ALTES USE PERMIT (UP-18-02)

RECIRCULATED DRAFT INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

COUNTY OF SISKIYOU
806 S. MAIN STREET
YREKA, CA 96097

May 2019

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1.0 INTRODUCTION

1.1 INTRODUCTION AND REGULATORY GUIDANCE

This document is an Initial Study, with supporting environmental studies, which concludes that a Mitigated Negative Declaration is the appropriate CEQA document for the Altes Use Permit (UP-18-02). This Mitigated Negative Declaration has been prepared in accordance with the California Environmental Quality Act (CEQA), Public Resources Code Section 21000 et seq., and the State CEQA Guidelines, California Code of Regulations Section 15000 et seq.

An initial study is conducted by a lead agency to determine if a project may have a significant effect on the environment. In accordance with CEQA Guidelines Section 15063, an environmental impact report (EIR) must be prepared if an initial study indicates that the proposed project under review may have a potentially significant impact on the environment that cannot be initially avoided or mitigated to a level that is less than significant. A negative declaration may be prepared if the lead agency also prepares a written statement describing the reasons why the proposed project would not have a significant effect on the environment and therefore why it does not require the preparation of an EIR (CEQA Guidelines Section 15371). According to CEQA Guidelines Section 15070, a negative declaration shall be prepared for a project subject to CEQA when either:

a) *The initial study shows there is no substantial evidence, in light of the whole record before the agency, that the proposed project may have a significant effect on the environment, or*

b) *The initial study identifies potentially significant effects, but:*

   (1) *Revisions in the project plans or proposals made by or agreed to by the applicant before the proposed negative declaration is released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur; and*

   (2) *There is no substantial evidence, in light of the whole record before the agency, that the proposed project as revised may have a significant effect on the environment.*

If revisions are adopted in the proposed project in accordance with CEQA Guidelines Section 15070(b), including the adoption of mitigation measures included in this document, a Mitigated Negative Declaration is prepared.

1.2 LEAD AGENCY

The lead agency is the public agency with primary responsibility over a proposed project. Where two or more public agencies will be involved with a project, CEQA Guidelines Section 15051 provides criteria for identifying the lead agency. In accordance with CEQA Guidelines Section 15051(b)(1), "The lead agency will normally be the agency with general governmental powers, such as a city or county, rather than an agency with a single or limited purpose." Based on the criteria above, the County of Siskiyou (County) is the lead agency for the proposed Altes Use Permit (UP-18-02).

1.3 PURPOSE AND DOCUMENT ORGANIZATION

The purpose of this Initial Study is to evaluate the potential environmental impacts of the proposed Altes Use Permit (UP-18-02). This document is divided into the following sections:

1.0 Introduction – This section provides an introduction and describes the purpose and organization of the document.

2.0 Project Information – This section provides general information regarding the project, including the project title, lead agency and address, contact person, brief description of the project location, general plan land use designation, zoning district, identification of surrounding land uses, and identification of other public agencies whose review, approval, and/or permits may be required. Also listed in this section is a checklist of the environmental factors that are potentially affected by the project.

3.0 Project Description – This section provides a detailed description of the proposed project.

4.0 Environmental Checklist – This section describes the environmental setting and overview for each of the environmental subject areas, evaluates a range of impacts classified as "no impact," "less than significant," "less than significant with mitigation incorporated," and "potentially significant" in response to the environmental checklist.

5.0 References – This section identifies documents, websites, people, and other sources consulted during the preparation of this Initial Study.

1.4 EVALUATION OF ENVIRONMENTAL IMPACTS

Section 4.0, Environmental Checklist, is the analysis portion of this Initial Study. The section provides an evaluation of the potential environmental impacts of the project. There are eighteen environmental issue subsections within Section 4.0, including CEQA Mandatory Findings of Significance. The environmental issue subsections, numbered 1 through 18, consist of the following:

1. Aesthetics
2. Agriculture and Forestry Resources
3. Air Quality
4. Biological Resources
5. Cultural Resources
6. Geology and Soils
7. Greenhouse Gas Emissions
8. Hazards and Hazardous Materials
9. Hydrology and Water Quality
10. Land Use and Planning
11. Mineral Resources
12. Noise
13. Population and Housing
14. Public Services
15. Recreation
16. Transportation/Traffic
17. Tribal Cultural Resources
18. Utilities and Service Systems
19. Mandatory Findings of Significance

Each environmental issue subsection is organized in the following manner:

The **Environmental Setting** summarizes the existing conditions at the regional, subregional, and local level, as appropriate, and identifies applicable plans and technical information for the particular issue area.

The **Checklist Discussion/Analysis** provides a detailed discussion of each of the environmental issue checklist questions. The level of significance for each topic is determined by considering the predicted magnitude of the impact. Four levels of impact significance are evaluated in this Initial Study:

No Impact: No project-related impact to the environment would occur with project development.

Less Than Significant Impact: The impact would not result in a substantial adverse change in the environment. This impact level does not require mitigation measures.

Less Than Significant with Mitigation Incorporated: An impact that may have a "substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project" (CEQA Guidelines Section 15382). However, the incorporation of mitigation measures that are specified after analysis would reduce the project-related impact to a less than significant level.

Potentially Significant Impact: An impact that is "potentially significant" but for which mitigation measures cannot be immediately suggested or the effectiveness of potential mitigation measures cannot be determined with certainty, because more in-depth analysis of the issue and potential impact is needed. In such cases, an EIR is required.

1.5 RECIRCULATED INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Consistent with the California Environmental Quality Act (CEQA), a Draft Initial Study/Mitigated Negative Declaration (Draft IS/MND) was prepared for the Altes Use Permit (UP-18-02) and circulated for a 30-day public review period from November 26, 2018 through December 26, 2018. The County of Siskiyou provided copies of the document to select local agencies and to the State Clearinghouse for subsequent distribution to state and regional agencies (SCH # 2018112061). Accompanying the Draft IS/MND was a Notice of Intent (NOI) to Adopt a Mitigated Negative Declaration and a Public Hearing Notice (PHN), both of which were also published on the County's website and in the Siskiyou Daily News. Written comments on the Draft IS/MND were received from one local agency (Siskiyou County Air Pollution Control District) and from two individuals (Dale La Forest & Associates and Anne Marsh).

State CEQA Guidelines section 15073.5 requires a lead agency to recirculate an IS/MND when the document must be substantially revised after public notice of its availability has previously been given, but prior to its adoption. A substantial revision is defined by the CEQA Guidelines section 15073.5 as one of the following:

1. A new, avoidable significant effect is identified and mitigation measures or project revisions must be added in order to reduce the effect to insignificance, or

2. The lead agency determines that the proposed mitigation measures or project revisions will not reduce potential effects to less than significance and new measures or revisions must be required.

Upon review of comments by County staff, it was determined that further analysis of potential noise impacts may be warranted. This generated a more thorough review of the existing and projected noise environments, the identification of additional mitigation to reduce potential noise impacts to a less-than-significant level, and the preparation of this Recirculated Draft IS/MND in accordance with State CEQA Guidelines section 15073.5.

Changes to the text of the Draft IS/MND (outside of Section 1, Introduction) are identified with ~~strikethrough~~ for deleted text and <u>underline</u> for new text.

Substantial Revisions

The two comment letters received from individuals opined that potential noise impacts had not been adequately addressed in the Draft IS/MND. As a result, the County determined that a noise study should be prepared to ensure that County noise standards were being met and would continue to be met by the project. This resulted in the preparation of an Environmental Noise & Vibration Assessment by Bollard Acoustical Consultants (BAC 2019) that has been incorporated herein and included in its entirety as **Attachment C**.

In general, the noise study found that the project would not have significant noise impacts, but that noise impacts could occur if there is a change in the location and/or orientation of the sound system used during events or if there is an increase in the volume of amplified sound beyond 80 dB. As a result, the noise assessment includes recommended mitigation to ensure that potential noise impacts associated with the sound system remain less than significant. In addition, the noise study recommends supplemental measures beyond the mitigation included in the Draft IS/MND to address potential construction noise impacts. Accordingly, this Recirculated Draft IS/MND has been prepared to incorporate the results of the noise assessment.

Unsubstantial Revisions

In addition to the substantial revisions made to the Draft IS/MND to address potential noise impacts, additional revisions have been made that are not considered substantial revisions per CEQA Guidelines section 15073.5. These revisions have been made to reflect comments made by the Siskiyou County Air Pollution Control District regarding the District's discontinued sampling for fine particulate matter. The revisions do not affect the assessment of potential air quality impacts included in the Draft IS/MND.

Summary of Revisions

The following revisions were made to the IS/MND:

Section 4.3, Air Quality. The discussion regarding air quality monitoring located at the bottom of page 4.0-6 has been updated to reflect the information submitted via comment by the Siskiyou County Air Pollution Control District.

Section 4.12, Noise. The analysis of noise impacts found on pages 4.0-32 – 4.0-35 has been updated to reflect the findings of the Environmental Noise and Vibration Assessment prepared by Bollard Acoustical Consultants.

Attachment C. An attachment was added to the Draft IS/MND to support the conclusions made regarding potential noise impacts.

2.0 PROJECT INFORMATION

1. **Project title:** Altes Use Permit (UP-18-02)

2. **Lead agency name and address:** Siskiyou County
Community Development - Planning Division
806 South Main Street
Yreka, CA 96097

3. **Contact person and phone number:** Christy Cummings Dawson – Deputy Director
(530) 841-2100

4. **Project location:** The project site is located at 138 Big Canyon Drive approximately 0.4 mile south of the City of Mt. Shasta on APN 037-260-510, Section 27, Township 40N, Range 4W, Mount Diablo Base & Meridian (Latitude 41°17'05.20"N, Longitude 122°17'52.90"W). (See **Figure 3.0-1**.)

5. **Project sponsor's name and address:** Matt & Ruth Altes
PO Box 1048
Mt. Shasta, CA 96067

6. **General Plan designation:** Woodland Productivity – High Suitability

7. **Zoning:** Highway Commercial (C-H)

8. **Description of project:** The project is a proposed use permit to bring an existing nine-acre equestrian and special event facility into compliance with County Code as well as to facilitate future development of the site. The facility is currently used for horse boarding/training, riding lessons, trail riding, and outdoor events, such as weddings, parties, and retreats. The use permit would allow these unpermitted uses to continue, as well as allow for training clinics and development of a septic system and two additional structures: 1) a multi-use building containing offices, restrooms, storage, and a caretaker's residence and 2) a barn for storing hay, tack, and other horse-related materials.

9. **Surrounding land uses and setting:** The project site is bordered by Big Canyon Drive to the west; commercial and industrial development to the north; an undeveloped parcel, Big Canyon Drive, and Interstate 5 to the south; and rural residential development to the east.

10. **Other public agencies whose approval may be required (e.g., permits, financing approval, or participation agreement):**

- California Department of Forestry and Fire Protection (Cal Fire)
- Siskiyou County Air Pollution Control District (SCAPCD)
- Siskiyou County Public Works Department

11. Environmental factors potentially affected:

The environmental factors checked below would be potentially affected by this project, as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agriculture and Forestry Resources	☐ Air Quality
☐ Biological Resources	☒ Cultural Resources	☐ Geology and Soils
☐ Greenhouse Gas Emissions	☐ Hazards and Hazardous Materials	☐ Hydrology and Water Quality
☐ Land Use and Planning	☐ Mineral Resources	☒ Noise
☐ Population and Housing	☐ Public Services	☐ Recreation
☒ Transportation/Traffic	☐ Tribal Cultural Resources	☐ Utilities and Service Systems
☐ Mandatory Findings of Significance		

12. Determination: (To be completed by the lead agency)

On the basis of this initial evaluation:

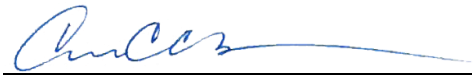
☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.



Signature

May 14, 2019
Date

Christy Cummings Dawson
Printed Name

County of Siskiyou
Lead Agency

Deputy Director of Planning
Title

3.0 PROJECT DESCRIPTION

3.1 PROJECT LOCATION

The project site is located at 138 Big Canyon Drive approximately 0.4 mile south of the City of Mt. Shasta in Siskiyou County, California. Accessible via Interstate 5 (I-5) and State Route 89 (SR 89), the site is situated approximately 720 feet east/southeast of the I-5/SR 89 interchange on Assessor Parcel Number (APN) 037-260-510 in Section 27, Township 40N, Range 4W, Mount Diablo Base & Meridian (Latitude 41°17'05.20"N, Longitude 122°17'52.90"W). (See **Figure 3.0-1**.)

3.2 EXISTING SITE CONDITIONS

For many years the approximately nine-acre project site operated as a drive-in theater known as the Mountain View Drive-In. During this period, the site was improved with drive aisles, vehicle parking with field speakers, concessions, a projection booth, and a large outdoor movie screen. However, by the time the current owners acquired the property in 2016, the theater had long since closed (approx. 30 years), the structural improvements had been removed, and manzanita and small evergreens had reclaimed large portions of the site.

Although most of the trees and several clusters of manzanita were left standing, the property was subsequently cleared of encroaching brush, lightly re-graded, and developed into an equestrian training and special event facility. As a result, the property currently includes: an approximately 16' x 2,200' looped all-weather gravel driveway; five large gravel parking areas that range in size from 6,600 square feet to 18,000 square feet; a 90' x 170' outdoor riding arena; a 60' round pen; a 10' x 20' storage shed; an 8' x 12' snack bar; nine parking sites capable of accommodating RVs and horse trailers; 17 overnight horse pens; and an outdoor event area that features a covered area for catering, a covered DJ/band area, a 625-square foot dance floor, a large fire pit, and a "saloon" (see **Figures 3.0-1** through **3.0-8**).

3.3 ADJACENT LAND USES

The project site is bordered by Big Canyon Drive to the west, a residential triplex on commercially zoned property to the northwest, limited commercial and industrial development to the north with SR 89 beyond, single-family rural residential development to the east, and an undeveloped residentially zoned parcel, Big Canyon Drive, and I-5 to the south.

3.4 PROJECT OVERVIEW

The project is a proposed use permit to bring an existing unpermitted equestrian training/event facility located on property zoned Highway Commercial (C-H) into compliance with Siskiyou County Code as well as to facilitate future onsite improvements to support existing and proposed uses. The nine-acre project site is currently used for horse boarding/training, riding lessons, trail riding, and outdoor events, including weddings, parties, retreats, etc.

In general, training and lessons occur Monday through Saturday between 8:00 a.m. and 6:30 p.m., while special events are principally held on Saturdays during the summer months between 12:00 p.m. and 10:00 p.m. Depending upon the type of event, there are usually one to five employees working onsite, with riding lessons, training, and overnight guests averaging approximately 20 guests per day during the busiest time of the year. Except for one annual event at the facility that attracts up to 600 persons, special events typically include fewer than 250 guests.

The use permit would: 1) allow these unpermitted land uses to continue; 2) allow for training clinics 3-5 times per year with up to 75 people and 25 horses; 3) establish a limit on the number of

special events to 30 per year; 4) establish other conditions of approval to ensure operations remain compatible with adjacent land uses; and 5) allow for the development of an onsite septic system and two additional structures: 1) a multiuse building containing offices, men's and women's restrooms, storage, and a caretaker's residence; and 2) a barn for storing hay, tack, and other horse-related materials.

3.5 PROJECT APPROVALS

The County of Siskiyou is the Lead Agency for this project. In addition, permits and/or approvals may be required from the following agencies:

Siskiyou County Airport Land Use Commission

According to the Siskiyou County Airport Land Use Compatibility Plan (2001), roughly 0.90 acre in the southern portion of the nine-acre project site is located within the area of influence of Dunsmuir Municipal-Mott Airport. Projects within an airport's area of influence are potentially subject to review by the Airport Land Use Commission (ALUC). Until such time as (1) the ALUC finds that a local agency's general plan or specific plan is consistent with the ALUCP, or (2) the local agency has overruled the ALUC's determination of inconsistency, state law requires that local agencies refer all actions, regulations, and permits involving land within an airport influence area to the ALUC for review (State Aeronautics Act Section 21676.5(a)). Further, only those actions which the ALUC elects not to review are exempt from this requirement.

Regional Water Quality Control Board, Central Valley Region (RWQCB)

The RWQCB typically requires a General Permit for Discharges of Storm Water Runoff (Construction General Permit) be obtained under the National Pollution Discharge Elimination System (NPDES) for projects that disturb more than one acre of soil. Typical conditions associated with such a permit include the submittal of and adherence to a storm water pollution and prevention plan (SWPPP), as well as prohibitions on the release of oils, grease or other hazardous materials.

California Department of Forestry and Fire Protection (Cal Fire)

Cal Fire provides wildland fire protection services to the project area, which has been identified as being located within a State Responsibility Area (SRA). Fire Safe Regulations have been prepared and adopted by the state to establish minimum wildfire protection standards for development within the SRA. Fire Safe Regulations are not intended to apply to existing structures, roads, streets, private lanes, or facilities. However, these regulations are applicable to all construction activities in conjunction with the creation of new parcels, new roads, use permit, and building permit approvals within the SRA, approved after January 1, 1991.

Siskiyou County Air Pollution Control District (SCAPCD)

SCAPCD is responsible for enforcing federal, state, and local air quality regulations and ensuring that federal and state air quality standards are met within the county. These standards are set to protect the health of sensitive individuals by restricting how much pollution is allowed in the air. To meet the standards, SCAPCD enforces federal laws and state laws on stationary sources of pollution and passes and enforces its own regulations as necessary to address air quality concerns. SCAPCD has promulgated numerous rules and regulations governing the construction and operation of new or modified sources of air pollutants emissions within the air basin.

Siskiyou County Public Works Department, Road Division

Encroachment permits are required from the Siskiyou County Public Works Department, Road Division for any improvements to publicly maintained roadways, including connections made by private driveways and/or private roadways.

3.6 RELATIONSHIP OF PROJECT TO OTHER PLANS

SISKIYOU COUNTY GENERAL PLAN

The proposed project will be located entirely within the unincorporated area of Siskiyou County. The Siskiyou County General Plan is the principal document governing land use development in the unincorporated area of the county. The General Plan includes numerous goals and policies pertaining to land use, circulation, noise, open space, scenic highways, seismic safety, safety, conservation, energy, and geothermal. The proposed project will be required to abide by all applicable goals and policies included in the County's adopted General Plan.

SISKIYOU COUNTY AIRPORT LAND USE COMPATIBILITY PLAN

As noted above, a little less than one acre in the southern portion of the project site is within the area of influence for Dunsmuir Municipal-Mott Airport and is therefore subject to compliance with the Siskiyou County Airport Land Use Compatibility Plan (ALUCP). The basic function of the ALUCP is to promote compatibility between the airports in Siskiyou County and the land uses that surround them. To do so, the ALUCP establishes land use designations, or compatibility zones, surrounding Siskiyou County airports to: 1) minimize public exposure to excessive noise and safety hazards, and 2) allow for future airport expansion (Shutt-Moen 2001).

BASIN PLAN FOR THE CENTRAL REGIONAL WATER QUALITY CONTROL BOARD

The project site is located within the Sacramento River Basin, which is under the jurisdiction of the Central Valley Regional Water Quality Control Board (RWQCB). One of the duties of the RWQCB is development of "basin plans" for the hydrologic area over which it has jurisdiction. The Basin Plan sets forth water quality objectives for both surface water and groundwater for the region, and it describes implementation programs to achieve these objectives. The Basin Plan provides the foundation for regulations and enforcement actions of the RWQCB.

In May 2018, the RWQCB adopted the most recent version of the Water Quality Control Plan for the Central Valley Region (Basin Plan). The Basin Plan defines existing and potential beneficial uses of surface water and groundwater in the Sacramento and San Joaquin River Basins and sets forth water quality objectives for these waters (RWQCB 2018).

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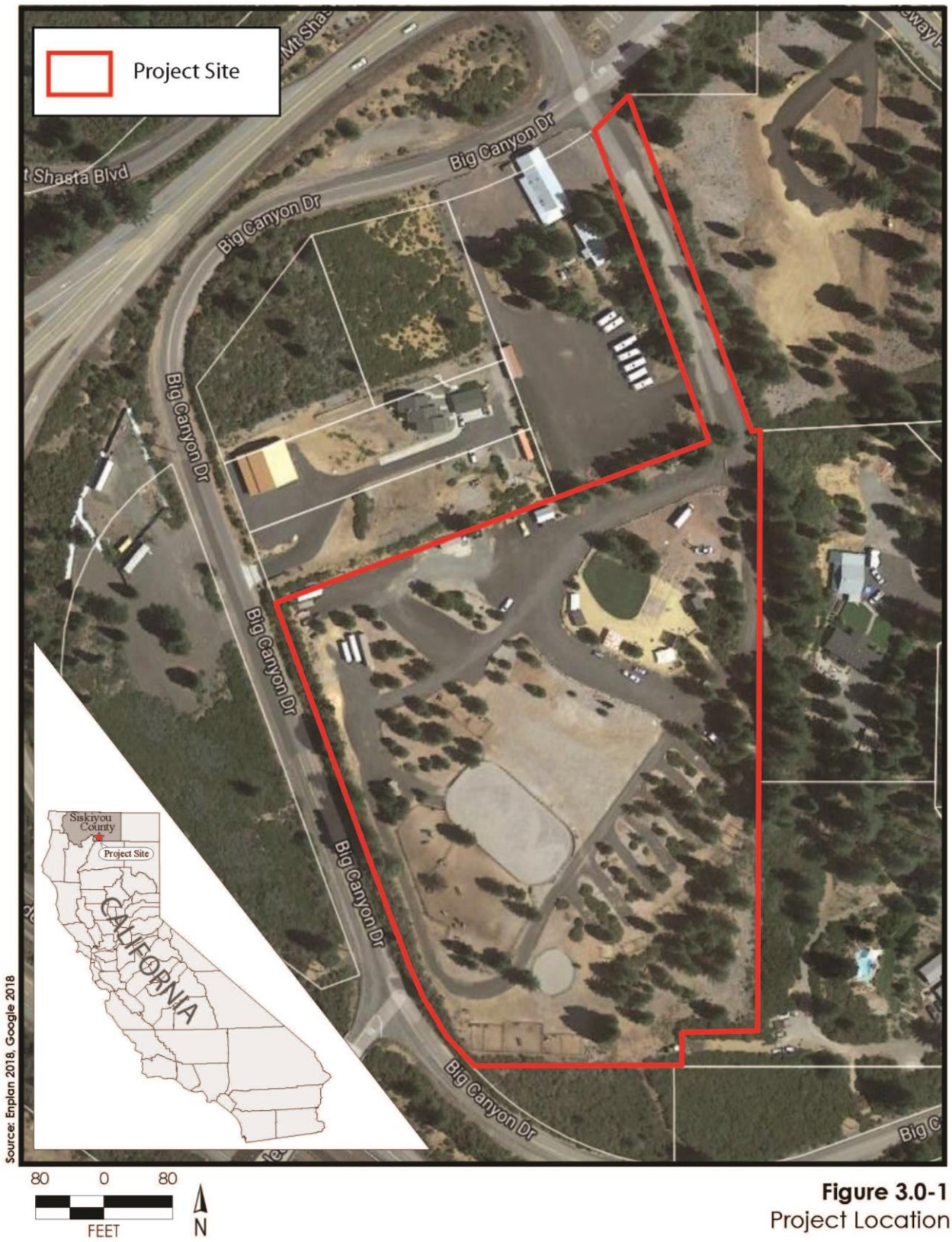

