/dog/Pages/WellFinder.aspx). The online mapping system shows the location of new, active producer, active injector, dual, and plugged.

Based on the review of the DOGGR Well Finder database and EDR's Radius Map Report (Appendix 14.2), there are no oil or gas wells on the Property or within one mile of the Property (Figure 4.3.1). There are two plugged and abandoned geothermal wells located within 1 mile of the Property; the closest geothermal well is approximately 1,600 feet south of the Property, and the second well is approximately one mile to the east.

4.3. PHYSICAL SETTING SOURCES

4.3.1.Geology, Soils, Topography, and Hydrology

The Property is located on the United States Geologic Survey (USGS) 7.5-degree minute (1:24,000) topographic map “Detert Reservoir” (see historical topographic map series in Appendix 14.3). The Property is approximately 1,165 feet above mean sea level, on average. The topography of the Property is relatively flat with a general slope to the east-northeast.

The surficial geology of the Property consists of well drained “Jafa” soil series, according to EDR's Physical Setting Report. The geologic formation that underlies the Property is eugeosynclinal deposits of the Mesozoic Era.

The Property is located in the Cache Creek watershed, and Saint Helena Creek is several hundred feet to the east. Contour lines from the USGS topographic map indicate that surface water flows northeast in the site vicinity. The area is largely undeveloped with considerable pervious surfaces. Generally, regional ground water flow direction is thought to be to the north-northwest, according to groundwater monitoring reports from 2013 accessed from GeoTracker for the Nella Oil Company tanker spill site (Section 4.2.2.1). No stormwater drainage was noted on the Property.

The Property is not located within the floodplain of Saint Helena Creek, and the Property does not lie within a 100-year flood plain, as defined by the Federal Emergency Management Agency Flood Insurance Rate Maps, according to the EDR report (Figure 4.3.1). Public and private groundwater wells and public water supplies identified in EDR’s query of readily-available databases are within ½ mile from the Property. No hydrogeologic data was readily available.