Figure 3.0-1
Project Location

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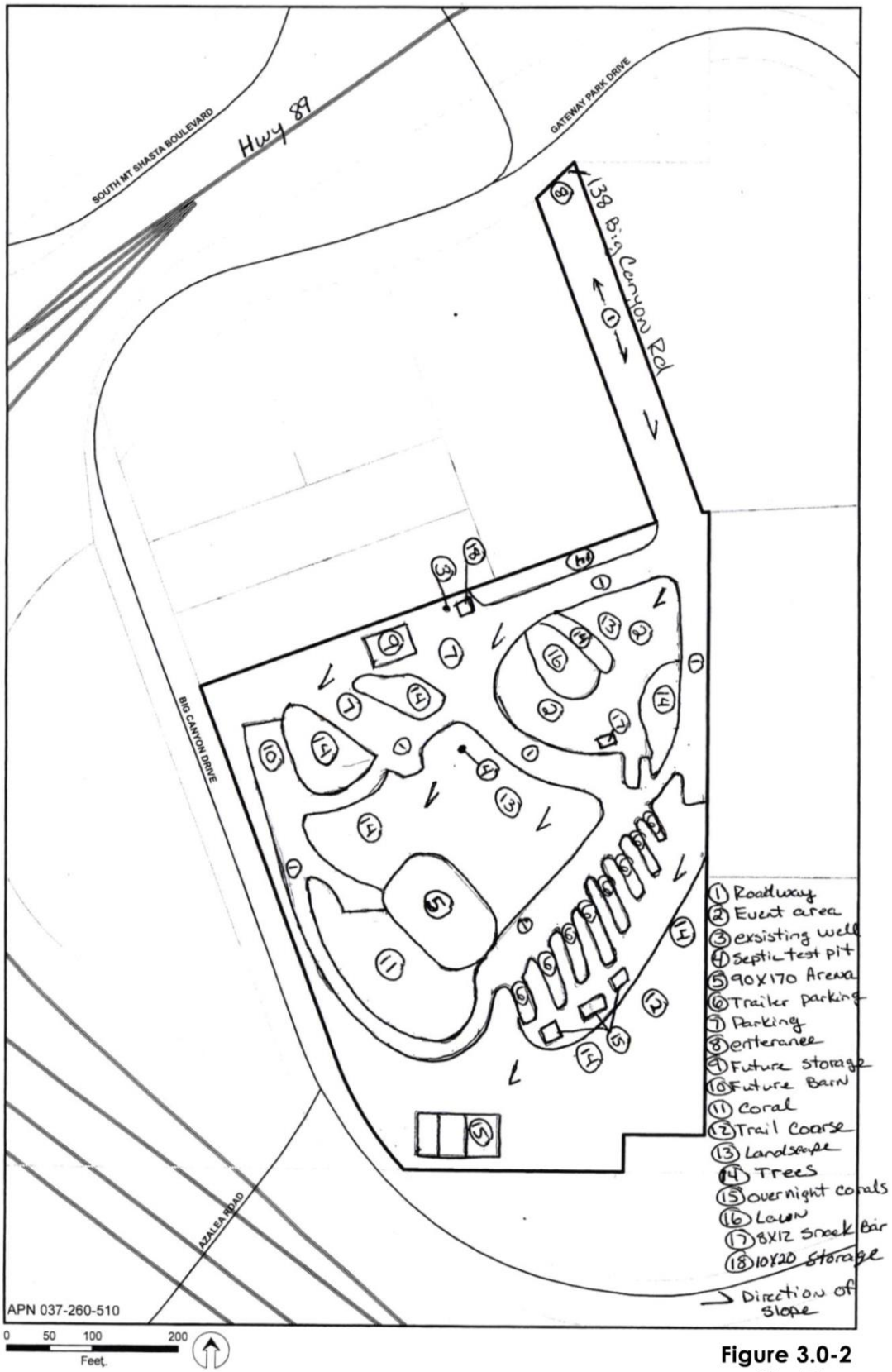

Figure 3.0-2
Site Plan

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Figure 3.0-3, Project Site Oblique (Looking North)

Figure 3.0-4, Outdoor Event Area and Parking (Looking East)

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Figure 3.0-5, Round Pen and Arena (Looking Southwest)

Figure 3.0-6, RV Sites with Horse Pens (Looking Southeast)

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Figure 3.0-7, Parking Area and Arena (Looking South)

Figure 3.0-8, Outdoor Event Area Montage

4.0 ENVIRONMENTAL CHECKLIST

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
4.1 AESTHETICS. Would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

Setting:

The project site is located adjacent to Interstate 5 (I-5) and State Route 89 (SR 89) approximately four miles south of the City of Mt. Shasta in an area with sweeping vistas to the south and west. Prominent topographic features visible from the project site include 9,037' Mount Eddy to the northwest, several lower elevation peaks in the Trinity Mountains to the west and southwest, and 14,192' Mount Shasta to the north.

As noted in Section 3.0, Project Description, the project site is currently improved with an equestrian facility capable of hosting large groups. Only two additional structures are proposed (a barn and a multiuse structure). The project site is bordered by a mix of residential, commercial, and light industrial uses, and is largely buffered from adjacent uses by intervening tress, manzanita, and topography.

There are no officially designated state scenic highways in the project vicinity, however, the stretch of Interstate 5 between State Route 89 immediately northwest of the project site and State Route 97 approximately 10.6 miles to the north, is eligible for designation as a State Scenic Highway (Caltrans 2018) and is identified as a scenic highway in the *Scenic Highways Element* of the Siskiyou County General Plan (Siskiyou County 1974).

Discussion of Impacts:

a) *Less Than Significant Impact*. Although the project site is located in a scenic area, it is not part of a scenic vista. The visual character of the project site is very similar to its surroundings and would remain so even if further developed with additional structures as proposed. As such, potential impacts to scenic vistas are considered less than significant.

b) *No Impact*. Although there are no state scenic highways in the project vicinity, Interstate 5 (approximately 760 feet to the north) is designated as a scenic highway in the Siskiyou County General Plan. Due to intervening topography, vegetation, distance, and a State Route 89 overpass, however, the project site is not readily visible from that portion of Interstate 5 designated by the County as a scenic highway. Therefore, the project would

have no impact to scenic resources along or within view of a locally designated or state-designated scenic highway.

c) *Less Than Significant Impact*. See Response 4.1(a). Although the existing visual character of the project site would change somewhat with the development of two additional structures (i.e., the office and barn), such changes would be consistent with existing development on the site and in the project vicinity. As a result, potential changes to the visual character and quality of the site are considered less than significant.

a) *Less Than Significant Impact*. The project does not propose any new sources of light or glare. While special events may result in nighttime lighting, all outdoor lighting is subject to Section 10-6.5602 of the Siskiyou County Code, which requires that exposed sources of light, glare, or heat be shielded so as not to be directed outside the premises. Compliance with County Code Section 10-6.5602 ensures that potential impacts associated with light or glare remain less than significant.

Mitigation Measures:

None required.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
4.2 AGRICULTURE AND FORESTRY RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997), prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resource Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☒	☐
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☒	☐
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to nonagricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

Setting:

AGRICULTURAL RESOURCES

The project site is zoned Highway Commercial (C-H) and is surrounded by lots zoned Rural Residential Agricultural, One Acre Minimum (R-R-B-1), Neighborhood Commercial (C-U), and Heavy Industrial (M-H). There is no Prime Farmland, Unique Farmland, or Farmland of Statewide Importance on the project site or on surrounding parcels. According to the California Department of Conservation, Farmland Mapping and Monitoring Program (FMMP), the project site and surrounding area are designated as Urban and Built-up Land (DOC 2016). This designation is not considered an agricultural resource. There are no Williamson Act contracted lands in the vicinity of the project site.

FORESTRY RESOURCES

Forest lands are defined under Public Resources Code (PRC) Section 12220(g) as "land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits. Timberland is defined under Public Resources Code Section 4526 as "land, other than land owned by the federal government and land designated by the board as experimental forest land, which is available for, and capable of, growing a crop of trees of a commercial species used to produce timber and other forest products, including Christmas trees. Commercial species shall be determined by the board on a district basis."

Discussion of Impacts:

a) *No Impact*. As identified on the 2016 Siskiyou County Important Farmland Map published by the California Department of Conservation's Farmland Mapping and Monitoring Program, none of the land within or adjacent to the project site is considered Prime Farmland, Unique Farmland, or Farmland of Statewide Importance.

b) *No Impact*. The project site is not subject to a Williamson Act contract. Further, there are no project components that have the potential to impact agricultural activity and/or a Williamson Act contract.

c) *Less Than Significant Impact*. Although the project site is identified in the Siskiyou County General Plan Land Use Element as having a high suitability for Woodland Productivity, the project site is zoned for commercial development, has been substantially developed with an equestrian/special event facility, was developed as a drive-in movie theater prior, and does not contain "forest land" or "timberland." As such, this potential impact is considered less than significant.

d) *Less Than Significant Impact*. See Response 4.2(c) above.

e) *No impact*. See Responses 4.2(a) through 4.2(d) above. The project would not involve other changes in the environment that could result in conversion of farmland to nonagricultural use or conversion of forest land to non-forest use.

Mitigation Measures:

None required.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
4.3 AIR QUALITY. Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

Setting:

The project site is located in a region identified as the Northeast Plateau Air Basin (NEPAB), which principally includes Siskiyou, Modoc, and Lassen counties. This larger air basin is divided into local air districts, which are charged with the responsibility of implementing air quality programs. The local air quality agency affecting the project area is the Siskiyou County Air Pollution Control District (SCAPCD). Within the SCAPCD, the primary sources of air pollution are wood burning stoves, wildfires, farming operations, unpaved road dust, managed burning and disposal, and motor vehicles.

As noted above, the SCAPCD is the local air quality agency with jurisdiction over the project site. The SCAPCD adopts and enforces controls on stationary sources of air pollutants through its permit and inspection programs and regulates agricultural and non-agricultural burning. Other District responsibilities include monitoring air quality, preparing air quality plans, and responding to citizen air quality complaints.

Ambient Air Quality Standards

Air quality standards are set at both the federal and state levels of government (**Table 4.3-1**). The federal Clean Air Act requires the Environmental Protection Agency (EPA) to establish ambient air quality standards for six criteria air pollutants: ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, lead, and suspended particulate matter. The California Clean Air Act also sets ambient air quality standards. The state standards are more stringent than the federal standards, and they include other pollutants as well as those regulated by the federal standards. When the concentrations of pollutants are below the allowed standards within an area, that area is considered to be in attainment of the standards.

Table 4.3-1
Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	Federal Primary [1]	Federal Secondary [1]	California [2]
Ozone	8 Hour 1 Hour	0.07 ppm --	0.07 ppm --	0.07 ppm 0.09 ppm
Carbon Monoxide	8 Hour 1 Hour	9 ppm 35 ppm	-- --	9 ppm 20 ppm
Nitrogen Dioxide	Annual 1 Hour	0.053 ppm 100 ppb	0.053 ppm --	0.03 ppm 0.18 ppm
Sulfur Dioxide	Annual 24 Hour 3 Hour 1 Hour	0.03 ppm 0.14 ppm -- 75 ppb	-- -- 0.5 ppm --	-- 0.04 ppm -- 0.25 ppm
Fine Suspended Particulate Matter (PM2.5)	Annual 24 Hour	12.0 µg/m^3 35.0 µg/m^3	15.0 µg/m^3 35.0 µg/m^3	12 µg/m^3 --
Suspended Particulate Matter (PM10)	Annual 24 Hour	-- 150 µg/m^3	-- 150 µg/m^3	20 µg/m^3 50 µg/m^3
Sulfates	24 Hour	--	--	25 µg/m^3
Lead	30 Day Calendar Qtr	-- 1.5 µg/m^3	-- 1.5 µg/m^3	1.5 µg/m^3 --
Hydrogen Sulfide	1 Hour	--	--	0.03 ppm
Vinyl Chloride	24 Hour	--	--	0.01 ppm
Visibility-Reducing Particles	8 Hour (10 am - 6 pm PST)	--	--	([3])

Source: California Air Resources Board, 2015

[1] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public

National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight-hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact U.S. EPA for further clarification and current federal policies.

[2] California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matter - PM_{10}, $PM_{2.5}$, and visibility reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[3] Extinction coefficient of 0.23 per kilometer - visibility of ten miles or more (0.07 - 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.

Air Quality Monitoring

Ozone (hourly and 8-hour average) and suspended fine particulate matter ($PM_{2.5}$) are ~~is~~ the only contaminants that receive~~s~~ continuous monitoring in Siskiyou County.~~, while suspended fine particulate matter ($PM_{2.5}$) is monitored every six days.~~ The closest air quality monitoring station to the project site is located approximately 35 miles northwest in the City of Yreka. This station monitors both ozone and particulate matter. According to the SCAPCD, the District ceased its ongoing monitoring of PM_{10} at the Yreka station at the end of December 2015 and ended its one-in-six day monitoring of $PM_{2.5}$ at the end of June 2018. **Table 4.3-2** shows the results of monitoring efforts from 2015 - 2017 at the Yreka station.

Table 4.3-2
Siskiyou County Air Quality Data

Pollutant	Standard	Year		
		2015	2016	2017
Ozone (O_3)				
Maximum 1-Hour Concentration (ppm)		0.076	0.092	0.053
Maximum 8-Hour Concentration (ppm)		0.066	0.068	0.049
Number of Days Exceeding State 1-Hour Standard	> 0.09 ppm	0	0	0
Number of Days Exceeding State/Federal 8-Hour Standard	> 0.07 ppm	0	0	0
Inhalable Particulates (PM_{10})				
Maximum 24-Hour Concentration (µg/m^3)		65.5	*	*
Estimated No. of Days Exceeding State Standard	> 50 µg/m^3	6.1	*	*
Estimated No. of Days Exceeding Federal Standard	> 150 µg/m^3	0	*	*
Ultra-Fine Particulates ($PM_{2.5}$)				
Maximum 24-Hour Concentration (µg/m^3)		51.0	26.1	78.8
Estimated No. of Days Exceeding Federal 24-Hour Standard	> 35 µg/m^3	*	0	26.3
Measured No. of Days Exceeding Federal 24-Hour Standard	> 35 µg/m^3	2	0	4

Source: California Air Resources Board, 2018
** Insufficient data*

Monitored Air Pollutants

Ozone is a gas comprising three oxygen atoms. It occurs both in the earth's upper atmosphere and at ground level. Ozone can be either beneficial or detrimental to human health, depending on its concentration and where it is located. Beneficial ozone occurs naturally in the earth's upper atmosphere, where it acts to filter out the sun's harmful ultraviolet rays. Bad ozone occurs at ground level and is created when cars, industry, and other sources emit pollutants that react chemically in the presence of sunlight. Ozone exposure can result in irritation of the respiratory system, decreased lung function, aggravated asthma, and possible lung damage with persistent exposure.

PM_{10} (i.e., suspended particulate matter less than 10 microns) is a major air pollutant consisting of tiny solid or liquid particles of soot, dust, smoke, fumes, and aerosols. The size of the particles (about 0.0004 inches or less) allows them to easily enter the lungs where they may be deposited.

$PM_{2.5}$ (i.e., suspended particulate matter less than 2.5 microns) is similar to PM_{10} in that it is an air contaminant that consists of tiny solid or liquid particles; though in this case the particles are about 0.0001 inches or smaller (often referred to as fine particles). $PM_{2.5}$ is typically formed in the atmosphere from primary gaseous emissions that include sulfates emitted by power plants and industrial facilities and nitrates emitted by power plants, automobiles, and other types of combustion sources. While the chemical composition of fine particles is highly dependent upon location, time of year, and weather conditions, the most common source of elevated $PM_{2.5}$ in Siskiyou County is smoke from wildfires.

Inhalation of $PM_{2.5}$ and PM_{10} can cause persistent coughing, phlegm, wheezing, and other physical discomfort. Long-term exposure may increase the rate of respiratory and cardiovascular illness.

As shown in **Table 3.2** above, despite the lack of data for PM_{10} and elevated concentrations of $PM_{2.5}$ in 2017, Siskiyou County has not been identified as having significant air quality problems and is considered to be in attainment or unclassified for all federal and state air quality standards. As a result, the County is not subject to an air quality attainment or maintenance plan.

Discussion of Impacts:

a) *No Impact*. Siskiyou County is classified as being in attainment or unclassified for all federal and state air quality standards and, as a result, is not subject to an air quality plan.

b) *Less Than Significant Impact*. See response 4.3(a) above. While particulate matter (i.e., dust) and diesel emissions could be generated during development of the septic system and additional structures on the site, the amount of emissions likely to be generated during this construction activity is considered minor. Further, construction emissions would be temporary and cease once construction is complete. Proposed uses, such as the horse clinics, are also unlikely to generate significant air pollutants. As a result, there would not be a violation of air quality standards associated with the project, nor would project-related emissions contribute to an existing or projected air quality violation.

c) *Less Than Significant Impact*. See Responses 4.3(a) and 4.3(b) above. Any air contaminants likely to be generated due to further development of the project site or use of the project site as proposed would have a negligible impact on the County's ability to meet federal and state air quality standards.

d) *Less Than Significant Impact*. Sensitive receptors are generally defined as facilities that house or attract groups of children, the elderly, persons with illnesses, and others who are especially sensitive to the effects of air pollutants. Schools, hospitals, residential areas, and senior care facilities are examples of sensitive receptors.

   The nearest sensitive receptors are single-family residences immediately east and southeast of the project site, a triplex to the northwest, and the Golden Eagle Charter School roughly 0.2 mile to the northwest. Nevertheless, any land disturbance associated with further development of the project site and/or use of the project site as proposed is unlikely to result in substantial emissions. As such, the project's potential impact on sensitive receptors is considered less than significant.

e) *Less Than Significant Impact*. Offensive odors rarely cause any physical harm; however, they still can be very unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and regulatory agencies. Odor impacts on residential areas and other sensitive receptors, such as daycare centers and schools, are of particular concern. Major sources of odor-related complaints by the general public commonly include wastewater treatment facilities, landfill disposal facilities, food processing facilities, agricultural activities, and various industrial activities (e.g., petroleum refineries, chemical and fiberglass manufacturing, painting/coating operations, feed lots/dairies, composting facilities, landfills, and transfer stations).

   Further development of the project site could result in temporary, localized odors as a result of construction activity. Construction odors would be generated by tailpipe emissions from

diesel-powered construction equipment. However, construction odors would not affect a substantial number of residences for an extended period of time and are considered less than significant.

In addition, due to the potential for up to 25 horses on the project site during clinics with fewer horses present throughout much of the year, the project has the potential to generate odors capable of impacting nearby land uses if manure and associated waste are not properly managed. According to the applicant, soiled bedding and manure are removed from the pens, arenas, corrals, and other areas on a daily basis and are removed from the site as frequently as needed to control odors. This typically entails hauling waste offsite for disposal every week or every other week. While onsite, the waste is stored sufficiently distant from residences (approximately 530 feet) such that potential odor impacts are considered less than significant.

Mitigation Measures:

None required.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
4.4 BIOLOGICAL RESOURCES. Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☐	☒	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☐	☐	☒
c) Have a substantial adverse effect on federally protected wetlands, as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal wetlands, etc.), through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Setting:

The United States Fish and Wildlife Service (USFWS), California Department of Fish and Wildlife (CDFW), and the California Native Plant Society (CNPS) document species that may be rare, threatened or endangered. Federally listed species are fully protected under the mandates of the Federal Endangered Species Act (FESA). "Take" of listed species incidental to otherwise lawful activity may be authorized by either the U.S. Fish and Wildlife Service (USFWS) or the National Marine Fisheries Service (NMFS), depending upon the species.

Under the California Endangered Species Act (CESA), CDFW has the responsibility for maintaining a list of threatened and endangered species. CDFW also maintains lists of "candidate species" and "species of special concern" which serve as "watch lists." State-listed species are fully protected under the mandates of CESA. "Take" of protected species incidental

to otherwise lawful management activities may be authorized under Section 2081 of the Fish and Game Code of California.

Under Section 3503.5 of the California Fish and Game Code, it is unlawful to take, possess, or destroy any birds in the orders of Falconiformes or Strigiformes (raptors) or to take, possess or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.

The Native Plant Protection Act (California Fish and Game Code Sections 1900-1913) prohibits the taking, possessing, or sale within the state of any rare, threatened or endangered plants as defined by the CDFW. Project impacts on these species would not be considered significant unless the species are known to have a high potential to occur within the area of disturbance associated with the project.

Special-Status Species

Special-status species are commonly characterized as species that are at potential risk or actual risk to their persistence in a given area or across their native habitat (locally, regionally, or nationally) and are identified by a state and/or federal resource agency as such. These agencies include governmental agencies such as CDFW, USFWS, or private organizations such as CNPS. The degree to which a species is at risk of extinction is the limiting factor on a species' status designation. Risk factors to a species' persistence or population's persistence include habitat loss, increased mortality factors (take, electrocution, etc.), invasive species, and environmental toxins. In the context of environmental review, special-status species are defined by the following codes:

1) Listed, proposed, or candidates for listing under the federal Endangered Species Act (ESA) (50 Code of Federal Regulations [CFR] 17.11 – listed; 61 Federal Register [FR] 7591, February 28, 1996 candidates);
2) Listed or proposed for listing under the California Endangered Species Act (CESA) (Fish and Game Code [FGC] 1992 Section 2050 et seq.; 14 California Code of Regulations [CCR] Section 670.1 et seq.);
3) Designated as Species of Special Concern by the CDFW;
4) Designated as Fully Protected by the CDFW (FGC Sections 3511, 4700, 5050, 5515); and
5) Species that meet the definition of rare or endangered under the California Environmental Quality Act (CEQA) (14 CCR Section 15380) including CNPS List Rank 1B and 2.

Database Results

Although the project site is largely developed, a review of the California Natural Diversity Database was conducted (see **Appendix A**). According to the CNDDB, 16 special-status plant species and 12 special-status wildlife species have the potential to occur in the project vicinity. Of the 16 special-status plant species and 12 special-status wildlife identified, none were noted as being likely to occur within the project site due to the lack of suitable habitat.

CDFW Early Consultation

Prior to development of the Initial Study, County staff contacted CDFW for the purpose of early consultation. On April 10, 2018, the agency responded that CDFW appreciated the opportunity to review the application materials and has no comment on the project.

USFWS Databases

In addition to consulting with CDFW, County staff reviewed potential critical habitat designations in the general vicinity of the project site using the USFWS Critical Habitat Portal (USFWS 2018). No critical habitats were identified within or adjacent to the project site. Staff also reviewed the USFWS National Wetland Inventory, which resulted in the identification of potential jurisdictional wetlands approximately 180 feet east of the project site (see **Figure 4.4-1** below).

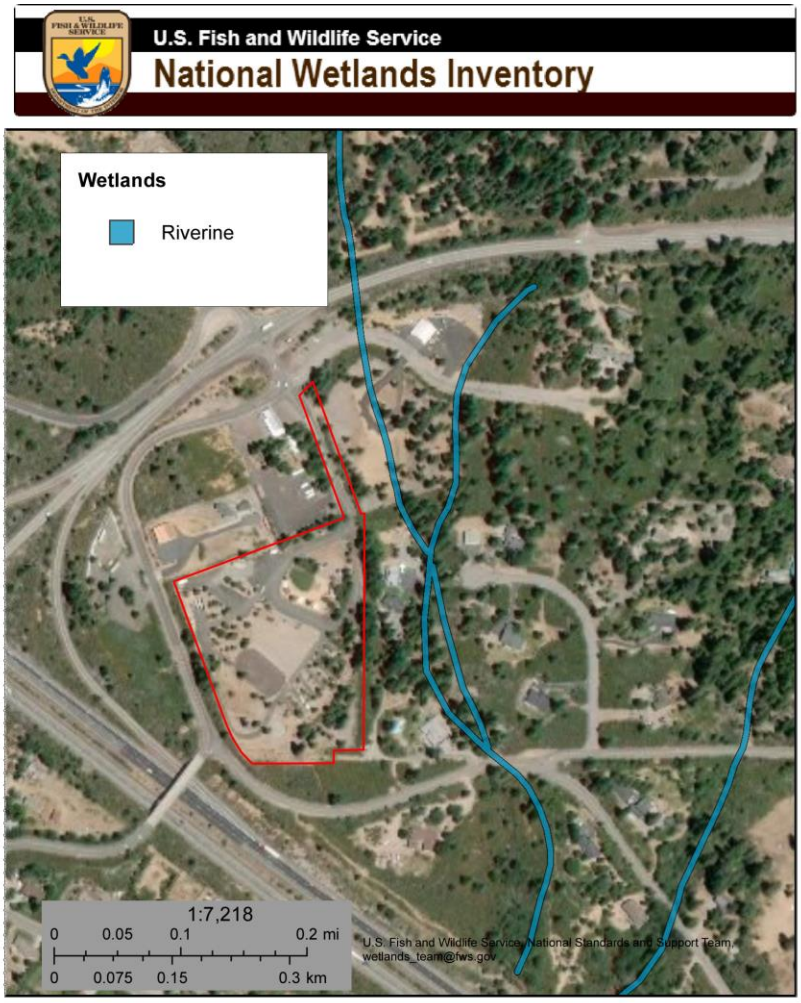

Figure 4.4-1, Wetlands Map

Discussion of Impacts:

a) *Less Than Significant Impact*.

Special-Status Plants: Based on a review of the CNDDB, eight CNPS List 1B species and eight CNPS List 2B species have the potential to occur in the project vicinity. However, with the exception of woolly balsamroot (*Balsamorhiza lanata*), the project site does not provide suitable habitat for the plant species identified. Furthermore, because the project site is already substantially developed and only two structures are proposed, potential impacts to special-status plant species, including woolly balsamroot, are considered less than significant.

Special-Status Wildlife: Twelve special-status wildlife species have been identified as potentially occurring in the project vicinity (see **Appendix A**). However, due to the lack of suitable habitat for identified species on the project site and the project site's location at the juncture of two major highways (i.e., Interstate 5 and State Route 89), potential impacts to special-status wildlife species are considered less than significant.

b) *No Impact*. There is no riparian habitat or other sensitive natural community within or immediately adjacent to the project site. In addition, a review of the USFWS Critical Habitat online map tool (USFS 2018a) indicates the nearest critical habitat for threatened and endangered species is more than three miles distant to the west.

c) *Less Than Significant Impact.* A review of the USFWS National Wetland Inventory database (USFS 2018b) did not indicate the presence of wetlands within or immediately adjacent to the project site. While an ephemeral drainage is located approximately 180 feet to the east, there are no project components that are likely to affect this drainage. As a result, potential impacts to wetlands are considered less than significant.

d) Less Than Significant Impact. Migratory birds are known to occur in the vicinity of the project site and are likely to pass through it as well. However, the project will not substantially interfere with the movement of avian species, or the migration of any other species.

e) *No Impact*. The proposed project would not conflict with any local policies or ordinances protecting biological resources.

f) *No Impact.* No habitat conservation plans, natural community conservation plans, or other local, regional, or state habitat conservation plans apply to the project area.

Mitigation Measures:

None required.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
4.5 CULTURAL RESOURCES. Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	☐	☒	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☒	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	☐	☒	☐	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

Setting:

CEQA Guidelines Section 15064.5 defines the term "historical resources." Generally speaking, a "historical resource" includes sites that are listed in, or determined to be eligible for listing in the California Register of Historical Resources, sites that are included in a local register of historical resources, or a resource that is considered "historically significant." A lack of designation at the national, state, or local level does not preclude a resource from being determined to be a historical resource.

Discussion of Impacts:

a) *Less Than Significant with Mitigation Incorporated*. No significant historical resources have been identified within the project site; however, ground disturbance associated with development of the septic system, barn, and multiuse building has the potential to impact subsurface historic resources should any be present. Therefore, to ensure that impacts to previously unrecorded historic resources remain less than significant, mitigation measure **MM 5.1** is provided below.

b) *Less Than Significant with Mitigation Incorporated*. While no evidence of significant archaeological resources has been identified within the project site, ground disturbance has the potential to impact subsurface archaeological resources should any be present. Therefore, to ensure that impacts to previously unrecorded archaeological resources remain less than significant, mitigation measure **MM 5.1** is provided below.

c) *Less Than Significant with Mitigation Incorporated*. There are no records of paleontological resources being discovered within or immediately adjacent to the project site. Nevertheless, unanticipated and accidental discoveries of paleontological resources are possible during ground disturbing activities associated with construction of the septic system, barn, and multiuse building. Therefore, in order to ensure that potential impacts to paleontological resources remain less than significant, mitigation measure **MM 5.2** is provided below.

d) *Less Than Significant with Mitigation Incorporated*. There is no record of Native American or early European burial sites within or adjacent to the project site. Regardless, there is a possibility for an unanticipated and accidental discovery of human remains during ground-

disturbing project-related activities. Therefore, mitigation measure **MM 5.3** is provided below to address the potential discovery of any unrecorded or previously unknown resources.

Mitigation Measures:

MM 5.1 If, during the course of project implementation, cultural resources (i.e., prehistoric sites, historic features, isolated artifacts, and features such as concentrations of shell or glass) are discovered, all work shall cease in the area of the find, the Siskiyou County Community Development Department – Planning Division shall be immediately notified, and a professional archaeologist that meets the Secretary of the Interior's Professional Qualifications Standards in prehistoric or historical archaeology shall be retained to determine the significance of the discovery. The County shall consider mitigation recommendations presented by a professional archaeologist and implement a measure or measures that the County deems feasible and appropriate. Such measures may include avoidance, preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures.

Timing/Implementation: During ground disturbance activities associated with development of the site

Enforcement/Monitoring: Siskiyou County Community Development Department - Planning Division

MM 5.2 If, during the course of project implementation, paleontological resources (e.g., fossils) are discovered, all work shall cease in the area of the find, the Siskiyou County Community Development Department – Planning Division shall be immediately notified, and a qualified paleontologist shall be retained to determine the significance of the discovery. The County shall consider the mitigation recommendations presented by a professional paleontologist and implement a measure or measures that the County deems feasible and appropriate. Such measures may include avoidance, preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures.

Timing/Implementation: During ground disturbance activities associated with development of the site

Enforcement/Monitoring: Siskiyou County Community Development Department - Planning Division

MM 5.3 If, during the course of project implementation, human remains are discovered, all work shall cease in the area of the find, the Siskiyou County Community Development Department – Planning Division shall be immediately notified, and the County Coroner must be notified, according to Section 5097.98 of the California Public Resources Code and Section 7050.5 of the California Health and Safety Code. If the remains are determined to be Native American, the coroner will notify the Native American Heritage Commission, and the procedures outlined in California Code of Regulations Section 15064.5(d) and (e) shall be followed.

Timing/Implementation: During ground disturbance activities associated with development of the site

Enforcement/Monitoring: Siskiyou County Community Development Department - Planning Division

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
4.6 GEOLOGY AND SOILS. Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☒	☐

Setting:

As indicated on the 2010 Fault Activity Map of California (DOC 2010), there are a number of faults located in the region. The closest of these include the Mount Shasta faults located approximately nine miles to the northeast. None of these faults, however, have shown evidence of displacement within the last 700,000 years. The nearest potentially active faults (i.e., faults along which displacement has occurred within the past 200 years) are located in the Cedar Mountain Fault Zone approximately 23 miles northeast of the project site. The largest earthquake originating along this fault zone in recent times had a magnitude of 4.6 and occurred in August 1978 (USGS 2018).

The Seismic Safety and Safety Element of the Siskiyou County General Plan states that over a 120-year period, nine or ten earthquakes capable of "considerable damage" have occurred in the region. No deaths have been reported from these quakes and building damage was

considered minor or unreported. Regardless, Siskiyou County, like much of California, is located in an area with potential for major damage from earthquakes corresponding to intensity VII on the Modified Mercalli Scale.

Although much of area around Mount Shasta was impacted by a massive debris flow during the collapse of ancestral Mount Shasta (i.e., a volcano that was located on the site of contemporary Mount Shasta until roughly 160,000 to 360,000 years ago), landslides are not prominent in the area. The project site is relatively level, generally with slopes of approximately five percent or less. Further, standard construction practices limit the amount of potential erosion, and the California Building Code addresses necessary construction techniques to accommodate soils with expansive characteristics.

According to the USDA Natural Resources Conservation Service (NRCS), which classifies soils throughout the United States, the project area soils are classified as #209 Ponto-Neer complex, 2 to 15 percent slopes. The Ponto-Neer complex consists of deep, well-drained soils derived from volcanic ash and rock. These soils have low to moderate shrink-swell potential, rapid permeability, low to medium runoff, slight water erosion potential, and slight to moderate wind erosion potential.

Discussion of Impacts:

a)

i) *Less Than Significant Impact*. There are no known active or potentially active faults within or adjacent to the project site. The closest mapped faults to the project area lie approximately nine miles to the northeast. The California Geologic Survey does not identify the project site as being in an area affected by this fault or any other Alquist-Priolo Earthquake Fault Zone.

ii) *Less Than Significant Impact*. See Response 4.6(a)(i) above. The project site is located in a potentially seismically active area and, as a result, any structures that may be developed in the future would likely be subject to future seismic activity. Improperly designed and/or constructed structures could be subject to damage from seismic activity with resulting injury or death for the occupants. However, any future development would be required to be designed to meet all California Building Code seismic design standards, as well as site-specific and project-specific recommendations contained in the geotechnical analysis required prior to building permit issuance.

iii) *Less Than Significant Impact*. Liquefaction occurs when loose sand and silt that is saturated with water behaves like a liquid when shaken by an earthquake. Liquefaction can result in the following types of seismic-related ground failure:

- Loss of bearing strength – soils liquefy and lose the ability to support structures
- Lateral spreading – soils slide down gentle slopes or toward stream banks
- Flow failures – soils move down steep slopes with large displacement
- Ground oscillation – surface soils, riding on a buried liquefied layer, are thrown back and forth by shaking
- Flotation – floating of light buried structures to the surface
- Settlement – settling of ground surface as soils reconsolidate
- Subsidence – compaction of soil and sediment

Three factors are required for liquefaction to occur: (1) loose, granular sediment; (2) saturation of the sediment by groundwater; and (3) strong shaking. Impacts associated with liquefaction are unlikely given the well-drained soils on the project site and low incidence of seismic activity in the region.

iv) *Less Than Significant Impact*. Because much of the project site is relatively flat (approximately 5% slopes or less on average) and does not show a history of instability, the potential for landslides is considered low.

b) *Less Than Significant Impact*. Erosion is the process by which soil material is detached and transported from one location to another by wind or water. Erosion occurs naturally in most systems but is often accelerated by human activities that disturb soil and vegetation. The rate at which natural and accelerated erosion occur is largely a function of climate, soil cover, slope conditions, and inherent soil properties.

Use of the project site as proposed, including development of the septic system, barn, and multiuse building, is expected to result in only minor land disturbances. Further, according to the Natural Resource Conservation Service, project site soils exhibit only a slight potential for water erosion and a slight to moderate potential for wind erosion (USDA-NRCS 2018). As such, potential erosion impacts associated with the project are considered less than significant.

c) *Less Than Significant Impact*. The potential for landslides on the project site was addressed under Response 4.6(a)(iv) and was determined to be less than significant. The potential for lateral spreading, liquefaction, subsidence, and other types of ground failure or collapse was addressed under Response 4.6(a)(iii) and was also determined to be less than significant.

d) *Less Than Significant Impact*. Expansive or shrink-swell soils are soils that swell when subjected to moisture and shrink when dry. Expansive soils typically contain clay minerals that attract and absorb water, greatly increasing the volume of the soil. This increase in volume can cause damage to foundations, structures, and roadways.

Project site soils contain a high percentage of sand (67%) relative to clay (13%) and, as a result, are considered to have low to moderate shrink-swell potential. Nevertheless, the County requires the preparation of a geotechnical analysis prior to the issuance of building permit(s), which if necessary, include project-specific recommendations to reduce the potential for shrink-swell impacts. Incorporation of these recommendations, along with standard practices required by the California Building Code, would further reduce the potential for project-related shrink-swell impacts to a level that is considered less than significant.

e) *Less Than Significant Impact*. The Siskiyou County Environmental Health Division has evaluated the ability of the project site to accommodate development of a septic system to serve the project and determined that it can, resulting in sewer clearance being issued to the project and site.

Mitigation Measures:

None required.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
4.7 GREENHOUSE GAS EMISSIONS. Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gasses?	☐	☐	☐	☒

Setting:

With adoption of Assembly Bill (AB) 32 and Senate Bill (SB) 97, the State of California established GHG reduction targets and has determined that GHG emissions as they relate to global climate change are a source of adverse environmental impacts. However, neither the State of California nor the County of Siskiyou have established significance criteria for greenhouse gas (GHG) emissions generated by a proposed project. Indeed, many regulatory agencies are sorting through suggested thresholds and/or making project-by-project analyses. This approach is consistent with that suggested by CAPCOA in its technical advisory entitled *CEQA and Climate Change: Addressing Climate Change through the California Environmental Quality Act Review* (California Air Pollution Control Officers Association [CAPCOA] 2008):

> "*In the absence of regulatory standards for GHG emissions or other specific data to clearly define what constitutes a 'significant project', individual lead agencies may undertake a project-by-project analysis, consistent with available guidance and current CEQA practice*."

The impact that GHG emissions have on global climate change does not depend on whether the emissions were generated by stationary, mobile, or area sources, or whether they were generated in one region or another. Thus, consistency with the state's requirements for GHG emissions reductions is the best metric for determining whether the proposed project would contribute to global warming. In the case of the proposed project, if the project substantially impairs the state's ability to conform to the mandate to reduce GHG emissions to 1990 levels by the year 2020, then the impact of the project would be considered significant.

Discussion of Impacts:

a) *Less Than Significant Impact*.

Construction Emissions

Use of fossil fuel powered heavy equipment during construction of the barn and multiuse structure would result in minor GHG emissions. These emissions, however, would be limited in scope, temporary and intermittent in duration, and are considered less than significant.

Long-Term Operational Emissions

Use of the project site as proposed is expected to generate minor intermittent and ongoing GHG emissions associated with the use of passenger vehicles to travel to and from the project site. As discussed in Section 4.16, the project is not likely to generate a substantial

number of trips each day, and traffic associated with special events is intermittent and seasonal. As such, impacts are considered less than significant.

b) *No Impact*. The proposed project would not conflict with any adopted plans, policies, or regulations adopted for the purpose of reducing greenhouse gas emissions.

Mitigation Measures:

None required.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
4.8 HAZARDS AND HAZARDOUS MATERIALS. Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	☒
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan area or, where such a plan has not been adopted, within 2 miles of a public airport or a public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☒	☐
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☒	☐

Setting:

A material is considered hazardous if it appears on a list of hazardous materials prepared by a federal, state, or local agency, or if it has characteristics defined as hazardous by such an agency. A hazardous material is defined in Title 22 of the California Code of Regulations (CCR), Title 22, Section 662601.10, as follows:

> *A substance or combination of substances which, because of its quantity, concentration, or physical, chemical or infectious characteristics, may either (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or*

incapacitating reversible, illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of or otherwise managed.

Most hazardous material regulation and enforcement in Siskiyou County is managed by the Siskiyou Community Development Department - Environmental Health Division, which refers large cases of hazardous materials contamination or violations to the North Coast Regional Water Quality Control Board (RWQCB) and the California Department of Toxic Substances Control (DTSC). When issues of hazardous materials arise, it is not at all uncommon for other agencies to become involved, such as the Siskiyou County Air Pollution Control District and both the federal and state Occupational Safety and Health Administrations (OSHA).

Under Government Code Section 65962.5, both DTSC and the State Water Resources Control Board (SWRCB) are required to maintain lists of sites known to have hazardous substances present in the environment. Both agencies maintain up-to-date lists on their websites. A search of the DTSC and SWRCB lists did not identify any hazardous waste violations in the vicinity of the project site.

Discussion of Impacts:

a) *No Impact*. There are no project components that are likely to result in the routine transport, use, or disposal of hazardous materials.

b) *Less Than Significant Impact*. See Response 4.8(a). Although unlikely, a potential accidental release of hazardous materials could occur during construction of the septic system, barn, and multiuse structure. Any such release would likely be minor spillages of fuels and oils associated with the use of heavy equipment during ground work. However, there is nothing specific about the project or project site to suggest an elevated potential for an accidental release of hazardous materials. As such, potential impacts are considered less than significant.

c) *No Impact*. The Golden Eagle Charter School is located approximately 0.2 mile northwest of the project site. No other existing or proposed schools are located within one-quarter mile of the site. There is no project component that has the potential to produce hazardous emissions or that entails the handling of hazardous or acutely hazardous materials, substances, or waste.

d) *No Impact*. According to the DTSC Envirostor database and SWRCB GeoTracker database, which were reviewed on September 21, 2018, the project site has not been identified as a hazardous material spill site, nor is it located adjacent to such a site.

e) *Less Than Significant Impact*. The project site is approximately 1.7 miles north of the Dunsmuir Municipal-Mott Airport, a public use airport with a 2,800' runway that is open to general aviation aircraft during daylight hours. As of 2015, the airport averaged 42 aircraft operations per week (Coffman Associates 2018). There are no other public or private airports within two miles of the project site.

According to the Siskiyou County Airport Land Use Compatibility Plan (ALUCP), which addresses land uses surrounding Siskiyou County airports for the purpose of: 1) minimizing public exposure to excessive noise and safety hazards, and 2) allowing for future airport expansion, roughly 0.9 acre in the southern portion of the project site is within the area of influence of Dunsmuir Municipal-Mott Airport (see **Figure 4.8-1**). Specifically, this portion of the project site is designated by the ALUCP as being within Compatibility Zone C2.

Within Compatibility Zone C2, overflights at altitudes of 1,000 feet and less are common; however, whereas compatibility zones A and B are used to delineate high and moderate risks to safety respectively, the C zones (C1 and C2) are principally used to identify areas subject to potential annoyance by overflights. Nevertheless, the ALUCP does note that hazards to flight, such as tall objects (>50'), visual and electronic forms of interference, and land uses that attract birds are prohibited in Compatibility Zone C2. The plan further notes that schools, day care centers, libraries, hospitals, and nursing homes should be avoided in Zone C2 (Shutt Moen Associates 2001).

Therefore, because the project site is located outside of those areas identified by the ALUCP as being at elevated risk from air operations at Dunsmuir Municipal-Mott Airport, and because the project does not include hazards to flight or land uses to be avoided per the ALUCP, the potential for safety hazards to persons working, recreating, and potentially residing in the project area are considered less than significant.

f) *No Impact*. See Response 4.8(e). The project site is not located in the vicinity of a private airstrip.

g) *Less Than Significant Impact*. There is nothing about the proposed project that would substantially interfere with an adopted emergency response or evacuation plan.

h) *Less Than Significant Impact*. There is the potential for wildland fires in the region given the dry summer climate, with hot days and wind, and the project site's location in a wildland-urban interface. Nevertheless, the project would not substantially increase the risk of fire on the project site, and the project will be required to comply with Fire Safe Regulations enacted pursuant to Public Resources Code Sec. 4290 to minimize potential impacts.

Mitigation Measures:

None required.

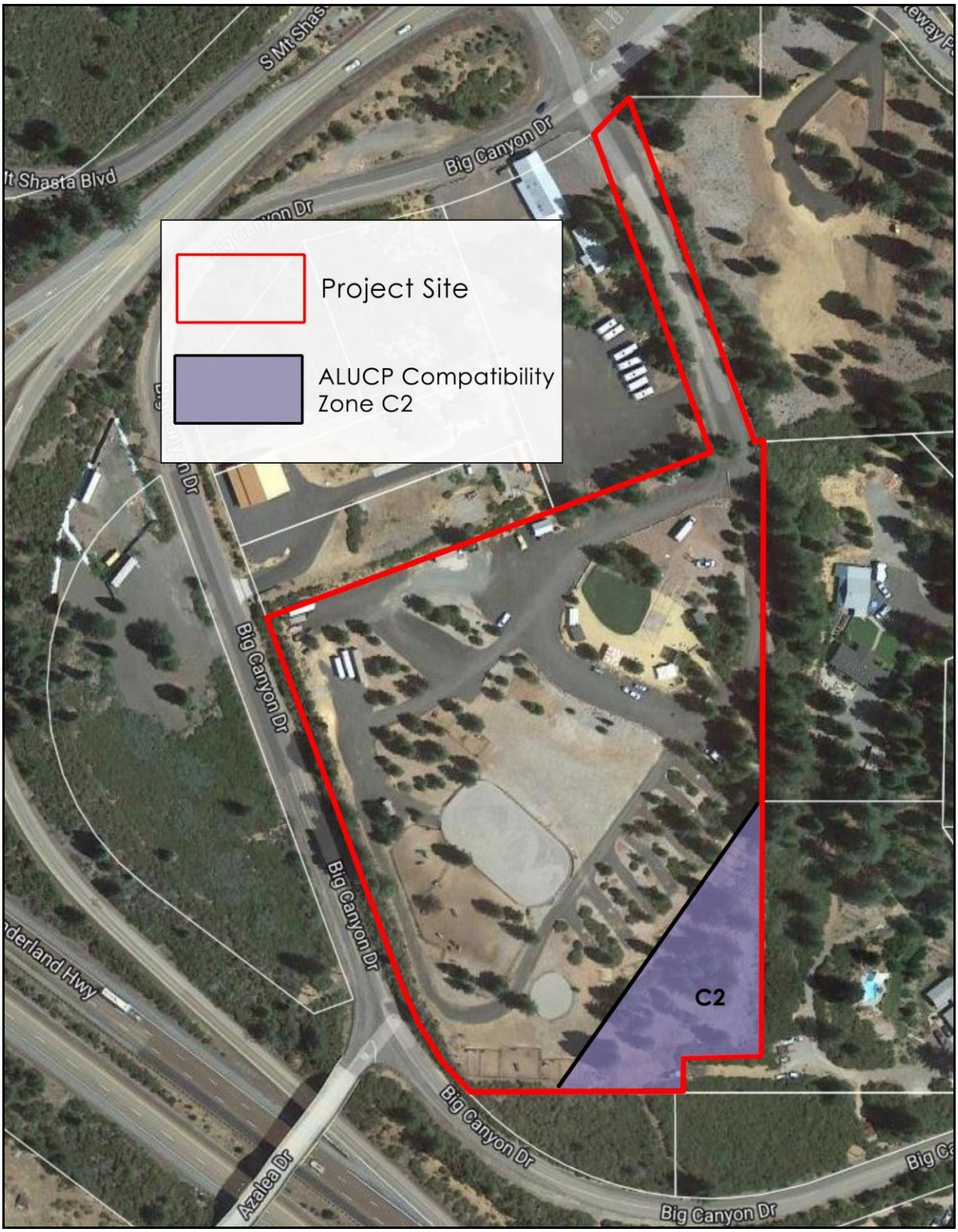

Figure 4.8-1
ALUCP Compatibility Zone C2

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
4.9 HYDROLOGY AND WATER QUALITY. Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?	☐	☐	☒	☐
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
f) Otherwise substantially degrade water quality?	☐	☐	☒	☐
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	☐	☐	☐	☒
i) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of a failure of a levee or dam?	☐	☐	☐	☒
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

Setting:

The most significant hydrologic features in the project vicinity are the Upper Sacramento River approximately 1.2 miles to the southwest and Lake Siskiyou approximately 1.5 miles to the west. No other significant surface water features exist in the project vicinity.