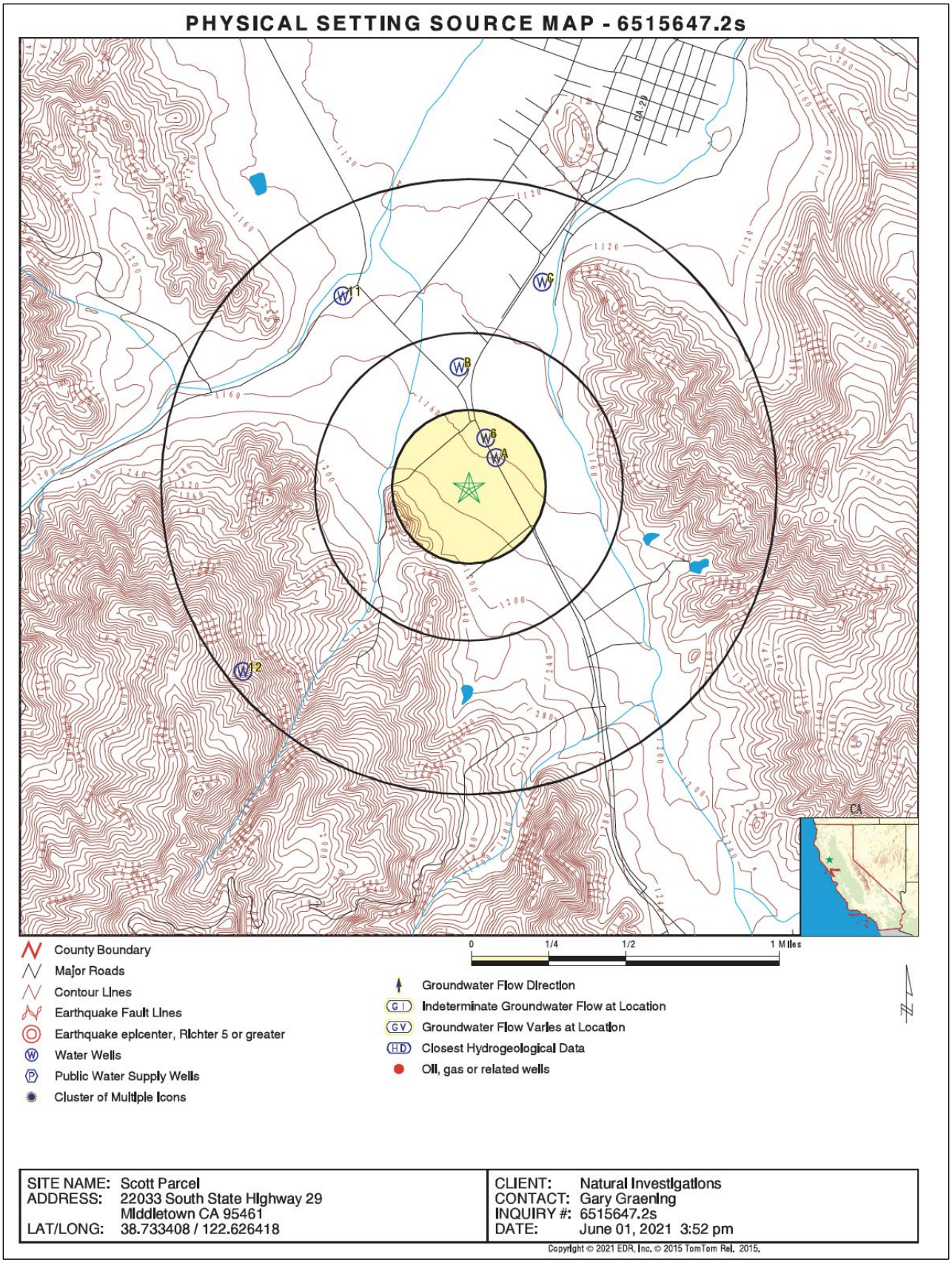


Figure 4.3.1. Physical Setting map from EDR Report

4.4. HISTORICAL USE INFORMATION ON THE PROPERTY

The objective of consulting historical sources is to develop a history of the previous uses of the property and surrounding area, in order to help identify the likelihood of past uses having led to recognized environmental conditions in connection with the property.

4.4.1.Topographic Map Analysis

Historical and current topographic maps of the Property were analyzed to determine any of the following: topography and inferred surface water and ground water flow direction; current and historical land use; and current and historical structures, utilities, and roads. All available USGS topographic quadrangle maps were obtained through EDR, including the 7.5 degree-minute quadrangle series and the 15 degree-minute quadrangle series (see Appendix 14.3 for the map excerpts). The resolution of these maps was so coarse that only general land uses could be inferred. This constitutes a data failure. No visual clues as to any possible recognized environmental conditions were found.

4.4.2.Aerial Photography Analysis

Historical aerial photographs of the Property were analyzed to determine the any of the following: current and historical land use; any current and historical structures, utilities, and roads; and any current or historical drum storage, above ground tanks, garbage dumps or landfills, or pits, ponds, or lagoons. A chronology of historical aerial photographs was obtained through EDR (see Appendix 14.3 for the photograph scans). The resolution of these maps was so coarse that only general land uses could be inferred. This constitutes a minor data failure. No visual clues as to any possible recognized environmental conditions were found.

4.4.3.Fire Insurance (Sanborn Company) Maps

Fire insurance maps are historical city and building layout maps produced for private fire insurance companies (primarily by the former Sanborn Company). These historical city maps can indicate the presence of structures on, or uses of, properties at specified dates. EDR purchased the Sanborn Company, and provides any available fire insurance maps for the target address. EDR's Sanborn report indicated that there was no coverage of the Property by Sanborn maps, which is a minor data failure.

4.4.4.Building Permits

EDR performed their Building Permit Report, but returned the conclusion of "data gap" as building permits were not available (Appendix 14.3).

4.4.5.City Directories

City directories have been published for cities and towns across the US since the 1700s. Originally a list of residents, the city directory developed into a tool for locating individuals and businesses in a particular urban or suburban area. Current directories are generally divided into three sections: a business index, a list of resident names and addresses, and a street index. With each address, the directory lists the name of the resident or, if a business is operated from this address, the name and type of business. While city directory coverage is comprehensive for large cities, it may be incomplete or unavailable for small towns and unincorporated, rural areas.

The target address was 22033 South State Highway 29, Middletown, California. EDR found some listings in historical City Directories (Appendix 14.3). The EDR Digital Archive lists David Scott as the resident/owner of the Property from 1992 until 2014 at the Property addresses. None of the listings give any evidence of industrial use or manufacturing. Surrounding property listings from 1992 until 2014 are primarily residential, with some agricultural and commercial listings. City directories review did not detect any indications of possible recognized environmental conditions.

4.5. HISTORICAL USE INFORMATION ON ADJOINING PROPERTIES

Sanborn Maps, building permits, city directories, and topographic maps provided historical use information on adjoining properties, which were discussed in the preceding sections. Other historical use information on adjoining properties is summarized in other sections of this report.

5. SITE RECONNAISSANCE

The objective of the site reconnaissance is to obtain information indicating the likelihood of identifying recognized environmental conditions in connection with the property.

5.1. METHODOLOGY AND LIMITING CONDITIONS

The site visit is limited to visual and/or physical observation of the exterior and interior of the Property and its improvements, the past and current uses of the Property and adjoining properties, and the condition of the Property. The site visit evaluated the Property and adjoining properties for potential hazardous materials/waste and petroleum product use, storage, disposal, or accidental release, including the following: presence of tank and drum storage; mechanical or electrical equipment likely to contain liquids; evidence of soil or pavement staining or stressed vegetation; ponds, pits, lagoons, or sumps; suspicious odors; fill and depressions; or any other condition indicative of potential contamination. The site visit did not evaluate the presence of asbestos-containing materials, radon, lead-based paint, mold, indoor air quality, or structural defects, or other non-scope items.

On May 31, 2021, Kristen Ahrens, M.S. (Natural Investigations Company) performed a site reconnaissance of the Property. All accessible portions of the Property were observed by a pedestrian survey; adjoining properties were observed by a combination of pedestrian survey and windshield (automobile) survey. Photographic documentation accompanies the following summary of the site visit (Appendix 14.4).

5.2. EXTERIOR OBSERVATIONS

The following text discusses focus areas of the site reconnaissance.

5.2.1.Stained Soil / Distressed Vegetation / Odors

No stained soil, distressed vegetation, or unusual odors was noted during the site reconnaissance.

5.2.2.Roads

Roads surrounding the Property are all graveled or paved with asphalt or concrete, and show no suspicious staining other than *de minimis* quantities associated with parking stalls from parked automobiles that apparently leak engine fluids. Roads and driveways on the Property are primarily gravel with some areas of concrete; no suspicious staining was noted.

5.2.3.Wells / Potable Water Supply

Private, groundwater wells have historically been used on the Property and may still be present, though not in use, on some areas on the Property. A well destruction permit was issued for the Property in January 2020 and a domestic well was abandoned and filled. Potable water is now supplied by Lake County municipal water supply. A water main is located near the southeastern corner of the Property .

5.2.4.Sewage Disposal System

Sewage is either transported and treated by the City municipal sewage treatment system or disposed in an on-site septic system.

5.2.5.Storage Tanks, Containers, or Drums

The following storage tanks / drum storage were noted on the Property during the site reconnaissance: propane tanks associated with heating for the residences. No evidence of a release of these materials was observed during site reconnaissance. Based on the lack of evidence of a release which could potentially impact the subsurface, Natural Investigations Co. does not consider the hazardous materials stored/used onsite to represent a recognized environmental condition in connection with the subject property. It is beyond the scope of this assessment to open any container.