With no municipal sewer and water infrastructure located in the vicinity of the project site, water and wastewater services would be provided by an existing onsite well and a proposed onsite sewage disposal system, the latter of which will require a permit from the Siskiyou County Community Development Department - Environmental Health Division prior to construction. The Siskiyou County Environmental Health Division has previously evaluated the site and approved an onsite sewage disposal area for the project.

As mapped by the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Mapping program, the project site is located in Zone X, an area of minimal flood hazard (FIRM Map 06093C3025D).

Discussion of Impacts:

a) *Less Than Significant Impact.* The project would not violate water quality standards and/or waste discharge requirements. It is anticipated that some ground disturbance will be necessary during development of the septic system, barn, and multiuse structure. Nevertheless, the Upper Sacramento River, Lake Siskiyou, and other hydrologic features in the project vicinity are all sufficiently distant that there would be no adverse impacts to these features. As a result, potential impacts to water quality are considered less than significant.

b) *Less Than Significant Impact*. Although the project would result in the creation of impervious surfaces due to development of the barn and multiuse building, these impervious surfaces would be relatively limited and would not interfere with groundwater recharge. The soils at the site are considered well drained and the project site is large enough to accommodate stormwater on-site and not impede groundwater recharge. The project site also includes an existing well of sufficient production to serve current and proposed uses, resulting in Siskiyou County Environmental Health Division issuing water clearance for the project. Therefore, potential impacts to groundwater and groundwater recharge are considered less than significant.

c) *Less Than Significant Impact*. See Response 4.9(b) above. Because sufficient undeveloped land would remain adjacent to existing and future impervious surfaces, any potential minor increase in stormwater runoff would be accommodated on site. Further, the limited development potentially resulting from the project would not substantially alter drainage patterns on-site or result in substantial erosion or siltation on- or off-site.

d) *Less Than Significant Impact*. See Responses 4.9(b) and 4.9(c) above. The minor grading activities associated with future development of the barn and multiuse building would not substantially alter the existing drainage pattern such that there would be increased flooding on- or off-site.

e) *Less Than Significant Impact*. See Responses 4.9(b) through 4.9(c) above. Any minor increase in stormwater runoff resulting from development of impervious surfaces would be negligible relative to the amount of undeveloped land that would accommodate runoff on the project site.

f) *Less Than Significant Impact*. See Responses 4.9(a) through 4.9(e).

g) *No Impact*. The project is not within a 100-year flood hazard area.

h) *No Impact*. See Response 4.9(g).

i) *No Impact*. The project would not result in the failure of a levee or dam, nor would it expose people or structures to a significant risk of loss, injury or death involving flooding.

j) *No Impact*. The project site is not located near an ocean or large body of water with potential for seiche or tsunami. The project is located more than one mile from Lake Siskiyou and the Upper Sacramento River. As discussed under Responses 4.6(a)(iii) and 4.6(a)(iv), the project area is not at risk of mudflows.

Mitigation Measures:

None required.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
4.10 LAND USE AND PLANNING. Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

Setting:

Siskiyou County General Plan

The basis for land use planning in the unincorporated areas of Siskiyou County, which includes the project site, is the Siskiyou County General Plan. The Land Use Element of the General Plan provides the primary guidance on issues related to land use and land use intensity. The Land Use Element provides designations for land within the County and outlines goals and policies concerning development and use of that land.

The primary goal of the Land Use Element of the Siskiyou County General Plan is to allow the physical environment to determine the appropriate future land use pattern that will develop in the County. This is contrary to conventional planning practice in which one master land use map indicates future land use patterns based primarily on social, political, and economic factors. Its focus is for future development to occur in areas that are easiest to develop without entailing great public service costs, that have the least negative environmental effect, and that do not displace or endanger the county's critical natural resources.

The technique used for the development of the Land Use Element involved preparation of a series of overlay maps identifying development constraint areas. Constraints take the form of both natural, physical barriers or problems and those culturally imposed on the basis of resource protection. The combination of overlay maps provides a visual display of tones representing physical constraints in a particular geographic area in terms of the perceived effect of development. In identifying an absence of physical constraints, it also indicates where development may proceed without encountering known physical problems.

The Land-Use Element of the Siskiyou County General Plan identifies the project site as being located within the following mapped areas: Woodland Productivity – Highly Suitable. The following are the applicable policies established for development within the mapped resource and natural hazard area:

Policy no. 31 *The minimum parcel size shall by one acre on zero to 15 percent slope, and five areas on 16 to 29 percent slope.*

The permitted density will not create erosion or sedimentation problems.

Policy no. 32 *Single-family residential, light industrial, light commercial, open space, non-profit and non-organizational in nature recreational uses, commercial/recreational uses, and public or quasi-public uses only may be permitted.*

The permitted uses will not create erosion or sedimentation problems.

Policy no. 33 *All land uses and densities shall be designed so as not to destroy timber productivity on large parcels and suitability woodland soils. (Class I and II).*

In addition to the policy noted above, the following composite policies have been determined to be applicable to the proposed project:

Policy no. 41.3(b) *All light commercial, light industrial, multiple family residential, and commercial/recreational, public and quasi public uses must provide or have direct access to a public road capable of accommodating the traffic that could be generated from the proposed use.*

Policy no. 41.3(e) *All proposed uses of the land shall be clearly compatible with the surrounding and planned uses of the area.*

Policy no. 41.3(f) *All proposed uses of the land may only be allowed if they clearly will not be disruptive or destroy the intent of protecting each mapped resource.*

Policy no. 41.5 *All development will be designed so that every proposed use and every individual parcel of land created is a buildable site, and will not create erosion, runoff, access, or fire hazard or any other resource or environmentally related problems.*

Policy no. 41.6 *There shall be a demonstration to the satisfaction of the Siskiyou County Health Department and/or the California Regional Water Quality Control Board that sewage disposal from all proposed development will not contaminate ground water.*

Policy no. 41.7 *Evidence of water quality and quantity acceptable to the Siskiyou County Health Department must be submitted prior to development approval.*

Policy no. 41.8 *All proposed development shall be accompanied by evidence acceptable to the Siskiyou County Health Department as to the adequacy of on-site sewage disposal or the ability to connect into an existing city or existing Community Services District with adequate capacity to accommodate the proposed development. In these cases the minimum parcel sizes and uses of the land permitted for all development will be the maximum density and lands uses permitted that will meet minimum water quality and quantity requirements, and the requirements of the county's flood plain management ordinance.*

Policy no. 41.9 *Buildable, safe access must exist to all proposed uses of land. The access must also be adequate to accommodate the immediate and cumulative traffic impacts of the proposed development.*

Policy no. 41.12 *All significant historic and prehistoric places and features when identified shall be preserved and protected in accordance with accepted professional practices.*

Policy no. 41.13 *All rare and endangered plant species identified and recognized by state and federal government shall be preserved and protected in accordance with accepted professional practices.*

Policy no. 41.18 *Conformance with all policies in the Land Use Element shall be provided, documented, and demonstrated before the County may make a decision on any proposed development.*

Siskiyou County Zoning

In concert with the General Plan, the Siskiyou County Code establishes zoning districts within the County and specifies allowable uses and development standards for each district. Under state law, each jurisdiction's zoning must be consistent with its general plan. The zoning of the project site is Highway Commercial (C-H). Pursuant to Section 10-6.4402 of the Siskiyou County Code, uses permitted in the C-H zoning district include: restaurants; convenience stores; recreational vehicle parks; campgrounds; motels and hotels; a caretaker's residence; and emergency shelters. A complete list of permitted and conditionally permitted uses in the Highway Commercial District is included in **Attachment B**.

Siskiyou County Airport Land Use Compatibility Plan

According to the Siskiyou County Airport Land Use Compatibility Plan (ALUCP), a little less than one acre in the southern portion of the project site is within the area of influence for Dunsmuir Municipal-Mott Airport. The basic function of the ALUCP is to promote compatibility between the airports in Siskiyou County and the land uses that surround them. To do so, the ALUCP establishes land use designations, or compatibility zones, surrounding Siskiyou County airports to: 1) minimize public exposure to excessive noise and safety hazards, and 2) allow for future airport expansion.

Discussion of Impacts:

a) *No Impact*. The project is located adjacent in an area of sparse development and would not result in the division of an existing community.

b) *No Impact*. The project would not conflict with applicable plans that have jurisdiction over the project area. The project, including future development of the barn and multiuse building, would be consistent with the County's general plan and zoning.

c) *No Impact*. See Section 4, Biological Resources. No habitat conservation or natural community conservation plans are applicable to the project area.

Mitigation Measures:

None required.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
4.11 MINERAL RESOURCES. Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

Setting:

Historically, gold mining was responsible for the establishment of several communities within Siskiyou County. Although some mining still takes place, the resource is greatly diminished and no longer plays a significant role in the economy. Nevertheless, gold continues to draw interest in the region, especially when gold prices are high.

The State Mining and Geology Board has the responsibility to inventory and classify mineral resources and could designate such mineral resources as having a statewide or regional significance. If this designation occurs, the local agency must adopt a management plan for such identified resources. At this time, there are no plans to assess local mineral resources for the project area or Siskiyou County.

Discussion of Impacts:

a) *No Impact*. The project would not result in the loss of an available known mineral resource that would be of value to the region or residents of the state.

b) *No Impact*. See Response 4.11(a) above. There are no locally important mineral resource recovery sites within the project area delineated in the County's general plan.

Mitigation Measures:

None required.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
4.12 NOISE. Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance or of applicable standards of other agencies?	☐	☒	☐	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
e) For a project located within an airport land use plan area or, where such a plan has not been adopted, within 2 miles of a public airport or a public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Setting:

The Siskiyou County General Plan Noise Element identifies land use compatibility standards for exterior community noise for a variety of land use categories for project planning purposes. For commercial land uses such as the project, an exterior noise level of 65 Ldn (Day-Night Level) is considered "acceptable" and requires no special noise insulation or noise abatement features unless the project is itself considered a source of incompatible noise for a nearby land use. For those residential uses adjacent to the project site, an exterior noise level of 60 Ldn (Day-Night Level) is identified as acceptable. The outdoor noise level planning criteria identified in the Noise Element are intended to "assure that a 45 Ldn indoor level will be achieved by the noise attenuation of regular construction materials."

As discussed elsewhere herein, the Siskiyou County Airport Land Use Compatibility Plan (ALUCP) identifies approximately 0.9 acre in the southern portion of the project site as being within the area of influence of Dunsmuir Municipal-Mott Airport. The basic function of the ALUCP is to promote compatibility between the airports in Siskiyou County and the land uses that surround them. To do so, the ALUCP establishes land use designations, or compatibility zones, surrounding airports in the county to: 1) minimize public exposure to excessive noise and safety hazards, and 2) allow for future airport expansion. These compatibility zones are accompanied by noise contour maps for each of the airports and the lands that surround them. According to the ALUCP, less than one acre of the project site is located in Compatibility Zone C2, a zone that is

indicated as not generally being affected by aviation noise exceeding 55 dB Ldn and where such overflight annoyances are likely moderated by noise from traffic on I-5 (Shutt-Moen 2001).

Existing noise sources in the project site include local traffic on Big Canyon Drive, through traffic along Interstate 5 (I-5) and State Route 89 (SR 89), and aviation from Dunsmuir Municipal-Mott Airport. The most consistent noise at the project site is through traffic along I-5, approximately 175 feet south of the site. The speed limit on this section of I-5 is 65 MPH for passenger vehicles and 55 MPH for trucks with 3 or more axles and vehicles pulling trailers. Historic traffic volumes for I-5 and SR 89 in the vicinity of the project site are shown in tables **4.12-1** and **4.12-2** below.

Table 4.12-1
I-5 at SR 89 Historic Traffic Counts

Location	2006		2012		2016	
Interstate 5 at SR 89	AADT	Peak Month	AADT	Peak Month	AADT	Peak Month
	20,700	26,000	17,900	22,000	21,100	27,500

Source: Caltrans Traffic Census Program

Table 4.12-2
SR 89 at I-5 Historic Traffic Counts

Location	2006		2012		2016	
SR 89 at Interstate 5	AADT	Peak Month	AADT	Peak Month	AADT	Peak Month
	3,650	4,900	3,100	4,000	3,050	4,050

Source: Caltrans Traffic Census Program

Following circulation of the Draft Initial Study/Mitigated Negative Declaration for public review and comment, an Environmental Noise & Vibration Assessment was prepared by Bollard Acoustical Consultants, Inc. The results of that study (BAC 2019) have been incorporated herein and the entire study is included as **Attachment C**.

Discussion of Impacts:

a) *Less Than Significant with Mitigation Incorporated*.

Construction Noise

The project would generate temporary construction noise levels as a result of development of the septic system, barn, and multiuse building. Although construction noise is temporary in nature, it could pose a nuisance to noise-sensitive receptors adjacent to the project area. Implementation of mitigation measure **MM 12.1**, which establishes limits on hours of construction and other noise reducing strategies, would reduce potential construction noise impacts to a level that is considered less than significant.

Facility Noise

Noise levels contributed by the project include amplified music and sound, live music, and sounds emanating from event guests and their vehicles. The designated events area on the project site maintains a separation of approximately ~~125~~ 150 feet from the nearest noise-

sensitive structure, located east of the project site. ~~No noise information from existing noise generating sources were provided. However, assuming standard spherical spreading loss (6 dB per doubling of distance), and the distance of the events area from the nearest noise-sensitive structure, noise levels are anticipated to be within established noise criteria. Additionally, noise from the project site is expected to be intermittent, with amplified sounds and music being turned off by 10 pm.~~ As part of the Environmental Noise & Vibration Assessment prepared for the project, the existing noise environment was assessed along with projected noise levels generated by the project. In general, it was found that project noise impacts would be less than significant, whether from vehicles arriving and departing, doors opening and closing, event attendees, amplified music, air-conditioning equipment, or off-site traffic (see **Attachment C**). However, the Environmental Noise & Vibration Assessment also identified the potential for a significant noise impact to nearby land uses if the location and/or orientation of the sound system is deviated from or if amplified sound volumes are increased above 80 dB when measured at a distance of 50 feet in front of the speakers. Therefore, to ensure that potential noise impacts associated with amplified music and speech remain less than significant, mitigation measure **MM 12.2** is provided below.

b) *Less Than Significant Impact*. The use of blasting and/or pile drivers during construction activities is not included as part of the project. However, during construction of the septic system, barn, and multiuse building, heavy equipment would be utilized that can generate localized groundborne vibration and groundborne noise perceptible to residences or other sensitive uses in the project vicinity. However, since the duration of impact would be brief and would occur during less sensitive daytime hours (i.e., between 7:00 a.m. and 7:00 p.m.), potential impacts from construction-related groundborne vibration and groundborne noise are considered less than significant.

c) *Less Than Significant Impact*. The primary contributors to the existing noise environment surrounding the project site include motor vehicle traffic along area roadways. No permanent noise sources would be introduced to the existing noise environment by the proposed project, as noises associated with training and lessons would begin shortly prior to 8:00 a.m. and cease at 6:30 p.m. each day.

d) *Less Than Significant Impact*. See Response 4.11(a). The project may create temporary impacts to surrounding sensitive receptors on days a special event takes place at the facility. The applicant's use of amplified music includes commitments taken by the applicant to reduce the exposure to surrounding receptors, such as directing speakers away from adjacent properties with residences, prohibiting amplified noise after 10 p.m., and potentially installing other sound reduction measures. A condition of approval would also be included into the use permit for the applicant to have noise levels tested in the event of complaints and identifying additional measures to reduce obtrusive noises. Application of proposed permit conditions to reduce noise levels would further reduce temporary noises levels and result in a less-than-significant impact to neighboring properties.

e) *Less Than Significant Impact*. See Response 4.8(e). According to the ALUCP, approximately 0.9 acre in the southern portion of the project site is located within Dunsmuir Municipal-Mott Airport's Compatibility Zone C2. Although the C zones (i.e., C1 and C2) are potentially affected by aviation noise, the ALUCP indicates that land uses within Dunsmuir Municipal-Mott Airport's Zone C2 are not generally affected by aviation noise exceeding 55 dB CNEL. The ALUCP further notes that within Dunsmuir Municipal-Mott Airport's Zone C2, the threshold for annoyance with aircraft overflights is usually higher than in rural locations because of traffic noise along I-5.

f) *No Impact*. The project is not located in the vicinity of a private airstrip.

Mitigation Measures:

MM 12.1 To reduce the potential for construction noise impacts, the following measures shall be incorporated into the project construction operations:

- Construction activities during project site development are prohibited on Sundays and federal holidays, and shall occur from Monday through Friday, 7:00 a.m. to 7:00 p.m., and from 8:00 a.m. to 6:00 p.m. on Saturdays.
- All noise-producing project equipment and vehicles using internal combustion engines shall be equipped with manufacturers recommended mufflers and be maintained in good working condition.
- All mobile or fixed noise-producing equipment used on the project site that are regulated for noise output by a federal, state, or local agency shall comply with such regulations while in the course of project activity.
- Electrically powered equipment shall be used instead of pneumatic or internal-combustion-powered equipment, where feasible.
- Material stockpiles and mobile equipment staging, parking, and maintenance areas shall be located as far as practicable from noise sensitive receptors.
- Nearby residences shall be notified of construction schedules so that arrangements can be made, if desired, to limit their exposure to short-term increases in ambient noise levels.

Timing/Implementation: During grading and construction of improvements

Enforcement/Monitoring: Siskiyou County Community Development Department – Planning Division

MM 12.2 In order to reduce the potential for an exceedance of the applicable Siskiyou County residential noise level standard and FICON increase significance criteria at adjacent land uses, the following measures shall be implemented:

- Amplified event music and speech shall not exceed noise levels of 75 dB Leq and 80 dB Lmax at a distance of 50 feet from the front of the sound system speakers.
- Event sound system speakers shall not deviate from the location and orientation outlined in the Environmental Noise & Vibration Assessment prepared by Bollard Acoustical Consultants, Inc.
- All amplified event music and speech shall be restricted to daytime hours only (7:00 a.m. to 10:00 p.m.).

Timing/Implementation: Prior to and during each event at the site; Ongoing

Enforcement/Monitoring: Siskiyou County Community Development Department – Planning Division

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
4.13 POPULATION AND HOUSING. Would the project:				
a) Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	☐	☐	☒	☐
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Setting:

The project site is located approximately 0.4 mile south of the City of Mt. Shasta and 1.6 miles north of the City of Dunsmuir in an area developed with rural residential, commercial, and light industrial land uses. Adjacent zoning designations include Rural Residential Agricultural, One Acre Minimum (R-R-B-1) to the south and east, Neighborhood Commercial (C-U) and Highway Commercial (C-H) to the north, and Heavy Industrial (M-H) to the west.

Discussion of Impacts:

a) *Less Than Significant Impact*. The project has the potential to result in the development of a single caretaker's residence. As such, the project would not induce substantial population growth either directly or indirectly and potential impacts are considered less than significant.

b) *No Impact*. No housing would be displaced by the project.

c) *No Impact*. No people would be displaced by the project.

Mitigation Measures:

None required.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
4.14 PUBLIC SERVICES. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:				
a) Fire protection?	☐	☐	☒	☐
b) Police protection?	☐	☐	☒	☐
c) Schools?	☐	☐	☒	☐
d) Parks?	☐	☐	☒	☐
e) Other public facilities?	☐	☐	☐	☒

Setting:

FIRE PROTECTION

Fire protection services for the project site are provided by the Mt. Shasta Fire Protection District (MSFPD) and the site is also located in a Cal Fire State Responsibility Area. The MSFPD station is located at 600 Michele Drive, approximately 2.3 road miles northwest of the site. Additionally, the Mt. Shasta Fire Department, located at 303 North Mount Shasta Boulevard, is approximately 2.8 driving miles from the project site.

POLICE PROTECTION

Police protection services at the project site are provided by the Siskiyou County Sheriff's Department. The nearest Sheriff's Department substation is located at 241 Ski Village Drive, Mt. Shasta, located approximately 4.5 road miles from the site. Additionally, the California Highway Patrol and Mt. Shasta Police Department are both located within three miles of the project site. These agencies are likely to provide additional support to the Sheriff's Department in case of an emergency.

SCHOOLS

The area is served by the Mt. Shasta Union Elementary School District for kindergarten through 8th grade and the Siskiyou Union High School District for high school-aged children in grades 9 through 12 at Mt. Shasta High School. Both schools, located in the City of Mt. Shasta, currently operate well below capacity. Both schools also impose development fees on new construction to offset any impact development would have on increased enrollment.

RECREATION

Recreational opportunities for both youth and adults are varied and plentiful in the project area. The Upper Sacramento River and Lake Siskiyou provide opportunities for water recreation, including boating, swimming, fishing, and other outdoor activities. The Mt. Shasta Ski Park, approximately 5.5 miles northeast of the project site, includes opportunities for downhill and cross-country skiing as well as summer activities such as hiking and mountain biking. In addition, the Mt. Shasta Recreation and Parks District operates Mt. Shasta City Park, Shastice Park, and

youth sports fields at Sisson School. Features at these three facilities include playgrounds, walking and hiking paths, picnic and barbeque facilities, sports and recreational areas, skateboard park, and a roller skating/ice skating rink.

OTHER PUBLIC FACILITIES

Other public facilities found in the project vicinity include the Siskiyou County Library – Mt. Shasta Branch, the U.S. Postal Service Mt. Shasta post office, and public lands owned and administered by the Bureau of Land Management and the U.S. Forest Service.

Discussion of Impacts:

a) *Less Than Significant Impact.* The project site is located within the Mt. Shasta Fire Protection District and within a Cal Fire State Responsibility Area. Cal Fire PRC 4290 regulations are applicable at the site. The project would not affect the provision of fire protection services.

b) *Less Than Significant Impact*. The project is not expected to generate a significant increase in calls for police protective services or affect the provision of police services in the community.

c) *Less Than Significant Impact*. Although the project may include a caretaker's residence within the multiuse building when constructed, the project is a commercial endeavor and will not generate a substantial increase in school enrollment.

d) *Less Than Significant Impact.* The project is unlikely to result in increased use of nearby parks. However, trail rides could generate a slight increase in activity on the trail surrounding Lake Siskiyou. Nevertheless, the Lake Siskiyou Trail and associated facilities around the lake can accommodate any minor increase in use.

e) *No Impact*. The project would not impact any other government services or facilities.