5.2.6.Hazardous Substances and Petroleum Products

No hazardous substances or petroleum product usage or storage was noted on the Property during the site reconnaissance. The nearest commercial uses sighted were the gas station at the Twin Pines Casino which is south of the Property.

5.2.7.Electrical or Mechanical Equipment Likely to Contain Fluids

Polychlorinated biphenyls, or PCBs, were commonly used historically in electrical equipment such as transformers, fluorescent lamp ballasts, and capacitors. According to United States EPA regulation 40 CFR, Part 761, there are three categories for classifying such equipment: <50 ppm of PCBs is considered “Non-PCB”; between 50 and 500 ppm is considered “PCB-Contaminated”; and >500 ppm is considered “PCB-Containing”. Pursuant to 15 U.S.C. 2605(e)(2)(A), the manufacture, process, or distribution in commerce or use of any polychlorinated biphenyl in any manner other than in a totally enclosed manner was prohibited after January 1, 1977.

No PCB-containing equipment (electric or hydraulic) was observed during the site reconnaissance. Pole-mounted transformers were observed in the vicinity, but appear to be modern and non-leaking. Overhead electrical service is provided by PG&E.

5.2.8.Pits / Ponds / Lagoons

No pits, ponds, or lagoons were observed during the site reconnaissance.

5.2.9.Storm Water / Pools of Liquid

No storm water inlets were observed on the Property.

5.2.10. Solid Waste

Municipal solid waste and recyclables generated on the Property and adjoining properties are collected in cans and hauled by South Lake Refuse.

5.3. INTERIOR OBSERVATIONS

No interior observations were made because the only structures on the Property are residential; interior residential observation is beyond the scope of this assessment and does not constitute a limitation or data gap.

5.4. LIMITATIONS

There were no limitations on the ability of the environmental professional to perform the site reconnaissance.

6. INTERVIEWS

ASTM Practice E1527-13 states that the objective of interviews is to obtain information indicating the likelihood of identifying recognized environmental conditions in connection with the property (ASTM 2013). The following text summarizes interviews performed and questionnaires answered.

6.1. INTERVIEW WITH OWNERS / SITE MANAGERS / OCCUPANTS

The questionnaire entitled "Landowner Questionnaire of Hazards / Hazardous Substances" was e-mailed to the Tribe in May 2021. No response was received. Information about past owners, operations or occupants was not reasonably ascertainable and constitutes a data gap.

6.2. INTERVIEWS WITH LOCAL GOVERNMENT OFFICIALS

Correspondence with the CUPA is documented in Section 4.2.3. Building permit review is documented in Section 4.4.4.

7. FINDINGS

The Property is located in a rural setting that has no industrial history, but has some agricultural history. The Property appears to have been used for rural residences and pastureland for several decades.

7.1. RATIONALE FOR DETERMINATION OF SIGNIFICANT FINDINGS

Offsite properties identified in the vicinity of the Property were evaluated to determine if they are likely to have adversely affected the Property. The criteria used to evaluate whether an offsite property pose potential environmental concerns to the Property include:

- Distance from the Property: Offsite properties within one-quarter mile of the Property were evaluated. The one-quarter-mile radius was used because it is unlikely a hazardous material released to the subsurface will migrate laterally within the soil for a significant distance, although in some cases, a hazardous material can migrate in groundwater in a generally downgradient direction for distances greater than one-quarter mile.
- Expected depth and direction of groundwater and surface water flow: The identification of a site as potentially upgradient or downgradient is based on the expected direction of groundwater flow determined by site-specific measurement, where available, or inferred from the regional topography.
- The presence of documented contaminant releases at the identified sites.
- The media that the documented contaminant releases affected (i.e., soil and/or groundwater). For the evaluation of potential environmental contamination in the Property, offsite properties with releases to soil only are assumed to pose no significant impact on the Property, as the contaminants are unlikely to migrate towards the Property.

Based on the review and evaluation of information available in the environmental databases and regulatory agency files, no adverse environmental effect is expected for vicinity sites that have some or all the following conditions:

- the identified vicinity sites are in assumed down-gradient or cross-gradient locations
- the identified vicinity sites have obtained case closure
- the identified vicinity sites were contained at the ground surface, or releases to the subsurface affected soil only, in which case the contaminants are unlikely to migrate towards the Property in groundwater.
- offsite properties located further than one-quarter mile from the Property are not expected to adversely affect the Property conditions, as it is unlikely a hazardous material released to the subsurface will migrate laterally within the soil for a significant distance, although a hazardous material can migrate in groundwater in a generally downgradient direction.

7.2. VAPOR ENCROACHMENT SCREENING

ASTM Practice E1527-13 requires subsurface vapor migration to be evaluated as a possible contaminant pathway in the identification of a recognized environmental condition. However, ASTM Practice E1527-13 does not require any risk analysis to building occupants of vapor intrusion or the performance of a vapor encroachment screening. The USEPA defines vapor intrusion as "*the migration of volatile chemicals from the subsurface into overlying buildings. Volatile chemicals in buried wastes and/or contaminated groundwater can emit vapors that may migrate through subsurface soils and into indoor air spaces of overlying buildings in ways similar to that of radon gas seeping into homes*." (USEPA 2010, page 4). Volatile chemicals include volatile and semivolatile organic compounds as well as some inorganic substances such as hydrogen sulfide and radon (although radon is an out-of-scope item in this assessment).

The USEPA recommends evaluating vapor intrusion under certain circumstances:

> "*The draft guidance is suggested for use at RCRA Corrective Action, CERCLA (National Priorities List and Superfund Alternative Sites), and Brownfields sites, but is not recommended for use at Subtitle I Underground Storage Tank (UST) sites at this time. The draft guidance recommends certain conservative assumptions that may not be appropriate at a majority of the current 145,000 petroleum releases from USTs. As such, the draft guidance is unlikely to provide an appropriate mechanism for screening the vapor pathway at UST sites. We recommend that State and Regional UST corrective action programs continue to use a risk based decision making approach as described in OSWER Directive 9610.17: Use of Risk-Based Decision Making in UST Corrective Action Program to address this pathway. A majority of State programs are successfully implementing this directive at their UST cleanups and use the recommended approaches where appropriate, to prioritize and remediate their sites, including risk associated with vapor migration to indoor air in a manner that is protective of human health and the environment*." (USEPA 2010, page 2)

USEPA (2010) guidance describes Tier 1 – Primary Screening as having the following components: a) if chemicals of sufficient volatility and toxicity are present or reasonably suspected to be present; b) if inhabited buildings are located (or will be constructed under future development scenarios above or in close proximity to subsurface contamination; and c) if current conditions warrant immediate action. ASTM also provides guidance in the E2600-10 Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions. A vapor encroachment assessment was not deemed necessary at this time.

It should be noted that Leaking Underground Storage Tank and DTSC EnviroStor sites closed by the RWQCB or local agencies prior to April 1, 2008, would not necessarily have been closed based on a risk assessment that considered volatile organic compounds and the vapor intrusion pathway. Assembly Bill 422, which now requires such a risk assessment, did not take effect until January 1, 2008.

7.3. *DE MINIMIS* ENVIRONMENTAL CONDITIONS

De minimis environmental conditions are conditions that are not believed to present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies (ASTM 2013).

One minimal, or *de minimis*, environmental condition(s) exists pursuant to the ASTM Practice E1527-13:

- de minimis quantities of petroleum product staining on paved surfaces associated with parking stalls from parked automobiles that apparently dripped engine fluids.