Mitigation Measures:

None required.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
4.15 RECREATION.				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
b) Does the project include recreational facilities, or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	☐	☐	☒	☐

Setting:

Recreational opportunities for both youth and adults are varied in the project area. Parks and outdoor recreational facilities described in Section 4.14, above, provide the opportunities for a variety of public outdoor recreation activities including, fishing, boating, swimming, and water recreation.

Discussion of Impacts:

a) *Less Than Significant Impact*. Any potential minor increase in population resulting from the project would have a negligible impact on local recreation facilities and would not cause deterioration or the need for expanded or new facilities.

b) *No Impact*. See Response 4.15(a). The project is a commercial recreational facility. All potential impacts associated with its use and expansion have been addressed in this initial study and where warranted have been mitigated to a less than significant level.

Mitigation Measures:

None required.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
4.16 TRANSPORTATION/TRAFFIC. Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☒	☐
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☒	☐
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that result in substantial safety risks?	☐	☐	☒	☐
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☒	☐	☐
e) Result in inadequate emergency access?	☐	☐	☐	☒
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒

Setting:

The project site is accessed via Big Canyon Drive, a county-maintained roadway with 24' of pavement width within a 60' right-of-way. However, most vehicles would only be on Big Canyon Drive a short distance (approximately 100'), as Big Canyon Drive and the project site are most easily accessible from State Route 89 (SR 89) immediately to the north. SR 89 is a north-south trending California highway that extends between Interstate 5 (I-5) approximately 0.25 mile west of the project site and US 395 approximately 243 miles to the southeast. In the vicinity of the project site, SR 89 includes two 12' travel lanes and has a posted speed limit of 55 miles per hour (MPH). As previously indicated, SR 89 intersects with I-5 approximately 0.25 mile west of the project site. I-5 is the primary north-south arterial along the west coast and in the vicinity of the project site includes three northbound lanes and two southbound lanes, all with a posted speed limit of 65 MPH for passenger vehicles and 55 MPH for trucks with 3 or more axles and vehicles pulling trailers.

The County of Siskiyou provides a public bus system, Siskiyou Transit and General Express (STAGE), which makes several stops in Mt. Shasta and in other communities along the I-5 corridor. The nearest bus stop is located approximately 1.1 miles north of the project site at Mt Shasta Fitness.

Discussion of Impacts:

a) *Less Than Significant Impact.* Use of the project site for lessons and training, trail riding, and overnight horse boarding does not generate substantial traffic, particularly in light of the capacity of the area road network. Special events are expected to result in a temporary increase in traffic along area roadways during scheduled events. However, this traffic would be intermittent and is expected to occur during off-peak hours (i.e., weekends, evenings, etc.).

   The project was routed to the California Department of Transportation (Caltrans) for review and comment. Although Caltrans noted that a turn lane from SR 89 onto Big Canyon Drive may be required at some point in the future as the area further develops, no turn lane is required at this time to accommodate the project. As such, the increase in traffic volumes associated with the project would not cause a substantial increase in vehicle trips or intersection congestion and impacts are considered less than significant.

b) *Less Than Significant Impact*. See Response 4.16(a). The proposed project would not conflict with an applicable congestion management program or level of service standard.

c) *Less Than Significant Impact*. The closest public airport to the project site is the Dunsmuir-Mott Airport, located approximately 1.7 miles to the south. According to the Siskiyou County Airport Land Use Compatibility Plan, the project site is located in an area subject to overflights of 1,000 feet and less. However, there are no project components that exist or are proposed, including tall structures, source of glare, or other hazards to flight, that would affect air traffic patterns.

d) *Less Than Significant with Mitigation Incorporated*. The proposed project would not substantially increase hazards due to a design feature or incompatible use. Nevertheless, due to the potential volume of traffic accessing the site from SR 89 during large events, Caltrans has requested that temporary special event sign(s) and/or other traffic control measures be utilized whenever special events are held at the site that generate more than 50 vehicles. The purpose of the sign(s) and/or other traffic control measures would be to alert drivers on SR 89 to the potential for slower moving vehicles as they approach Big Canyon Drive. This will require that the facility operator obtain an encroachment permit from Caltrans prior to placement of the sign(s) and/or utilization of other traffic control measures. As such, to ensure potential transportation impacts remain less than significant, mitigation measure **MM 16.1** is included below.

e) *No Impact*. Access to the project site would be Big Canyon Drive, a county-maintained road a short distance from SR 89, a state highway. Additional trips generated by the proposed project would not impair emergency access to the site or create off-site impediments to emergency access vehicles.

f) *No Impact*. The project would not conflict with any adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

Mitigation Measures:

MM 16.1 Prior to events that generate over 50 vehicles, the facility operator shall obtain an encroachment permit from the California Department of Transportation – District 2 to provide special event signs and/or other traffic control measures based on the characteristics of the event.

Timing/Implementation: Ongoing whenever special events are held at the project site that generate more than fifty (50) vehicles

Enforcement/Monitoring: California Department of Transportation – District 2

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
4.17 TRIBAL CULTURAL RESOURCES. Would the project:				
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☐	☒	☐
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☒	☐

Setting:

On January 1, 2015, Public Resources Code (PRC) Section 21074, which defines a "tribal cultural resource", became effective. PRC Section 21074 states the following:

(a) "Tribal cultural resources" are either of the following:

(1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

(A) Included or determined to be eligible for inclusion in the California Register of Historical Resources.

(B) Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.

(2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

(b) A cultural landscape that meets the criteria of subdivision (a) is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.

(c) A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a "nonunique archaeological resource" as defined in subdivision (h) of Section 21083.2 may also be a tribal cultural resource if it conforms with the criteria of subdivision (a).

Discussion of Impacts:

a) Less Than Significant Impact. The project site is extensively disturbed from historic and existing uses and structures. No features exist on the property, including objects, sites, or landscapes, that could be considered as having cultural value to California Native American tribes, or eligible for listing in the California Register of Historic Resources. Nevertheless, should any tribal cultural resources be discovered during land disturbance activities, mitigation measures MM 5.1, MM 5.2, and MM 5.3 would provide adequate mitigation to reduce potential impacts to a level that is considered less than significant.

b) Less Than Significant Impact. See Response 4.17(a). Prior to environmental review, the project was circulated to all tribes on the County's contact list to invite consultation and avoid potential impacts to tribal cultural resources. Invitations were mailed to the Karuk Tribe, Winnemem Wintu Tribe, and the Torres Martinez Desert Cahuilla Indians. None of the tribes contacted indicated that tribal cultural resources would be affected by the project.

Mitigation Measures:

None required.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
4.18 UTILITIES AND SERVICE SYSTEMS. Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☒	☐
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
c) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐
e) Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand, in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☒	☐

Setting:

WATER

Domestic water is currently provided by an individual well located on the project site. As a result, the project has received water clearance from the Siskiyou County Environmental Health Division.

WASTEWATER

Wastewater disposal is presently addressed through the use of chemical toilets (i.e., porta-potties). However, the Siskiyou County Environmental Health Division has evaluated the project site for development of a septic system, and based on this evaluation, has approved an on-site sewage disposal area for the project site.

STORM DRAINAGE

Given the low density of development in the project vicinity and the permeability of area soils, existing storm drainage facilities are non-existent. The approximately nine-acre project site is

large enough to accommodate additional stormwater runoff associated with future development of impervious surfaces associated with the proposed barn and mixed-use building.

SOLID WASTE

The Black Butte transfer station is located at 3710 Springhill Road in Mt. Shasta. Solid waste from this transfer station is subsequently transported and disposed of at the Dry Creek Landfill in White City, Oregon. Under existing state permits, the Dry Creek Landfill may accept 972 tons of solid waste per day until the year 2056 and had an estimated remaining capacity of 28,421,000 cubic yards in 2006 (CH2M HILL, 2006).

Discussion of Impacts:

a) *Less Than Significant Impact*. Wastewater disposal is regulated under the federal Clean Water Act and the state Porter-Cologne Water Quality Control Act. The Central Valley Regional Water Quality Control Board (RWQCB) implements these acts by administering the National Pollutant Discharge Elimination System (NPDES), issuing water discharge permits, and establishing best management practices. The County Environmental Health Division has reviewed the project and has determined that a conventional on-site sewage disposal system can accommodate existing and proposed uses on the project site without adversely impacting groundwater or exceeding applicable RWQCB standards.

b) *Less Than Significant Impact*. The project site would be served by an individual well and on-site septic system. The project has received water and sewer clearance from the Siskiyou County Environmental Health Division. Mitigation measures contained elsewhere herein, such as **MM 5.1** though **MM 5.3,** adequately mitigate potential impacts associated with future development of the septic system.

c) *Less Than Significant Impact.* See Responses 4.9(c), 4.9(d) and 4.9(e). No new or expanded stormwater drainage facilities are required to serve the project. The approximately nine-acre parcel is large enough to accommodate additional stormwater runoff associated with development of the barn and multiuse building. Soils at the site can accommodate the additional runoff through percolation. No new stormwater facilities are needed to serve the project.

d) *Less Than Significant Impact*. The project would be served by an existing well previously developed on the project site. As such, the project has received water clearance from the Siskiyou County Environmental Health Division.

e) *No Impact*. See Response 4.18(a). There is no wastewater treatment provider that serves or would serve the project.

f) *Less Than Significant Impact*. Solid waste from the project site will be transported to the Black Butte Transfer Station and subsequently disposed of at the Dry Creek Landfill in southern Oregon. Under existing permits, the landfill may accept 972 tons of solid waste per day until the year 2056. The project's daily contribution to the landfill relative to the landfill's capacity is considered negligible.

g) *Less Than Significant Impact*. The proposed project would comply with all state and federal statutes regarding solid waste.

Mitigation Measures:

None required.

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

Discussion of Impacts:

a) *Less Than Significant with Mitigation Incorporated*. While a few Initial Study sections have identified the potential for significant environmental impacts without mitigation, with the implementation of mitigation measures proposed within the relevant sections of this Initial Study, all potential project impacts would be reduced to a level that is considered less than significant.

b) *Less Than Significant Impact*. There are no project-related impacts that, in conjunction with other approved or pending projects in the region, have the potential to result in cumulatively considerable impacts on the physical environment.

c) *Less Than Significant Impact*. The proposed project would not result in adverse impacts on human beings either directly or indirectly.

Mitigation Measures:

None required.

5.0 REFERENCES

5.1 DOCUMENTS REFERENCED IN INITIAL STUDY AND/OR INCORPORATED BY REFERENCE

The following documents were used or to determine the potential for impact from the proposed project. Compliance with federal, state, and local laws is assumed in all projects.

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ATTACHMENT A
CALIFORNIA NATURAL DIVERSITY DATABASE RESULTS

Scientific Name	Common Name	Federal ESA Status	State ESA Status	CDFW Status	CA Rare Plant Rank
Animals - Amphibians					
Rana boylii	Foothill yellow-legged frog	None	Candidate Threatened	SSC	-
Rana cascadae	Cascades frog	None	Candidate Endangered	SSC	-
Animals - Birds					
Pandion haliaetus	Osprey	None	None	WL	-
Coccyzus americanus occidentalis	Western yellow-billed cuckoo	Threatened	Endangered	-	-
Riparia riparia	Bank swallow	None	Threatened	-	-
Coturnicops noveboracensis	Yellow rail	None	None	SSC	-
Animals - Mammals					
Canis lupus	Gray wolf	Endangered	Endangered	-	-
Vulpes vulpes necator	Sierra Nevada red fox	Candidate	Threatened	-	-
Eumops perotis californicus	Western mastiff bat	None	None	SSC	-
Pekania pennanti	Fisher - West Coast DPS	None	Threatened	SSC	-
Euderma maculatum	Spotted bat	None	None	SSC	-
Animals - Reptiles					
Emys marmorata	Western pond turtle	None	None	SSC	-
Plants - Bryophytes					
Meesia uliginosa	Broad-nerved hump moss	None	None	-	2B.2
Plants - Vascular					
Balsamorhiza lanata	Woolly balsamroot	None	None	-	1B.2
Chaenactis suffrutescens	Shasta chaenactis	None	None	-	1B.3
Eurybia merita	Subalpine aster	None	None	-	2B.3
Cuscuta jepsonii	Jepson's dodder	None	None	-	1B.2
Trifolium siskiyouense	Siskiyou clover	None	None	-	1B.1
Scutellaria galericulata	Marsh skullcap	None	None	-	2B.2
Epilobium oreganum	Oregon fireweed	None	None	-	1B.2
Botrypus virginianus	Rattlesnake fern	None	None	-	2B.2
Ophioglossum pusillum	Northern adder's-tongue	None	None	-	2B.2
Cordylanthus tenuis ssp. *pallescens*	Pallid bird's-beak	None	None	-	1B.2
Penstemon filiformis	Thread-leaved beardtongue	None	None	-	1B.3
Stuckenia filiformis ssp. *alpina*	Slender-leaved pondweed	None	None	-	2B.2
Moneses uniflora	Woodnymph	None	None	-	2B.2
Geum aleppicum	Aleppo avens	None	None	-	2B.2
Rosa gymnocarpa var. *serpentina*	Gasquet rose	None	None	-	1B.3

ATTACHMENT B
HIGHWAY COMMERCIAL ZONING DISTRICT REGULATIONS

Article 44. - Highway Commercial District (C-H)

Sec. 10-6.4401. - C-H District.

The regulations set forth in this article shall apply in the Highway Commercial District. There is currently no C-H District established by this chapter. The C-H District is intended for commercial uses to serve the highway traveler. The bulk of highway frontage in the County is not appropriate for commercial uses. Therefore, highway commercial uses shall be located in existing communities or carefully selected points outside communities. For reasons of safety, congestion, traffic control, and minimizing other adverse impacts, the C-H District shall be established on parcels sufficiently large enough to provide safe highway access, maneuvering parking, and related activities.

Sec. 10-6.4402. - Uses permitted.

The following uses shall be permitted in the C-H District:

(a) Automobile service stations, automobile car washes, repair garages (not including body shops), and towing services provided all operations, except servicing with petroleum products, air, and water, be conducted and confined within an enclosed building;

(b) Restaurant and refreshment stands;

(c) Convenience stores;

(d) Recreational vehicle parks, when established on a site of not less than five (5) acres and at a density not to exceed fifteen (15) recreational vehicle spaces per acre;

(e) Camp grounds;

(f) Motels and hotels;

(g) Public service facilities (for example, rest areas, parks, and utility substations);

(h) Truck service stations and fuel yards;

(i) On- and off-sale liquor establishments;

(j) Theaters;

(k) Health clubs;

(l) A caretaker's residence accessory to permitted uses; provided the permitted use requires the continuous supervision of a caretaker, superintendent or security person and the residence is to be occupied only by such person and his or her family; and

(m) Emergency shelters.

Sec. 10-6.4403. - Conditional uses permitted.

In addition to the uses listed above, the uses listed in Article 15, General Provisions, may also be permitted, subject to the issuance of a use permit.

ATTACHMENT C
ENVIRONMENTAL NOISE & VIBRATION ASSESSMENT

Environmental Noise & Vibration Assessment

Iron Horse Unlimited Events Center

Mt. Shasta (Siskiyou County), California

BAC Job # 2019-019

Prepared For:

Iron Horse Unlimited, LLC

Ruth and Matt Altes
P.O. Box 1048
Mt. Shasta, CA 96067

Prepared By:

Bollard Acoustical Consultants, Inc.

Dario Gotchet, Consultant

May 10, 2019

BOLLARD
Acoustical Consultants

CEQA Checklist

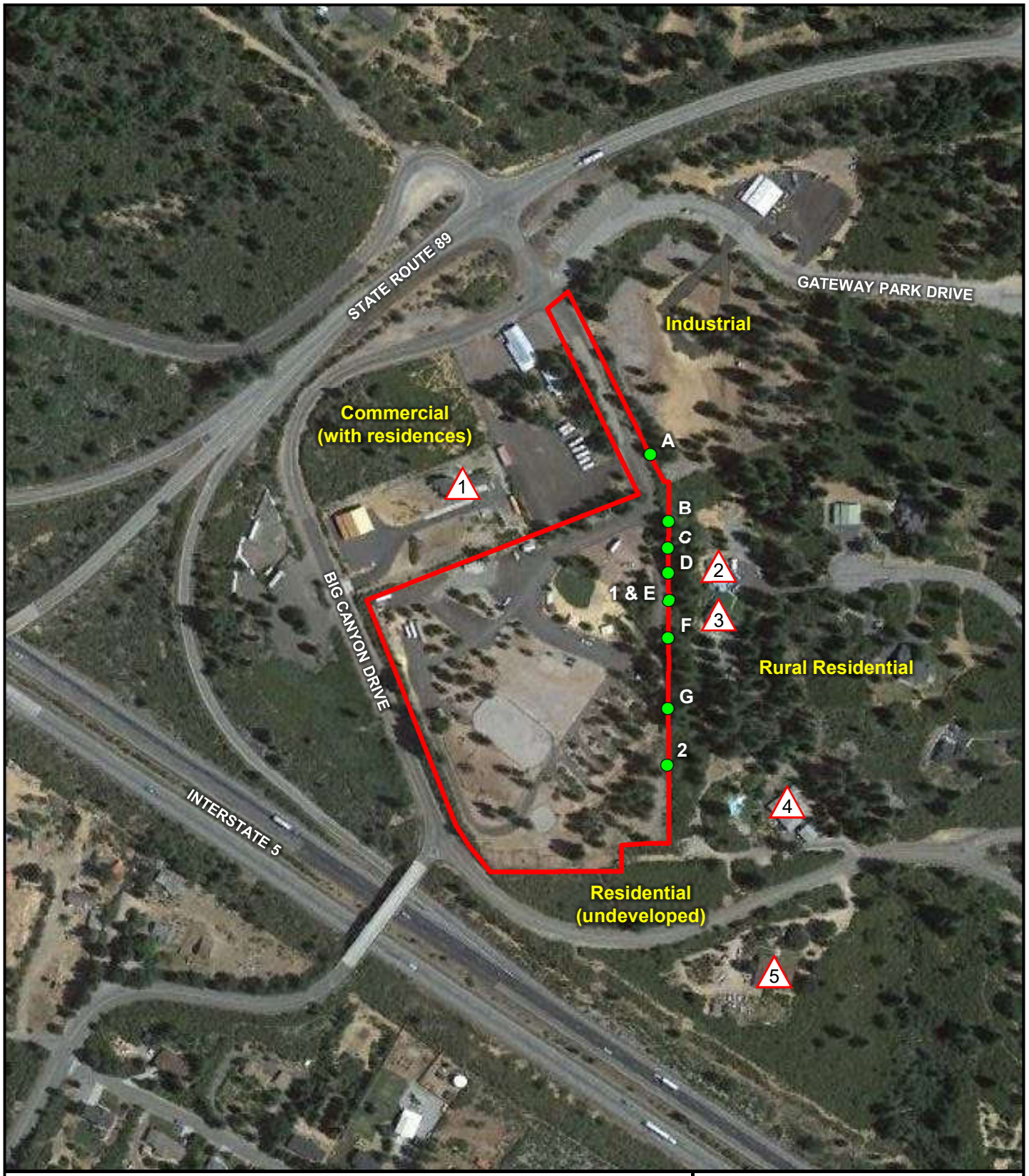
NOISE AND VIBRATION **–** **Would the Project Result in:**	**NA – Not Applicable**	**Potentially Significant Impact**	**Less than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Generation of substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or in other applicable local, state, or federal standards?			**X**		
b) Generation of excessive groundborne vibration or groundborne noise levels?				**X**	
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				**X**	

Introduction

The Iron Horse Unlimited Events Center (project) is located at 138 Big Canyon Drive in Mt. Shasta (Siskiyou County), California. The project site is commercially zoned, bordered by Big Canyon Drive to the west, a residential triplex on commercially zoned property to the northwest, limited commercial and industrial uses to the north near State Route 89, single-family rural residential uses to the east, and an undeveloped residentially zoned parcel, Big Canyon Drive, and Interstate 5 to the south. The project site location and adjacent land uses are shown on Figure 1. The project site plan is presented as Figure 2.

The project is a proposed use permit (UP-18-02) to bring an existing unpermitted equestrian training/event facility into compliance with Siskiyou County Code as well as to facilitate future on-site improvements to support existing and proposed uses. The nine-acre project site is currently used for horse boarding/training, riding lessons, trail riding, and outdoor events including weddings, parties, and retreats. The use permit would allow current unpermitted land uses to continue, allow for training clinics, establish a limit on the number of special events per year, allow for the development of an on-site septic system and additional structures, and establish other conditions of approval to ensure operations remain compatible with adjacent land uses. A draft initial study/mitigated negative declaration (DIS/MND) was completed for the project by Siskiyou County in October of 2018.

Due to the potential noise generation of the project relative to adjacent residences, Bollard Acoustical Consultants, Inc. (BAC) was retained by the project applicant to prepare this noise and vibration assessment. The purposes of this analysis are to quantify existing ambient noise and vibration levels at the boundary of the project site and adjacent residences, to predict the noise and vibration generation of the various aspects of the project, and to compare project-generated noise and vibration levels against the applicable Siskiyou County criteria and measured ambient noise and vibration environments.



Legend

- Project Border (Approximate)
- # Nearest Noise-Sensitive Receivers (Residences)
- Long-Term (#) and Short-Term (A) Noise Survey Locations

N

Scale (Feet)

0 150 300

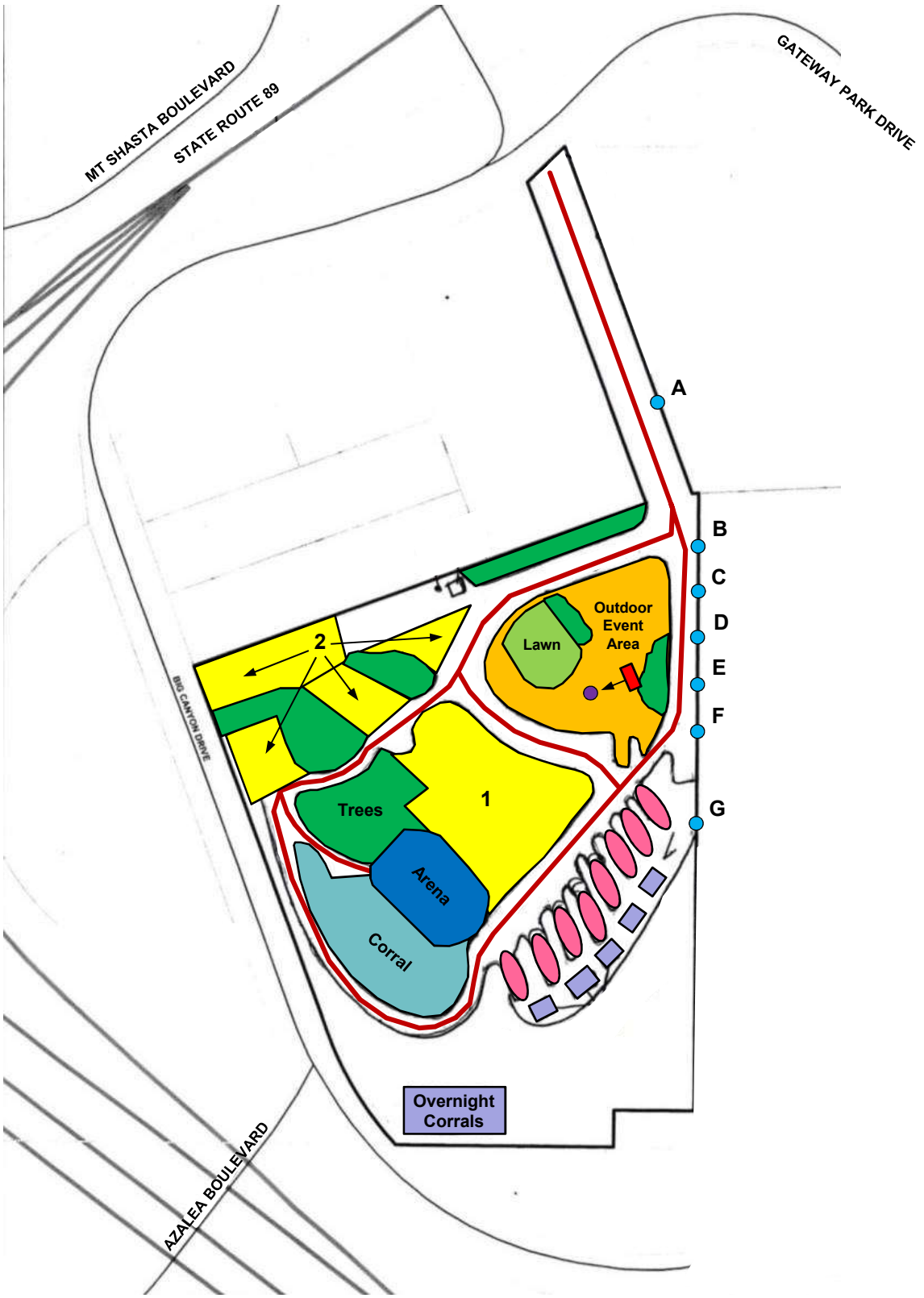
Iron Horse Unlimited
Events Center

Mt. Shasta (Siskiyou County), California

Project Area, Noise Measurement Locations, and Adjacent Land Uses

Figure 1

BOLLARD Acoustical Consultants



Legend

- Amplified Music Simulation – Measurement Locations
- Amplified Music Simulation – Reference Measurement Location (50 feet)
- Amplified Music Simulation – Speakers/Sound System Setup Location
- Parking Areas
- Recreational Vehicle/Trailer Parking Spaces
- Roadway

N

Scale (Feet)

0 75 150

Iron Horse Unlimited
Events Center

Mt. Shasta (Siskiyou County), California

Facility Areas and Amplified Music Simulation Measurement Locations

Figure 2

BOLLARD Acoustical Consultants

Noise and Vibration Fundamentals

Noise

Noise is simply described as unwanted sound. Sound is defined as any pressure variation in air that the human ear can detect. Discussing sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel (dB) scale was devised. The decibel scale uses the hearing threshold (20 micropascals of pressure), as a point of reference, defined as 0 dB. Other sound pressures are compared to the reference pressure and the logarithm is taken to keep the numbers in a practical range. The dB scale allows a million-fold increase in pressure to be expressed as 120 dB.

To better relate overall sound levels and loudness to human perception, frequency-dependent weighting networks were developed. There is a strong correlation between the way humans perceive sound and A-weighted sound levels. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment for community exposures. All sound levels expressed as dB in this section are A-weighted sound levels, unless noted otherwise. Definitions of acoustical terminology are provided in Appendix A. Appendix B shows common noise levels associated with various sources.

Community noise is commonly described in terms of the "ambient" noise level, which is defined as the all-encompassing noise level associated with a given noise environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level (L_{eq}), over a given time period (usually one hour). The L_{eq} is the foundation of the composite noise descriptors, day-night average level (L_{dn}) and the community noise equivalent level (CNEL), and shows very good correlation with community response to noise for the average person. The median noise level descriptor, denoted L_{50}, represents the noise level which is exceeded 50% of the hour. In other words, half of the hour ambient conditions are higher than the L_{50} and the other half are lower than the L_{50}.

The L_{dn} is based upon the average noise level over a 24-hour day, with a +10 dB weighting applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because L_{dn} represents a 24-hour average, it tends to disguise short-term variations in the noise environment. Where short-term noise sources are an issue, noise impacts may be assessed in terms of maximum noise levels, hourly averages, or other statistical descriptors.

The perceived loudness of sounds and corresponding reactions to noise are dependent upon many factors, including sound pressure level, duration of intrusive sound, frequency of occurrence, time of occurrence, and frequency content. As mentioned above; however, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by weighing the frequency response of a sound level meter by means of the standardized A-weighing network. Appendix B shows examples of noise levels for several common noise sources and environments.

It is generally recognized that an increase of at least 3 dB of similar sources is usually required before most people will perceive a change in noise levels in the community, and an increase of 6 dB is required before the change will be clearly noticeable. A common practice is to assume that a minimally perceptible increase of 3 dB represents a significant increase in ambient noise levels. This approach is very conservative, however, when applied to noise conditions substantially below levels deemed acceptable in general plan noise elements or in noise ordinances.

Vibration

Vibration is like noise in that it involves a source, a transmission path, and a receiver. While vibration is related to noise, it differs in that noise is generally considered to be pressure waves transmitted through air, while vibration is usually associated with transmission through the ground or structures. As with noise, vibration consists of an amplitude and frequency. A person's response to vibration will depend on their individual sensitivity as well as the amplitude and frequency of the source.

Vibration can be described in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration measures in terms of velocity in inches per second or root-mean-square (RMS) in VdB. Standards pertaining to perception as well as damage to structures have been developed for vibration in terms of peak particle velocity as well as RMS velocities.

As vibrations travel outward from the source, they excite the particles of rock and soil through which they pass and cause them to oscillate. Differences in subsurface geologic conditions and distance from the source of vibration will result in different vibration levels characterized by different frequencies and intensities. In all cases, vibration amplitudes will decrease with increasing distance. The maximum rate, or velocity of particle movement, is the commonly accepted descriptor of the vibration "strength".

Human response to vibration is difficult to quantify. Vibration can be felt or heard well below the levels that produce any damage to structures. The duration of the event has an effect on human response, as does frequency. Generally, as the duration and vibration frequency increase, the potential for adverse human response increases.

According to the Transportation and Construction-Induced Vibration Guidance Manual (Caltrans, June 2004), operation of construction equipment and construction techniques generate ground vibration. Traffic traveling on roadways can also be a source of such vibration. At high enough amplitudes, ground vibration has the potential to damage structures and/or cause cosmetic damage. Ground vibration can also be a source of annoyance to individuals who live or work close to vibration-generating activities. However, traffic, rarely generates vibration amplitudes high enough to cause structural or cosmetic damage.

Regulatory Setting: Criteria for Acceptable Noise and Vibration Exposure

Federal

Federal Transit Administration (FTA)

The Siskiyou General Plan does not currently have adopted standards for groundborne vibration. As a result, vibration impact assessment criteria established by the U.S. Department of Transportation's Federal Transit Authority (FTA) criteria was applied to the project. The FTA vibration impact criteria is based on maximum overall levels for a single event, such as vehicle passbys on roadways and heavy equipment operations. This vibration impact criteria, identified in Table 6-3 of the FTA's Transit Noise and Vibration Impact Assessment Manual (September 2018), has been reproduced below in Table 1.

Table 1
Groundborne Vibration Impact Criteria

Land Use Category	Groundborne Vibration Impact Levels (VdB re 1 µinch/sec, RMS)		
	Frequent Events[1]	Occasional Events[2]	Infrequent Events[3]
Category 1 – Buildings where vibration would interfere with interior operations	65[4]	65[4]	65[4]
Category 2 – Residences and buildings where people normally sleep	72	75	80
Category 3 – Institutional land uses with primarily daytime use	75	78	83

Notes:

1 "Frequent Events" is defined as more than 70 vibration events of the same source per day.

2 "Occasional Events" is defined as between 30 and 70 vibration events of the same source per day.

3 "Infrequent Events" is defined as fewer than 30 vibration events of the same kind per day.

4 This criterion limit is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes. For equipment that is more sensitive, a Detailed Vibration Analysis must be performed.

Source: Federal Transit Administration (FTA), Transit Noise and Vibration Impact Assessment Manual (Sep. 2018), Table 6-3

State of California

California Environmental Quality Act (CEQA)

The State of California has established regulatory criteria that are applicable to this assessment. Specifically, Appendix G of the State of California Environmental Quality Act (CEQA) Guidelines are used to assess the potential significance of impacts pursuant to local General Plan policies, Municipal Code standards, or the applicable standards of other agencies. According to Appendix

G of the CEQA guidelines, the project would result in a significant noise or vibration impact if the following occur:

A. Generation of substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or in other applicable local, state, or federal standards?

B. Generation of excessive groundborne vibration or groundborne noise levels?

C. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

It should be noted that audibility is not a test of significance according to CEQA. If this were the case, any project which added any audible amount of noise to the environment would be considered unacceptable according to CEQA. Because every physical process creates noise, the use of audibility alone as significance criteria would be unworkable. CEQA requires a substantial increase in ambient noise levels before noise impacts are identified, not simply an audible change.

Local

Siskiyou County General Plan Noise Element

Table 13 of the Siskiyou County General Plan Noise Element contains ranges of acceptable noise levels for a variety of land use types. That table, which is reproduced as Table 2 in this report, identifies acceptable noise environments of 60 dB L_{dn} for residential land uses. In addition, the Noise Element also suggests that interior community noise levels, with windows closed, attributable to exterior sources, shall not exceed a 45 dB L_{dn} in any habitable room.

Table 2
Land Use Compatibility for Exterior Community Noise

Land Use Category	Noise Ranges (L_{dn})			
	1	**2**	**3**	**4**
Auditoriums, concert halls, amphitheaters, music halls Passively-used open space (quiet or contemplation areas of public parks)	50	50-55	55-70	70
Residential. All Dwellings including single-family, multi-family, group quarters, mobile homes, etc. Transient lodging, hotels, motels. School classrooms, libraries, churches. Hospitals, convalescent homes, etc. Actively utilized playgrounds, neighborhood parks, golf courses.	60	60-65	65-75	75
Office buildings, personal business and professional services. Light commercial. Retail, movie theaters, restaurants. Heavy commercial. Wholesale, industrial, manufacturing, utilities, etc.	65	65-70	70-75	75

Notes:

Noise Range 1
Acceptable land use. No special noise insulation or noise abatement requirements unless the proposed development is itself considered a source of incompatible noise for a nearby land use (i.e., and industry locating next to residential uses).

Noise Range 2
New construction or development allowed only after necessary noise abatement features are included in design. Noise studies may be required if the proposed development is itself considered a source of incompatible noise for a nearby land use.

Noise Range 3
New construction or development should generally be avoided unless a detailed analysis of noise reduction requirements is completed and needed noise abatement features included in design.

Noise Range 4
New construction or development generally not allowed.

Source: Siskiyou County General Plan Noise Element, Table 13

Thresholds of Significance for Project-Related Noise Level Increases

Siskiyou County does not have a specific policy for assessing noise impacts associated with increases in ambient noise levels from project-generated on-site activities or off-site traffic on the local roadway network. It is generally recognized that an increase of at least 3 dB for similar noise sources is required before most people will perceive a change in noise levels, and an increase of 6 dB is required before the change will be clearly noticeable (Egan, Architectural Acoustics, page 21, 2007, McGraw Hill). However, where two noise sources differ, a smaller change in noise levels is necessary for the change to be perceptible.

The Federal Interagency Commission on Noise (FICON) has developed a graduated scale for use in the assessment of project-related noise level increases. Table 3 was developed by FICON as a means of developing thresholds for impact identification for project-related noise level increases. The FICON standards have been used extensively in recent years by the authors of

this section in the preparation of the noise sections of Environmental Impact Reports that have been certified in many California Cities and Counties.

The use of the FICON standards are considered conservative relative to thresholds used by other agencies in the State of California. For example, the California Department of Transportation (Caltrans) requires a project-related traffic noise level increase of 12 dB for a finding of significance, and the California Energy Commission (CEC) considers project-related noise level increases between 5-10 dB significant, depending on local factors. Therefore, the use of the FICON standards, which set the threshold for finding of significant noise impacts as low as 1.5 dB, provides a very conservative approach to impact assessment for this project.

Table 3
Significance of Changes in Cumulative Noise Exposure

Ambient Noise Level Without Project	Increase Required for Significant Impact
<60 dB	+5.0 dB or more
60-65 dB	+3.0 dB or more
>65 dB	+1.5 dB or more

Source: Federal Interagency Committee on Noise (FICON)

Based on the FICON research, as shown in Table 3, a 5 dB increase in noise levels due to a project is required for a finding of significant noise impact where ambient noise levels without the project are less than 60 dB. Where pre-project ambient conditions are between 60 and 65 dB, a 3 dB increase is applied as the standard of significance. Finally, in areas already exposed to higher noise levels, specifically pre-project noise levels in excess of 65 dB, a 1.5 dB increase is considered by FICON as the threshold of significance.

As noted previously, audibility is not a test of significance according to CEQA. If this were the case, any project which added any audible amount of noise to the environment would be considered unacceptable according to CEQA. Because every physical process creates noise, whether by the addition of a single vehicle on a roadway, or a tractor in an agricultural field, the use of audibility alone as significance criteria would be unworkable. CEQA requires a substantial increase in ambient noise levels before noise impacts are identified, not simply an audible change.

Environmental Setting – Existing Ambient Noise and Vibration Environment

Noise Environment

The ambient noise environment in the immediate project vicinity is defined primarily by traffic noise from Interstate 5 and State Route 89. To generally quantify existing ambient noise levels in the project vicinity, BAC conducted a long-term (24-hour) ambient noise survey at two locations on the project site on April 17-18, 2019. The long-term noise measurement locations are shown on Figure 1, identified as Sites 1 and 2. Photographs of the noise survey locations are provided in Appendix C. The noise measurement sites were located on the eastern end of the project

property boundary, and were selected to be representative of the existing ambient noise environment at the nearest residences to the east of the project site.

Larson Davis Laboratories (LDL) Models 820 and 831 precision integrating sound level meters were used for the long-term ambient noise level survey. The meters were calibrated before use with an LDL Model CA200 acoustical calibrator to ensure the accuracy of the measurements. The equipment used meets all specifications of the American National Standards Institute requirements for Type 1 sound level meters (ANSI S1.4). The results of the long-term ambient noise survey are shown numerically and graphically in Appendices D and E (respectively), and are summarized below in Table 4.

Table 4
Summary of Long-Term Ambient Noise Monitoring Results[1]
Iron Horse Unlimited Events Center – Mt. Shasta (Siskiyou County), California
April 17-18, 2019

Description[2]	L_{dn}, dB	Average Measured Hourly Noise Levels (dB)[3]			
		Daytime[4]		Nighttime[5]	
		L_{eq}	L_{max}	L_{eq}	L_{max}
Site 1: Eastern end of the project site along boundary, adjacent to Receivers 2 and 3.	58	51 (48-55)	67 (60-74)	52 (49-54)	65 (59-74)
Site 2: Southeastern end of the project site along boundary, adjacent to Receiver 4.	61	53 (47-56)	64 (54-76)	55 (53-57)	67 (62-73)

Notes:
[1] Detailed summaries of the noise monitoring results are provided in Appendices D and E.
[2] Long-term ambient noise monitoring locations are identified on Figure 1.
[3] Noise levels are presented in the following format: Average (Low-High)
[4] Daytime hours: 7 a.m. to 10 p.m.
[5] Nighttime hours: 10 p.m. to 7 a.m.
Source: Bollard Acoustical Consultants, Inc. (2019)

Vibration Environment

During a site visit on April 17, 2019, BAC staff noted that vibration levels were below the threshold of perception at the project site and in the immediate project vicinity. Therefore, the existing vibration environment in the immediate project vicinity is considered to be negligible.

Impacts and Mitigation Measures

Methodology

The project is a proposed use permit to bring an existing equestrian training/event facility into compliance as well as for to facilitate future on-site improvements to support existing and proposed uses. The project site is currently used for horse boarding/training, riding lessons, trail riding, and outdoor events including weddings, parties and retreats.

The project DIS/MND states that on-site training and lessons generally occur Monday through Saturday between 8:00 a.m. and 6:30 p.m., while special events are principally held on Saturdays during the summer months between 12:00 p.m. and 10:00 p.m. Depending upon the type of event, there are usually one to five employees working on-site, with riding lessons, training, and overnight guests averaging approximately 20 guests per day during the busiest time of the year. Further, with the exception of one annual event at the facility that allows up to 600 people, special events typically include fewer than 250 guests.

The use permit would: 1) allow these existing uses to continue; 2) allow for training clinics 3-5 times per year with up to 75 people and 25 horses; 3) establish a limit on the number of special events to 20 per year; 4) establish other conditions of approval to ensure operations remain compatible with adjacent land uses; and 5) allow for the development of an on-site septic system and two additional structures.

Major noise-producing components associated with the project have been identified as facility parking lot activities (e.g., vehicles arriving and departing, doors opening and closing, etc.), event crowd noise, event amplified music, air-conditioning equipment associated with recreational vehicles, project construction activities, and off-site traffic increases.

Evaluation of Off-Site Traffic Noise Level Increases in the Project Vicinity

The project site is accessed via Big Canyon Drive on the northern end of the project site. According to the project DIS/MND, most vehicles would on be on Big Canyon Drive for a short distance (approximately 100 feet), as Big Canyon Drive and the project site are most easily accessible from State Route 89. As a result, the greatest impact from project-generated off-site traffic is expected to be on State Route 89.

To assess noise impacts due to project-related traffic increases on State Route 89, BAC utilized the provided event capacity information (to estimate event trip generation) with the Federal Highway Administration Highway Traffic Noise Prediction Model (FHWA-RD-77-108), and existing (2017) Caltrans traffic volumes. The FHWA model was used in conjunction with the CALVENO reference noise emission curves, and accounts for vehicle volume and speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the project site, and is generally considered to be accurate within 1.5 dB if the input variables are properly accounted for. The FHWA model was developed to predict hourly L_{eq} values for free-flowing traffic conditions. To calculate L_{dn}, average daily traffic (ADT) volume data is manipulated based on the assumed day/night distribution of traffic. The FHWA model inputs and predicted traffic noise levels are provided in Appendix F of this report.

According to the project DIS/MND, special events at the property typically include up to 250 guests, with the exception of one annual event of up to 600 persons. As indicated in Appendix F-1, the predicted traffic noise exposure from a 600 person event at the project site (worst-case) computes to 49 dB L_{dn} at a distance of 100 feet from the centerline of State Route 89. The data presented in Appendix F-2 indicate that existing State Route 89 traffic noise exposure computes to 67 dB L_{dn} at a distance of 100 feet from the centerline.

Evaluation of Noise Generated from On-Site Activities at Nearest Residences

Event Parking Lot Movement Noise Generation

According to the project DIS/MND, the project site contains five large gravel parking areas to accommodate guests, staff, and event caterers. The parking area locations are shown on Figure 2. The largest parking area is centrally located on the project site near the arena, while the remaining four are located near the northern end of the site. For the purposes of this analysis, the five parking areas were combined into a total of two areas, identified as Parking Areas 1 and 2 on Figure 2. Because it is possible that a 600 person event could occur on the property, the following analysis of event parking lot noise levels assumes an event with 600 guests (worst-case). Based on this information, it was assumed that parking areas could accommodate up to 400 vehicles. A total of 400 vehicles was evenly distributed between Parking Areas 1 and 2.

As a means of determining potential noise exposure due to event parking lot activities, BAC utilized specific parking lot noise level measurements conducted by BAC. Specifically, a series of individual noise measurements were conducted of multiple vehicle types arriving and departing a parking area, including engines starting and stopping, car doors opening and closing, and persons conversing as they entered and exited the vehicles. The results of those measurements revealed that individual parking lot movements generated mean noise levels of 70 dB SEL at a reference distance of 50 feet. The maximum noise level associated with parking lot activity typically did not exceed 65 dB L_{max} at the same reference distance.

For a conservative assessment of parking area noise generation, it was assumed that the parking area could completely fill or empty during a peak hour of event operations. However, it is likely that parking area activity would be more spread out. Parking area noise exposure was determined using the following equation:

$$Peak\ Hour\ L_{eq} = 70+10*log\ (N) - 35.6$$

Where 70 is the SEL for a single automobile parking operation at a reference distance of 50 feet, N is the number of parking area operations in a peak hour, and 35.6 is 10 times the logarithm of the number of seconds in an hour.

As mentioned previously, it is our understanding that all special events at the project site would occur between the hours of 12:00 p.m. and 10:00 p.m. Using the equation provided above, the cited vehicle capacity assumptions and event hours of operation, and measured BAC parking lot noise measurement data, data were projected from the effective noise center of the proposed parking areas to the nearest receivers (residences) based on a sound level decay rate of -6 dB per doubling of distance from the source. The results of that analysis are presented in Table 5.

According to BAC staff field observations, and subsequently verified in an a review of Google Earth aerial imagery and elevation information of the project vicinity, the adjacent receivers to the east and south (Receivers 2-5) are recessed in elevation relative to the project site. Specifically, a review of the Google Earth topography and elevation information revealed that the elevations at nearest receivers to the south and east range from approximately 20 feet (Receiver 2) to 60 feet (Receiver 5) below the project parking areas. Further, based on the locations of the effective

noise center of the parking areas (centrally-located and northern end), intervening topography would break line of sight of the parking areas at Receivers 2-5. To account for the shielding provided by intervening topography at recessed receivers, the predicted parking area noise levels at Receivers 2-5 have been conservatively adjusted by -5 dB. No adjustments were made to predicted parking area noise levels at Receiver 1.

Table 5
Predicted Exterior Worst-Case Event Parking Area Noise Levels at Nearest Receivers
Iron Horse Unlimited Event Center – Mt. Shasta (Siskiyou County), CA

Description[1]	Distance from Nearest Parking Area Focal Point (feet)[2]	Predicted Event Parking Area Noise Levels (dBA)[3,4]		
		L_{eq}	L_{max}	L_{dn}[5]
Parking Area 1 to Receiver 2	370	35	43	32
Parking Area 1 to Receiver 3	340	36	43	33
Parking Area 1 to Receiver 4	515	32	40	30
Parking Area 1 to Receiver 5	720	29	37	29
Parking Area 2 to Receiver 1	210	45	53	41
Siskiyou County General Plan Noise Level Standard – Residential Uses				**60**

Notes:

[1] Receiver locations are shown on Figure 1. Figure 2 shows the locations of the parking areas. For the purposes of this analysis, the five parking areas were combined into two (Parking Areas 1 and 2).

[2] Distances measured from the effective noise center of the parking areas to the nearest receivers.

[3] Predicted parking area noise levels based on a reference noise level of 70 dB SEL and 65 dB Lmax per parking lot movement at a distance of 50 feet, and a sound attenuation rate of -6 dB per doubling of distance.

[4] Predicted parking area noise levels at Receivers 2-5 take into consideration intervening topography that would break line of sight of the effective noise center of the parking lot areas, and have been conservatively adjusted by -5 dB to account for this screening.

[5] Calculated Ldn conservatively assumes that parking areas could either fill or empty during a peak hour of event operations for the entire duration of an event (12:00 p.m. to 10:00 p.m.).