7.4. HISTORICAL RECOGNIZED ENVIRONMENTAL CONDITIONS

ASTM Practice E1527-13 defines a historical recognized condition as:

> "...*an environmental condition which in the past would have been considered a recognized environmental condition, but which may or may not be considered a recognized environmental condition currently. The final decision rests with the environmental professional and will be influenced by the current impact of the historical recognized environmental condition on the property. If a past release of any hazardous substances or petroleum products has occurred in connection with the property and has been remediated, with such remediation accepted by the responsible regulatory agency (for example, as evidenced by the issuance of a no further action letter or equivalent), this condition shall be considered an historical recognized environmental condition*." (p. 5, ASTM 2013)

One historical recognized environmental condition was found in connection with the Property pursuant to the ASTM Practice E1527-13:

- groundwater was contaminated with gasoline and its additives (e.g. benzene) on the eastern portion of the Property from the Nella Oil Company tanker spill in 2005. Remediation of the spill was implemented and the contaminant plume reduced enough to close the case. Water quality sampling of monitoring wells on the Property indicated that chemicals of concern were at, or below, detection limits.

7.5. KNOWN OR SUSPECT RECOGNIZED ENVIRONMENTAL CONDITIONS

No recognized environmental conditions were found in connection with the Property pursuant to the ASTM Practice E1527-13.

8. OPINION AND RECOMMENDATION

8.1. IMPACT OF ENVIRONMENTAL CONDITIONS ON PROPERTY

It is the Environmental Professional's opinion that there are no current recognized environmental conditions in connection with the Property pursuant to the ASTM Practice E1527-13. Records review, site reconnaissance, and interviews failed to identify any current environmental conditions in connection with the Property.

8.2. ADDITIONAL INVESTIGATION

It is the Environmental Professional's opinion that there is one historical recognized environmental condition but no current recognized environmental conditions in connection with the Property pursuant to the ASTM Practice E1527-13. Records review, database searches, or interviews failed to identify any current recognized environmental conditions in connection with the Property. Therefore, no further site investigation is recommended.

The exception would be if groundwater under the property is to be pumped and used. Because historical contamination from the Nella Oil Spill SLIC case contaminated groundwater under the Property, and even though the spill was remediated, Natural Investigations Co. does not recommend the use of groundwater under the Property before testing. A Phase II Environmental Site Assessment should be performed before use of groundwater under the Property.

8.3. DATA GAPS OR DELETIONS

ASTM Practice E1527-13 defines data failure as the failure to achieve the historical research objectives even after reviewing the standard historical sources that are reasonably ascertainable and likely to be useful. Data failure is one type of data gap. ASTM Practice E1527-13 defines a data gap as a lack, of or inability to obtain, information required by this practice despite good faith efforts by the Environmental Professional to gather such information. Data gaps may result from incompleteness in any of the activities required by this practice, including, but not limited to site reconnaissance (for example, an inability to conduct the site visit), and interviews (for example, an inability to interview the key site manager, regulatory officials, etc.). The available historical USGS quadrangle maps and aerial photography were too coarse in resolution to discern all specific land uses or structures on the Property or adjacent properties. These constitute data failures. Another data failure was no coverage by Sanborn Maps. However, a combination of other historical data sources was available such that no significant data gap existed, and the historical research objectives were achieved. There were no deletions from the ASTM Practice E1527-13.

9. CONCLUSIONS

We have performed a Phase I ESA in conformance with the scope and limitations of ASTM Practice E1527-13 of the Scott Property at 22033 South State Highway 29, Middletown, California (APN 014-160-09 and 014-160-05). Any exceptions to, or deletions from, this practice are described in Sections 1.3 and 8.3 of this report. This assessment has revealed no evidence of recognized environmental conditions in connection with Property.

One recommendation was made: performance of a Phase II Environmental Site Assessment before use of groundwater under the Property.

10. ADDITIONAL SERVICES

No additional services beyond the scope of the ASTM Practice E1527-13 were conducted as part of this assessment.

There may be environmental issues or conditions at a property that parties may wish to assess in connection with commercial real estate that are outside the scope of this practice. No implication is intended as to the relative importance of inquiry into such non-scope considerations, and this list of non-scope considerations is not intended to be all-inclusive: asbestos-containing building materials, radon, lead-based paint, lead in drinking water, wetlands, regulatory compliance, cultural and historic resources, industrial hygiene, health and safety, ecological resources, endangered species, indoor air quality, biological agents, and mold.

Phase I ESAs are non-comprehensive by nature and are unlikely to identify all environmental problems or eliminate all risk. Natural Investigations Company offers a range of investigative and consulting services to suit the needs of our clients, including more quantitative investigations. Although risk can never be eliminated, more detailed and extensive investigations yield more information, which may help the User understand and better manage risks associated with their property. Since such detailed services involve greater expense and time, we ask that our clients participate in the identification of the level of service that will provide them with what they consider to be an acceptable level of risk. Please contact the signatory of this report if you would like to discuss the issue of risk further. Land use, site conditions, and other factors will change over time. This report should not be relied upon after 180 days from the date of issuance, unless additional services are performed as defined in Section 4.6 of ASTM E1527-13.

11. REFERENCES

American Society for Testing and Materials. 2010. Standard Guide for Vapor Encroachment Screening On Property Involved In Real Estate Transactions. Designation E2600-10. West Conshohocken, Pennsylvania. 33 pp.

American Society for Testing and Materials. 2013. Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process. Designation E 1527-13. West Conshohocken, Pennsylvania. 47 pp.

California Department of Conservation. 2019. Department of Oil, Gas, and Geothermal Resources Online Mapping System (DOMS) 2.0. Database. Available on the Internet at http://www.conservation.ca.gov/dog/Pages/WellFinder.aspx.

California Environmental Protection Agency. California Environmental Reporting System Database. Available on the Internet at http://cers.calepa.ca.gov/.

Department of Toxic Substances Control. 2019. EnviroStor Database Website. Available on the Internet at: http://www.envirostor.dtsc.ca.gov/public/.

State Water Resources Control Board. 2019. GeoTracker Database Website. Available on the Internet at: http://geotracker.swrcb.ca.gov/.

USEPA. 2002. OSWER Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils (Subsurface Vapor Intrusion Guidance). EPA530-D-02-004. Office of Solid Waste and Emergency Response. 178 pp. Available on the Internet at: http://www.epa.gov/epawaste/hazard/correctiveaction/eis/vapor.htm.

USEPA. 2019. Envirofacts Data Warehouse Multisystem Query Website. Available on the Internet at: http://www.epa.gov/enviro/html/multisystem.html.

USEPA. 2019. The Enforcement and Compliance History Online (ECHO) database maintained by the USEPA. Available on the Internet at: http://echo.epa.gov/?redirect=echo.

12. SIGNATURE OF ENVIRONMENTAL PROFESSIONAL

As required by 40 CFR 312.21(d), this report shall include the following statements of the environmental professional responsible for conducting the Phase I ESA and preparation of the report (page 22, ASTM 2013):

> *I declare that, to the best of my professional knowledge, I meet the definition of 'Environmental Professional' as defined in §312.10 of 40 CFR*.
>
> *I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312*.



G. O. Graening, PhD, MSE
Environmental Assessor

13. QUALIFICATIONS OF ENVIRONMENTAL PROFESSIONAL

Dr. Gary O. Graening was certified by California Department of Toxic Substances Control as a Registered Environmental Assessor I (registration # 08060,) from 2005 to 2012, after which DTSC retired the certification program. Dr. Graening holds a PhD in Biological Sciences and a Master of Science in Engineering. Dr. Graening has over 20 years of experience in environmental research and site assessment, including preparation of program-level Phase I ESAs, limited Phase II investigations, as well as environmental impact assessments for National Environmental Policy Act compliance and California Environmental Quality Act compliance. Dr. Graening has completed the 40-hour OSHA Hazardous Waste Operations and Emergency Response certification (with 8-hour annual refresher courses). Dr. Graening's full résumé, and the Company's statement of qualifications, is available on the Internet at the Company's website: www.naturalinvestigations.com.

14. APPENDICES

Available on Request