Source: Bollard Acoustical Consultants, Inc. (2019)

Event Crowd Noise Generation

According to the project DIS/MND, training and lessons at the arena occur Monday through Saturday between the hours of 8:00 a.m. and 6:30 p.m., while special events are principally held on Saturdays during the summer months between 12:00 p.m. and 10:00 p.m. The use permit would allow for training clinics at the arena with up to 75 people. In addition, with the exception of one annual event at the facility that allows up to 600 people, special events typically include up to 250 guests. The locations of the riding arena and outdoor events area are shown on Figure 2.

In order to quantify crowd noise generated from the riding arena and outdoor event area at the nearest receivers, BAC utilized reference file data for persons speaking in normal and raised voices (normal voice = 57 dB per person at 3 feet; raised voice = 64 dB per person at 3 feet) and persons clapping (golf clap = 55 dB per person at 10 feet; normal clap = 65 dB per person at 10 feet; enthusiastic clap = 75 dB per person at 10 feet). Using the provided reference file data, conservatively assuming approximately 50% of the crowd is conversing simultaneously, that clapping would occur up to 10% of the hour, and assuming standard spherical spreading loss (-6 dB per doubling of distance), data were projected from the effective noise centers of the riding

arena (crowd area) and outdoor event area to the nearest receivers. The results of those projections are summarized in Table 6.

The following analysis of event crowd noise at the arena conservatively assumes a riding competition event could have 250 persons spectating. Further, the analysis of event crowd noise at the outdoor event area assumes an event containing 600 persons. Lastly, it was conservatively assumed that arena and outdoor event area crowds would be conversing as indicated in the above-mentioned discussion for the duration of an entire event (i.e., 8:00 a.m. to 6:30 p.m. at the riding arena; 12:00 p.m. to 10:00 p.m. at the outdoor event area) from within the outdoor event area. The results presented in Table 6 are considered to be worst-case event crowd noise at the nearest receivers.

The predicted riding arena and outdoor event area crowd noise levels at Receivers 2-5 take into consideration intervening topography that would break line of sight of the effective noise center of those areas, and have been conservatively adjusted by -5 dB to account for this screening. No adjustments were made to predicted event crowd noise levels Receiver 1.

Table 6
Predicted Exterior Worst-Case Event Crowd Noise Levels at Nearest Receivers
Iron Horse Unlimited Event Center – Mt. Shasta (Siskiyou County), CA

Location[1]	Receiver	Distance from Area Focal Point (feet)[2]	Predicted Event Crowd Noise Levels (dBA)[3]		
			L_{eq}	L_{max}	L_{dn}[4]
Outdoor Event Area	1	330	53	68	49
	2	200	53	67	49
	3	200	53	67	49
	4	540	44	59	40
	5	800	41	55	37
Riding Arena Area	1	450	47	61	44
	2	440	42	56	39
	3	400	43	57	40
	4	520	41	55	38
	5	690	38	52	35
Siskiyou County General Plan Noise Level Standard – Residential Uses					**60**

Notes:

1 Receiver locations are shown on Figure 1. Figure 2 shows the locations of the riding arena and outdoor event area.

2 Distances measured from the effective noise centers of the riding arena and outdoor event area to the nearest receivers.

3 Predicted event crowd noise levels at Receivers 2-5 take into consideration intervening topography that would break line of sight of the focal center of the crowds at the event areas, and have been conservatively adjusted by -5 dB to account for this screening.

4 Calculated event crowd Ldn at the outdoor event area conservatively assumes 600 people conversing as discussed in the outdoor event area for the entire duration of an event (12:00 p.m. to 10:00 p.m.). Calculated event crowd Ldn at the riding arena area conservatively assumes 250 people conversing as discussed in the riding arena area for the entire duration of a potential competition (8:;00 a.m. to 6:30 p.m.).

Source: Bollard Acoustical Consultants, Inc. (2019)

Amplified Event Music and Speech Noise Generation

According to the project DIS/MND, the project proposes to have amplified music and speech during events on the property. According to the project applicant, all amplified music and speech would occur at the sound system setup located within the designated outdoor event area. Figure 2 shows the locations of the sound system setup and speaker orientation. Photographs of the sound system setup in the outdoor event area and are provided in Appendix C.

To quantify the noise levels generated from amplified music and speech, BAC conducted short-term noise level measurements on Wednesday, April 17, 2019 during an event simulation featuring amplified music. Larson Davis Laboratories Models 820 and 831 precision integrating sound level meters were used for the noise level measurements during the simulation. The meters were calibrated before use and placed on a tripod 5 feet above ground at seven locations, identified as Sites A-G on Figures 1 and 2. The measurements taken at Sites A-G were selected to determine the amplified music and speech sound propagation qualities in the directions of the nearest receivers to the southeast and east (Receivers 2-5).

The sound system was set to produce sound levels typical of what would be produced by amplified music playing at an event. The simulation utilized a reference music level of 75 dB at a distance of 50 feet from the speakers. While music was being played at the venue sound system setup location, short-term noise level measurements were conducted at the referenced distance of 50 feet (reference site) and simultaneously at Sites A-G. This reference was selected because BAC believes that it is a level at which amplified music and speech would likely occur at this outdoor event area given the capacity and event types at the venue. Appendix C shows photographs of the sound system setup at the outdoor event music positioning area and noise level measurement locations.

The simulation consisted of playing digital recordings of typical music which might be used during an event using a pair of Yamaha MSR 400 Watt speakers with built-in amplifiers, and an MP3 player as the music source. A summary of the noise level measurement results are provided in Table 7.

Table 7
Summary of Measurement Results from Amplified Music Event Simulation
Iron Horse Unlimited Events Center – Mt. Shasta (Siskiyou County), California

Site[1]	Description	Measured Noise Level, dBA	
		L_{eq}	L_{max}
Reference	Located in front of speakers at a distance of 50 feet	75	79
A	Northeast of event area approximately 285 feet behind speakers	53	61
B	East of event area approximately 170 feet behind speakers	54	59
C	East of event area approximately 140 feet behind speakers	54	59
D	East of event area approximately 100 feet behind speakers	55	61
E	East event area approximately 95 feet behind speakers	56	59
F	East of event area approximately 110 feet to the side of speakers	56	62
G	Southeast of event area approximately 230 feet to the side of speakers	56	60

Notes:
[1] Amplified music noise simulation measurement locations (Sites A-G) are shown on Figures 1 and 2. Photographs of the measurement locations are provided in Appendix C.
Source: Bollard Acoustical Consultants, Inc. (2019)

BAC utilized the measurement data presented in Table 7 to predict amplified music event noise levels at the nearest receivers. Specifically, the measured noise levels from the event simulation were projected from the sound system setup area to the nearest receivers based on a sound level decay rate of -6 dB per doubling of distance from the source. The results of those projections are shown in Table 8.

The predicted amplified event music noise levels at Receivers 2-5 take into consideration intervening topography that would break line of sight of the sound system setup, and have been conservatively adjusted by -5 dB to account for this screening.

Table 8
Predicted Exterior Amplified Event Music & Speech Noise Levels at Nearest Receivers
Iron Horse Unlimited Event Center – Mt. Shasta (Siskiyou County), CA

Description[1]	Distance from Event Sound System Setup Area (feet)[2]	Predicted Amplified Event Music Noise Levels (dBA)[3,4]		
		L_{eq}	L_{max}	L_{dn}[5]
Sound System Area to Receiver 1[6]	375	52	56	48
Sound System Area to Receiver 2	160	46	52	42
Sound System Area to Receiver 3	160	46	49	42
Sound System Area to Receiver 4	510	44	48	40
Sound System Area to Receiver 5	800	40	44	37
Siskiyou County General Plan Noise Level Standard – Residential Uses				**60**

Notes:

[1] Receiver locations are shown on Figure 1. Sound system setup location is shown on Figure 2.

[2] Distances measured from the sound system setup to the nearest receivers.

[3] Predicted amplified music at nearest receivers utilize the following projected reference nose levels: Receiver 1 (75 dB Leq/79 dB Lmax at 50 feet – Reference Meter); Receiver 2 (55 dB Leq/61 dB Lmax at 100 feet – Site D); Receiver 3 (56 dB Leq/59 dB Lmax at 95 feet – Site E); Receivers 4 & 5 (56 dB Leq/60 dB Lmax at 230 feet – Site G).

[4] Predicted event amplified music noise levels at Receivers 2-5 take into consideration intervening topography that would break line of sight of the sound system setup, and have been conservatively adjusted by -5 dB to account for this screening.

[5] Calculated Ldn conservatively assumes continuous playback of amplified music/speech for the entire duration of an event (12:00 p.m. to 10:00 p.m.).

[6] Due to the directionality of speakers and off-axis exposure of Receptor 1, a conservative offset of -5 dB was applied to amplified speech and music levels at Receptor 1.

Source: Bollard Acoustical Consultants, Inc. (2019)

Recreational Vehicle Air-Conditioning Unit Noise Generation

According to the project DIS/MND, the property contains eight parking stalls near the southern end of the site to accommodate recreational vehicles and/or trailers. Figure 2 shows the locations of the recreational vehicle parking stalls. The primary nose source associated with recreational vehicles and/or trailers occupying those parking stalls has been identified as the air-conditioning units.

To quantify the noise levels generated from recreation vehicle air-conditioning units, BAC utilized reference noise level measurement data obtained from the Advanced RV Research Facility. Specifically, the engineering team at Advanced RV Research Facility conducted noise level testing of four common high output (15,000 BTU) recreational vehicle air-conditioner units. The test results indicate that the measured noise levels of the four units ranged from 63 to 72 dBA at a distance of 4 feet in front of the unit (0° off-axis). Based on the results from this research, a reference noise level of 72 dBA at distance of 4 feet was conservatively used in the prediction of project recreational vehicle air-conditioning equipment noise levels.

It is our understanding that the recreational vehicles could occupy the parking spaces for event and camping purposes, and could therefore be on-site for a 24-hour period. However, given the elevation of the project site and vicinity (approximately 3,500 feet) and associated climate (warm days with cool evenings), it is unlikely that recreational vehicle air-conditioning units would be in operation during nighttime hours (10:00 p.m. to 7:00 a.m.). Nonetheless, in order to provide a

conservative estimate of recreational vehicle air-conditioning unit noise level exposure at the nearest receivers, the units were assumed to be in continuous operation while occupying the parking spaces (24 hour operations).

Based on the provided air-conditioning unit reference noise level data and operational assumptions above, and assuming standard spherical spreading loss (-6 dB per doubling of distance), data were projected from the nearest recreational vehicle parking space to the nearest receivers. The results of those projections are summarized in Table 9.

The results presented in Table 9 take into consideration the elevated positions of the recreational vehicle air-conditioning units (located on the roofs of vehicles), and do not include and adjustment for intervening topography at any of the receivers.

Table 9
Predicted Exterior RV Air-Conditioning Unit Noise Levels – From Nearest Parking Space
Iron Horse Unlimited Event Center – Mt. Shasta (Siskiyou County), CA

Description[1]	Distance from Closest RV Parking Space (feet)[2]	Predicted RV Air-conditioning Unit Noise Levels (dBA)[3]	
		L_{eq}	L_{dn}[4]
Nearest RV Parking Space to Receiver 1	500	30	36
Nearest RV Parking Space to Receiver 2	250	36	42
Nearest RV Parking Space to Receiver 3	200	38	44
Nearest RV Parking Space to Receiver 4	350	33	39
Nearest RV Parking Space to Receiver 5	530	30	36
Siskiyou County General Plan Noise Level Standard – Residential Uses			**60**

Notes:
1 Receiver locations are shown on Figure 1. Figure 2 shows the locations of the recreational vehicle parking spaces.
2 Distances measured from the center of the nearest parking space to the nearest receivers.
3 Predicted recreational vehicle air-conditioning unit noise levels at nearest receivers utilize a reference nose level of 72 dBA at a distance of 4 feet.
4 Calculated Ldn conservatively assumes continuous 24 hour operations of air-conditioning units.
Source: Bollard Acoustical Consultants, Inc. (2019)

In addition to the prediction of recreational vehicle air-conditioning unit noise levels from the nearest parking space to the closest receivers, the cumulative noise exposure from all project recreational vehicles operating their air-conditioning systems concurrently was estimated. According to the project DIS/MND, the property contains eight recreational vehicle parking stalls. In order to approximate the cumulative noise exposure from the operation of eight air-conditioning units in simultaneous operation (worst-case), distances were scaled from the center of the recreational vehicle parking area to the nearest receivers. The predicted cumulative air-conditioning unit noise levels are summarized in Table 10.

Table 10
Predicted Exterior RV Air-Conditioning Unit Noise Levels – Cumulative Noise Exposure
Iron Horse Unlimited Event Center – Mt. Shasta (Siskiyou County), CA

Description[1]	Distance from Center of RV Parking Area (feet)[2]	Predicted RV Air-Conditioning Unit Noise Levels, L_{dn} (dBA)[3]	
		L_{eq}	L_{dn}[4]
RV Parking Area to Receiver 1	550	38	44
RV Parking Area to Receiver 2	375	42	48
RV Parking Area to Receiver 3	320	43	49
RV Parking Area to Receiver 4	360	42	48
RV Parking Area to Receiver 5	560	38	44
Siskiyou County General Plan Noise Level Standard – Residential Uses			**60**

Notes:
[1] Receiver locations are shown on Figure 1. Figure 2 shows the locations of the recreational vehicle parking area.
[2] Distances measured from the center of the recreational vehicle parking area to the nearest receivers.
[3] Predicted recreational vehicle air-conditioning unit noise levels at nearest receivers utilize a reference nose level of 81 dBA at a distance of 4 feet (eight units in simultaneous operation, based on a reference noise level of one unit of 72 dBA at 4 feet).
[4] Calculated Ldn conservatively assumes continuous 24 hour operations of air-conditioning units.
Source: Bollard Acoustical Consultants, Inc. (2019)

Project Construction Noise Generation

According to the project DIS/MND, the project is proposing the construction of a septic system, barn, and multi-use building. During the construction of those structures, noise from construction activities would add to the noise environment in the immediate project vicinity. Activities involved in typical construction would generate maximum noise levels, as indicated in Table 11, ranging from 55 to 90 dB at a distance of 50 feet.

Table 11
Typical Construction Equipment Noise

Equipment Description	Maximum Noise Level at 50 feet, dBA
Auger drill rig	85
Backhoe	80
Bar bender	80
Boring jack power unit	80
Chain saw	85
Compactor (ground)	80
Compressor (air)	80
Concrete batch plant	83
Concrete mixer truck	85
Concrete pump truck	82
Concrete saw	90
Crane (mobile or stationary)	85
Dozer	85
Dump truck	84
Excavator	85
Flatbed truck	84
Front end loader	80
Generator (25 kilovolt-amperes [kVA] or less)	70
Generator (more than 25 kVA)	82
Grader	85
Hydra break ram	90
Jackhammer	85
Mounted impact hammer (hoe ram)	90
Paver	85
Pickup truck	55
Pneumatic tools	85
Pumps	77
Rock drill	85
Scraper	85
Soil mix drill rig	80
Tractor	84
Vacuum street sweeper	80
Vibratory concrete mixer	80

Source: Federal Highway Administration 2006.

The nearest receivers are located approximately 150 feet from areas on the project site where construction would occur. At this distance, maximum noise levels would be expected to be approximately 45 to 80 dB L_{max}.

Evaluation of Project Construction Vibration Levels at Existing Residences

During construction of the project septic system and structures, heavy equipment would generate localized vibration in the immediate vicinity of the construction. As mentioned previously, the nearest residence is located approximately 150 feet from construction activities which would occur on the project site.

The range of vibration source levels for construction equipment commonly used in similar projects are shown in Table 12. The vibration levels depicted in Table 12 are representative of measurements at a distance of 25 feet from the equipment source.

Table 12
Vibration Source Levels for Construction Equipment

Equipment	Approximate RMS L_V[1] at 25 feet
Large bulldozer	87
Caisson drilling	87
Loaded trucks	86
Jackhammer	79
Small bulldozer	58

Notes:
[1] RMS velocity in decibels (VdB) re 1 micro-inch/second
Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual (2018)

Because vibration levels generated by the type of construction equipment which will be required for this project dissipate very rapidly with distance, and because the nearest sensitive receptors are at least 150 feet from any proposed onsite construction activities, vibration levels at those nearest receptors are predicted to be below 70 VdB over the course of project construction activities.

Evaluation of On-Site and Off-Site Project Vibration Levels at Nearest Residences

The project proposes uses on the project site that consist of horse boarding/training, riding lessons, trail riding, and outdoor events including weddings, parties, and retreats. It is the experience of BAC that operations associated with those uses do not typically have equipment that generates appreciable vibration. In addition, it is our understanding that the project does not propose equipment that will produce appreciable vibration.

During a site visit on April 17, 2019, vibration levels were below the threshold of perception at the project site and in the immediate project vicinity. Therefore, the existing vibration environment in the immediate project vicinity is considered to be negligible. Based on this observation, it is the professional opinion of BAC that vibration levels at the project site are well below the threshold of perception, and will remain below the threshold of perception with ongoing activities at the project site.

Evaluation of Impacts Relative to CEQA Criteria

Criteria A: Generation of substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or in other applicable local, state, or federal standards?

Off-Site Traffic Noise Level Increases in the Project Vicinity

The project site is accessed via Big Canyon Drive on the northern end of the project site. However, those vehicles would on be on Big Canyon Drive for a short distance (approximately 100 feet) before entering the project property. Big Canyon Drive and the project site are most easily accessible from State Route 89. As a

result, the greatest impact from project-generated off-site traffic is expected to be on State Route 89. As indicated in F-1, the predicted off-site traffic noise exposure from a 600 person event at the project site (worst-case) computes to 49 dB L_{dn} at a distance of 100 feet from the centerline of State Route 89. The data presented in Appendix F-2 indicate that existing State Route 89 traffic noise exposure computes to 67 dB L_{dn} at a distance of 100 feet from the roadway centerline.

Based on the FICON criteria shown in Table 3, a 1.5 dB increase is the threshold of significance where pre-project ambient noise levels are in excess of 65 dB L_{dn}. Because project off-site traffic noise exposure was predicted to be 49 dB L_{dn} (below an existing noise level of 67 dB L_{dn}), the project-related increases in traffic noise levels on SR-89 is predicted to be approximately 0.1 dB L_{dn}. This increase would not exceed the FICON standards of significance as identified in Table 3. As a result, noise impacts related to increases in off-site traffic noise levels resulting from the project are predicted to be ***less-than-significant.***

Parking Lot Activity Noise

The Table 5 data indicate that noise levels generated by worst-case parking lot activity operations (600 person event) are predicted to range from 29 to 41 dB L_{dn} at the nearest receivers, which would satisfy the Siskiyou County General Plan 60 dB L_{dn} exterior noise level standard for residential uses by a wide margin. In addition, standard residential construction (stucco siding, STC-27 windows, door weather-stripping, exterior wall insulation, composition plywood roof), results in an exterior to interior noise reduction of at least 25 dB with windows closed and approximately 15 dB with windows open. As a result, worst-case parking lot noise levels are expected to satisfy the Siskiyou County General Plan 45 dB L_{dn} interior noise level standard within the nearest residences by a wide margin even with windows in the open configuration.

According to the ambient noise level measurement results (representative of ambient noise levels at nearby residential receivers), measured hourly average and maximum noise levels ranged from 47 to 56 dB L_{eq} and 54 to 76 dB L_{max} during daytime hours (Table 4). The FICON criteria indicate that a 5 dB increase is the threshold of significance where pre-project ambient noise levels are less than 60 dB, and a 1.5 dB increase is the threshold where ambient noise levels are greater than 65 dB (Table 3). As indicated in Table 5, hourly average and maximum noise levels generated by worst-case parking activity operations (600 person event) are predicted to range from 29 to 45 dB L_{eq} and 37 to 53 dB L_{max} at the nearest receivers, which would be below measured existing ambient conditions during daytime hours, and would not exceed the applicable FICON standards of significance. As a result, noise impacts related to parking lot noise generation are predicted to be ***less-than-significant.***

Event Crowd Noise

The Table 6 data indicate that the highest event crowd noise exposure at the nearest receivers is predicted to result from a 600 person special event in the outdoor events area (as opposed to a training/competition event at the riding arena area). As indicated in Table 6, outdoor event area crowd noise levels are predicted to range from 37 to 49 dB L_{dn} at the nearest receivers. The predicted noise levels of 37 to 49 dB L_{dn} would comply with the Siskiyou County General Plan 60 dB L_{dn} exterior noise level standard for residential uses by a wide margin. Based on the above-mentioned noise level reduction achieved with standard residential construction (minimum of 25 dB with windows closed and approximately 15 dB with windows open), worst-case event crowd noise levels are also expected to satisfy the Siskiyou County General Plan 45 dB L_{dn} interior noise level standard within the nearest residences by a wide margin even with windows in the open configuration.

According to the ambient noise level measurement results, measured hourly average and maximum noise levels ranged from 47 to 56 dB L_{eq} and 54 to 76 dB L_{max} during daytime hours (Table 4). The FICON criteria indicate that a 5 dB increase is the threshold of significance where pre-project ambient noise levels are less than 60 dB, and a 1.5 dB increase is the threshold where ambient noise levels are greater than 65 dB (Table 3). As indicated in Table 6, hourly average and maximum noise levels generated by worst-case event crowd noise (600 person event in the outdoor event area) are predicted to range from 41 to 53 dB L_{eq} and 55 to 68 dB L_{max} at the nearest receivers. Those predicted noise levels would be at or below measured existing ambient conditions during daytime hours, and would not exceed the applicable FICON standards of significance. As a result, noise impacts related to event crowd noise are predicted to be ***less-than-significant.***

Amplified Event Music and Speech Noise

According to Table 8, noise levels generated by amplified music and speech from the outdoor event area are predicted to range from 37 to 48 dB L_{dn} at the nearest receivers. The predicted noise levels of 37 to 48 dB L_{dn} would comply with the Siskiyou County General Plan 60 dB L_{dn} exterior noise level standard for residential uses by a wide margin. Based on the above-mentioned noise level reduction achieved with standard residential construction (minimum of 25 dB with windows closed and approximately 15 dB with windows open), amplified event music and speech noise levels are also expected to satisfy the Siskiyou County General Plan 45 dB L_{dn} interior noise level standard within the nearest residences by a wide margin even with windows in the open configuration.

According to the ambient noise level measurement results, measured hourly average and maximum noise levels ranged from 47 to 56 dB L_{eq} and 54 to 76 dB L_{max} during daytime hours (Table 4). The FICON criteria indicate that a 5 dB increase is the threshold of significance where pre-project ambient noise levels are less than 60 dB, and a 1.5 dB increase is the threshold where ambient noise levels

are greater than 65 dB (Table 3). As indicated in Table 8, hourly average and maximum noise levels generated by amplified event music and speech noise are predicted to range from 40 to 52 dB L_{eq} and 44 to 56 dB L_{max} at the nearest receivers. Those predicted noise levels would be at or below measured existing ambient conditions during daytime hours, and would not exceed the applicable FICON standards of significance.

The above analysis of amplified event music and speech in the outdoor area assumes a sound system reference noise level of 75 dB L_{eq} and 79 dB L_{max} at a distance of 50 feet in front of the speakers, with the speaker orientation indicated in Figure 2. Provided that the sound system maintains the above mentioned reference noise levels and speaker orientation, significant impacts resulting from amplified event music and speech are not expected at the nearest receivers. However, deviations from above mentioned the sound system reference noise levels or speaker orientation could cause amplified event music and speech to differ at the nearest receivers. Should these deviations occur, it is possible that amplified event music and speech could exceed the FICON increase significance criteria cited in this report. As a result, this impact is considered to be ***potentially significant.***

Mitigation for Criteria A: Amplified Music & Speech Noise Control Measures

In order to reduce the potential for an exceedance of the applicable Siskiyou County residential noise level standard and FICON increase significance criteria at the nearest receivers, the following measures should be implemented:

MM-1: Ensure that amplified event music and speech not exceed noise levels of 75 dB L_{eq} and 80 dB L_{max} at a distance of 50 feet from the front of the sound system speakers.

MM-2: Ensure that event sound system speakers not deviate from the location and orientation outlined in this report and indicated in Figure 2 (southwest)

MM-3: Ensure that all amplified event music and speech be restricted to daytime hours only (7:00 a.m. to 10:00 p.m.).

After implementation of the mitigation measures identified above, this impact is considered to be ***less-than-significant***.

<u>Recreational Vehicle Air-Conditioning Unit Noise</u>

As indicated in Table 9, noise levels from the closest recreational vehicle air-conditioning unit at the nearest receivers are predicted to range from to 36 to 44 dB L_{dn}. In addition, the data presented in Table 10 indicate that the cumulative noise exposure (worst-case) from all recreational vehicle air-conditioners is

predicted to range from 44 to 49 dB L_{dn} at the nearest receivers. The predicted noise levels identified above would comply with the Siskiyou County General Plan 60 dB L_{dn} exterior noise level standard for residential uses by a wide margin. Based on the above-mentioned noise level reduction achieved with standard residential construction (minimum of 25 dB with windows closed and approximately 15 dB with windows open), recreational vehicle air-conditioning unit noise levels are also expected to satisfy the Siskiyou County General Plan 45 dB L_{dn} interior noise level standard within the nearest residences by a wide margin even with windows in the open configuration.

According to the ambient noise level measurement results, measured hourly average noise levels ranged from 47 to 56 dB L_{eq} during daytime hours (Table 4). The FICON criteria indicate that a 5 dB increase is the threshold of significance where pre-project ambient noise levels are less than 60 dB (Table 3). As indicated in Table 10, the cumulative noise exposure levels from eight recreational vehicle air-conditioning units (worst-case) are predicted to range from 38 to 43 dB L_{eq} at the nearest receivers, which would be below measured existing daytime ambient conditions, and would not exceed the applicable FICON standard of significance. As a result, noise impacts related to RV air-conditioning system usage noise are predicted to be ***less-than-significant.***

Project Construction Noise

Based on the reference noise levels of typical construction equipment provided in Table 11, the nearest receivers to areas on the project site where construction would occur are located approximately 150 feet away. At this distance, maximum noise levels due to construction would be expected to be approximately 45 to 80 dB L_{max}.

According to the ambient noise level measurement results, measured maximum noise levels ranged from 54-76 dB L_{max} during daytime hours (Table 4). The FICON criteria indicate that a 1.5 dB increase is the threshold where ambient noise levels are greater than 65 dB (Table 3). The predicted construction noise level of up to 80 dB L_{max} would exceed the highest measured ambient maximum (L_{max}) noise level by 4 dB. Thus, depending on the distances from the construction areas to nearby receivers, construction activities associated with the project could result substantial (short-term and temporary) increases over ambient maximum noise levels as defined by the FICON criteria. As a result, this impact is considered to be ***potentially significant***.

Mitigation for Criteria A: Construction Noise Control Measures

MM-4: To the maximum extent practical, the following measures should be incorporated into the project construction operations:

- Pursuant to mitigation measure MM 12.1 of the project DIS/MND, the County requires that all construction activities during project site

development are prohibited on Sundays and federal holidays, and shall occur from Monday through Friday, 7:00 a.m. to 7:00 p.m., and from 8:00 a.m. to 6:00 p.m. on Saturdays.

- All noise-producing project equipment and vehicles using internal-combustion engines shall be equipped with manufacturers-recommended mufflers and be maintained in good working condition.
- All mobile or fixed noise-producing equipment used on the project site that are regulated for noise output by a federal, state, or local agency shall comply with such regulations while in the course of project activity.
- Electrically powered equipment shall be used instead of pneumatic or internal-combustion-powered equipment, where feasible.
- Material stockpiles and mobile equipment staging, parking, and maintenance areas shall be located as far as practicable from noise-sensitive receptors.
- Nearby residences shall be notified of construction schedules so that arrangements can be made, if desired, to limit their exposure to short-term increases in ambient noise levels.

After implementation of the mitigation measures, this impact is considered to be ***less-than-significant***.

Criteria B: Generation of excessive groundborne vibration or groundborne noise levels?

At the nearest existing residences to the proposed project area, construction-generated vibration levels are expected to be less than the 70 VdB RMS. Because construction-generated vibration levels at nearby existing receptors are expected satisfy the strictest Federal Transportation Authority (FTA) groundborne vibration impact criteria (regardless of number of vibration events from a source), project construction would not result in the exposure of persons to or generation of excessive groundborne vibration levels. Further, it is our understanding that the project is not proposing equipment that would generate significant vibration levels.

Because vibration levels due to and upon the proposed project are expected to satisfy the applicable FTA groundborne impact vibration criteria, this impact is considered to be ***less-than-significant***.

Criteria C: For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

The project site is located approximately 1.7 miles north of a public use airport (Dunsmuir Municipal-Mott Airport). There are no other public or private airports within two miles of the project site.

According to the Siskiyou County Airport Land Use Compatibility Plan (ALUCP), approximately 1 acre of the project property (southeastern end of the site) is located within "Compatibility Zone C2" of the Dunsmuir Municipal-Mott Airport area of influence. Although the C zones are potentially affected by aviation noise, the ALUCP states that land uses within Zone C2 are not generally affected by aviation noise exceeding 55 dB CNEL (a 24-hour averaged noise descriptor comparative to L_{dn}). According to the ambient noise level measurement results, measured average day-night noise levels ranged from 58 to 61 dB L_{dn}, including aircraft operations. Aircraft noise exposure within the interior areas of proposed project structures would be considerably lower due to the noise reduction provided by standard construction (at least 25 dB with windows closed and approximately 15 dB with windows open).

According to the project DIS/MND, the project property is zoned Highway Commercial (C-H). The Siskiyou County General Plan exterior and interior noise level standards applicable to commercial uses are 65 and 45 dB L_{dn}, respectively. Based on the information provided above, noise generated from normal aircraft operations at the Dunsmuir Municipal-Mott Airport are not expected to exceed the applicable Siskiyou County commercial exterior or interior noise level criteria at the project site. As a result, this impact is considered to be ***less-than-significant.***

Conclusions and Recommendations

This analysis concludes that with implementation of feasible noise mitigation measures, all potentially significant noise impacts at the nearest existing residences can be mitigated to a ***less-than-significant*** level. Finally, this analysis concludes that project-generated vibration will not result in adverse impacts at the nearest existing residences.

These conclusions are based on the data and assumptions cited herein and on the project site plan shown on Figure 2. Any substantive revisions to the project site plan or proposed operations could cause actual noise levels to vary relative to those predicted herein. BAC is not responsible for such revisions.

This concludes BAC's environmental noise and vibration assessment of the Iron Horse Unlimited Events Center in Mt. Shasta (Siskiyou County), California. Please contact BAC at (916) 663-0500 or dariog@bacnoise.com with any questions regarding this assessment.

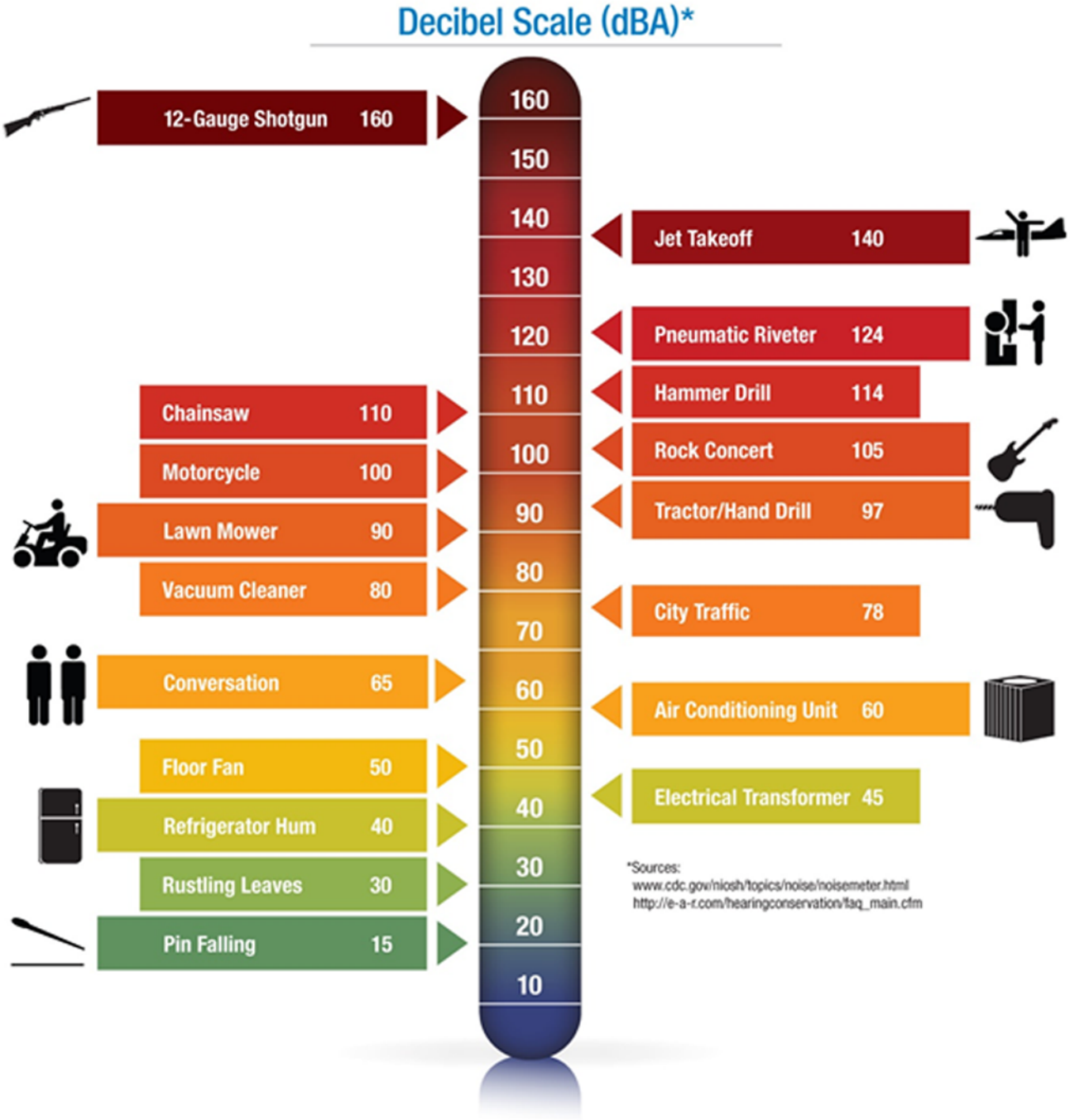
Appendix A

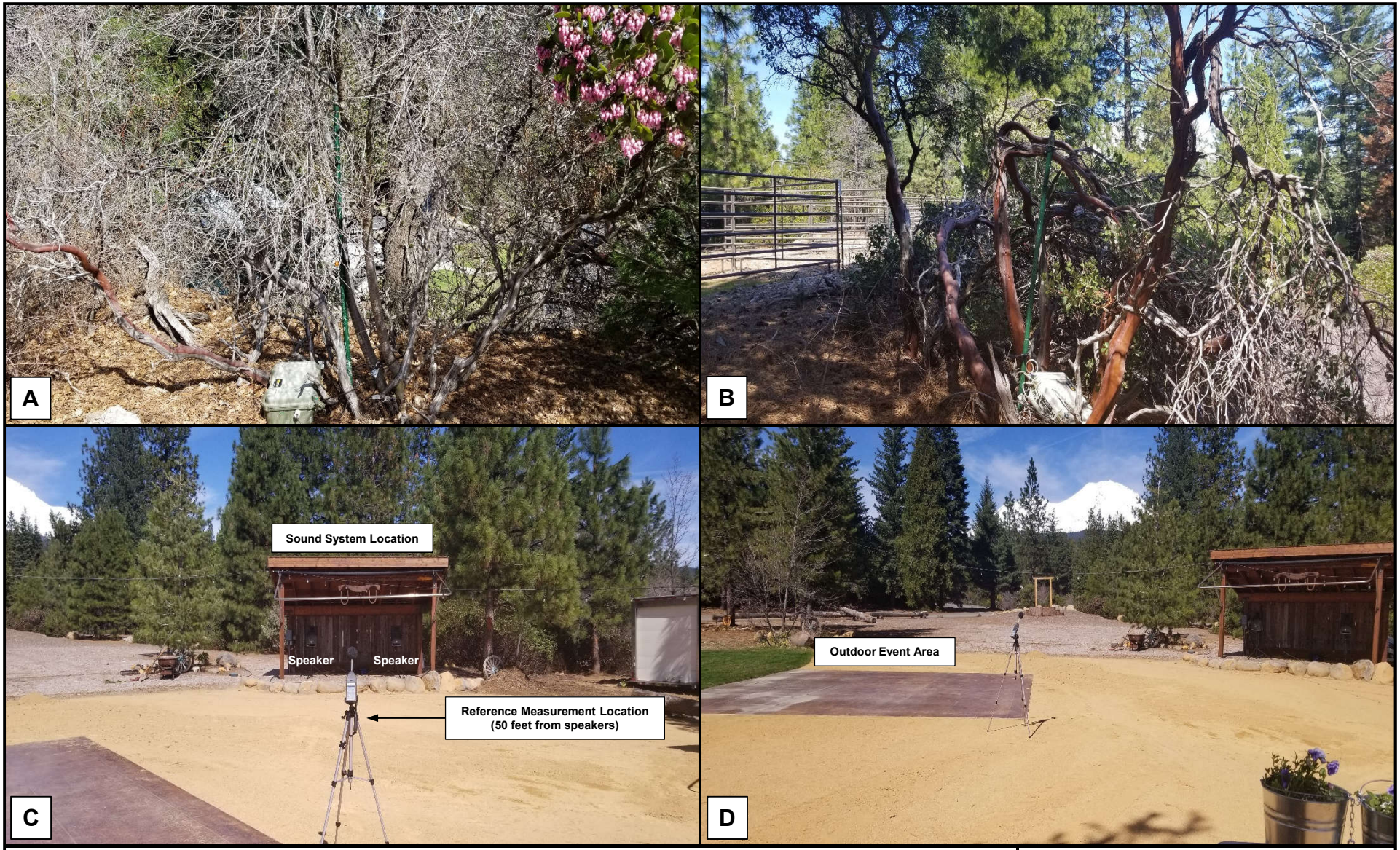
Acoustical Terminology

Acoustics	The science of sound.
Ambient Noise	The distinctive acoustical characteristics of a given space consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.
Attenuation	The reduction of an acoustic signal.
A-Weighting	A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.
Decibel or dB	Fundamental unit of sound, A Bell is defined as the logarithm of the ratio of the sound pressure squared over the reference pressure squared. A Decibel is one-tenth of a Bell.
CNEL	Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by a factor of three and nighttime hours weighted by a factor of 10 prior to averaging.
Frequency	The measure of the rapidity of alterations of a periodic signal, expressed in cycles per second or hertz.
Ldn	Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.
Leq	Equivalent or energy-averaged sound level.
Lmax	The highest root-mean-square (RMS) sound level measured over a given period of time.
Loudness	A subjective term for the sensation of the magnitude of sound.
Masking	The amount (or the process) by which the threshold of audibility is for one sound is raised by the presence of another (masking) sound.
Noise	Unwanted sound.
Peak Noise	The level corresponding to the highest (not RMS) sound pressure measured over a given period of time. This term is often confused with the Maximum level, which is the highest RMS level.
RT_{60}	The time it takes reverberant sound to decay by 60 dB once the source has been removed.
Sabin	The unit of sound absorption. One square foot of material absorbing 100% of incident sound has an absorption of 1 sabin.
SEL	A rating, in decibels, of a discrete event, such as an aircraft flyover or train passby, that compresses the total sound energy of the event into a 1-s time period.
Threshold of Hearing	The lowest sound that can be perceived by the human auditory system, generally considered to be 0 dB for persons with perfect hearing.
Threshold of Pain	Approximately 120 dB above the threshold of hearing.

Appendix B

Typical A-Weighted Sound Levels of Common Noise Sources





Legend

A: Long-term noise measurement Site 1 facing east (41°17'06.51" N, 122°17'49.21" W)
B: Long-term noise measurement Site 2 facing north (41°17'03.07" N, 122°17'49.64" W)
C: Outdoor event area with amplified music noise simulation reference measurement location (50 feet from speakers) and sound system setup location facing northeast (41°17'06.43" N, 122°17'51.11" W)
D: Outdoor event area with amplified music noise simulation reference measurement location (50 feet from speakers) and sound system setup location facing north (41°17'06.43" N, 122°17'51.11" W)

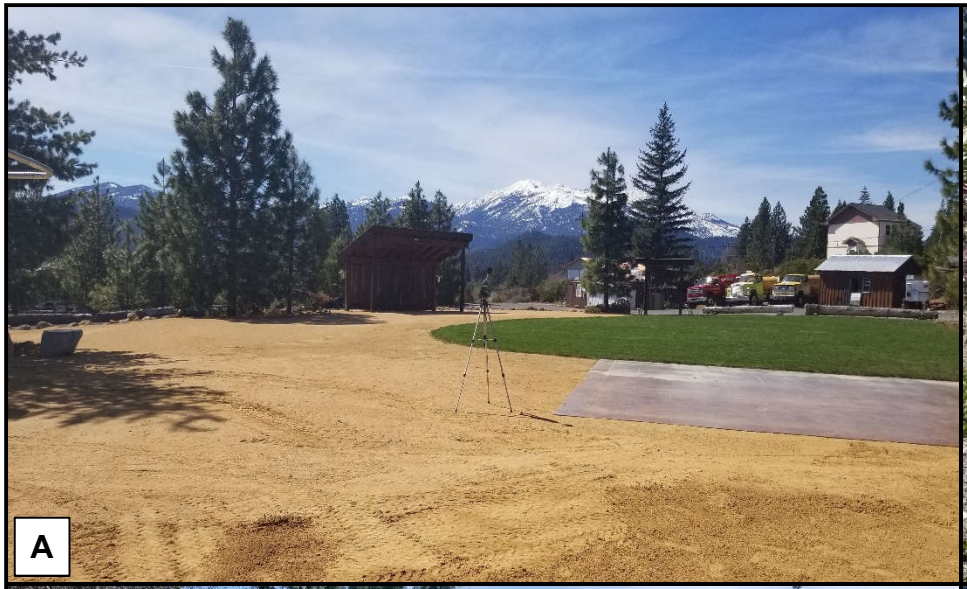
Iron Horse Unlimited Events Center

Mt. Shasta (Siskiyou County), California

Photographs of Noise Survey Locations

Appendix C-1

BOLLARD Acoustical Consultants



Legend

A: Outdoor event area with amplified music noise simulation reference measurement location facing west (41°17'06.43" N, 122°17'51.11" W)
B: Amplified music noise simulation measurement Site A facing south (41°17'09.40" N, 122°17'49.94" W)
C: Amplified music noise simulation measurement Site B facing southwest (41°17'08.10" N, 122°17'49.36" W)
D: Amplified music noise simulation measurement Site C facing southwest (41°17'07.67" N, 122°17'49.25" W)

Iron Horse Unlimited Events Center

Mt. Shasta (Siskiyou County), California

Photographs of Noise Survey Locations

Appendix C-2

BOLLARD Acoustical Consultants

Legend

A: Amplified music noise simulation measurement Site D facing east (41°17'07.08" N, 122°17'49.22" W)
B: Amplified music noise simulation measurement Site E/Site 1 facing east (41°17'06.51" N, 122°17'49.21" W)
C: Amplified music noise simulation measurement Site F facing north (41°17'05.83" N, 122°17'49.29" W)
D: Amplified music noise simulation measurement Site G facing north (41°17'04.39" N, 122°17'49.67" W)

Iron Horse Unlimited Events Center

Mt. Shasta (Siskiyou County), California

Photographs of Noise Survey Locations

Appendix C-3

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Appendix D-1
Ambient Noise Monitoring Results
Iron Horse Unlimited Events Center - Mt. Shasta (Siskiyou County), CA - Site 1
Wednesday-Thursday, April 17-18, 2019

Hour	Leq	Lmax	L50	L90
2:00 PM	54	65	54	49
3:00 PM	55	74	52	49
4:00 PM	50	60	49	46
5:00 PM	51	65	50	47
6:00 PM	50	62	49	47
7:00 PM	51	69	50	46
8:00 PM	51	61	50	47
9:00 PM	54	74	53	48
10:00 PM	53	64	52	47
11:00 PM	51	63	49	43
12:00 AM	51	62	50	43
1:00 AM	51	68	49	41
2:00 AM	51	62	49	42
3:00 AM	49	59	48	40
4:00 AM	53	74	51	45
5:00 AM	53	67	52	46
6:00 AM	54	66	53	50
7:00 AM	54	71	53	49
8:00 AM	49	60	48	44
9:00 AM	48	71	46	43
10:00 AM	48	63	46	43
11:00 AM	48	65	45	42
12:00 PM	49	69	47	44
1:00 PM	50	70	48	45

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	55	48	51	54	49	52
Lmax (Maximum)	74	60	67	74	59	65
L50 (Median)	54	45	49	53	48	50
L90 (Background)	49	42	46	50	40	44

Computed Ldn, dB	58
% Daytime Energy	59%
% Nighttime Energy	41%

GPS Coordinates	41°17'6.51"N
	122°17'49.20"W

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Appendix D-2
Ambient Noise Monitoring Results
Iron Horse Unlimited Events Center - Mt. Shasta (Siskiyou County), CA - Site 2
Wednesday-Thursday, April 17-18, 2019

Hour	Leq	Lmax	L50	L90
2:00 PM	54	65	53	51
3:00 PM	55	67	54	52
4:00 PM	53	61	52	50
5:00 PM	53	62	53	50
6:00 PM	53	69	53	50
7:00 PM	54	69	53	49
8:00 PM	54	64	53	49
9:00 PM	56	76	54	49
10:00 PM	56	67	55	49
11:00 PM	53	67	51	46
12:00 AM	54	65	52	45
1:00 AM	55	73	52	44
2:00 AM	55	65	53	45
3:00 AM	53	62	51	42
4:00 AM	56	72	54	48
5:00 AM	56	66	54	49
6:00 AM	57	69	56	52
7:00 AM	56	69	55	52
8:00 AM	51	59	50	47
9:00 AM	48	54	47	45
10:00 AM	48	62	47	44
11:00 AM	47	55	46	43
12:00 PM	51	63	50	45
1:00 PM	53	65	52	48

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	56	47	53	57	53	55
Lmax (Maximum)	76	54	64	73	62	67
L50 (Median)	55	46	52	56	51	53
L90 (Background)	52	43	48	52	42	46

Computed Ldn, dB	61
% Daytime Energy	52%
% Nighttime Energy	48%

GPS Coordinates	41°17'3.08"N
	122°17'49.65"W

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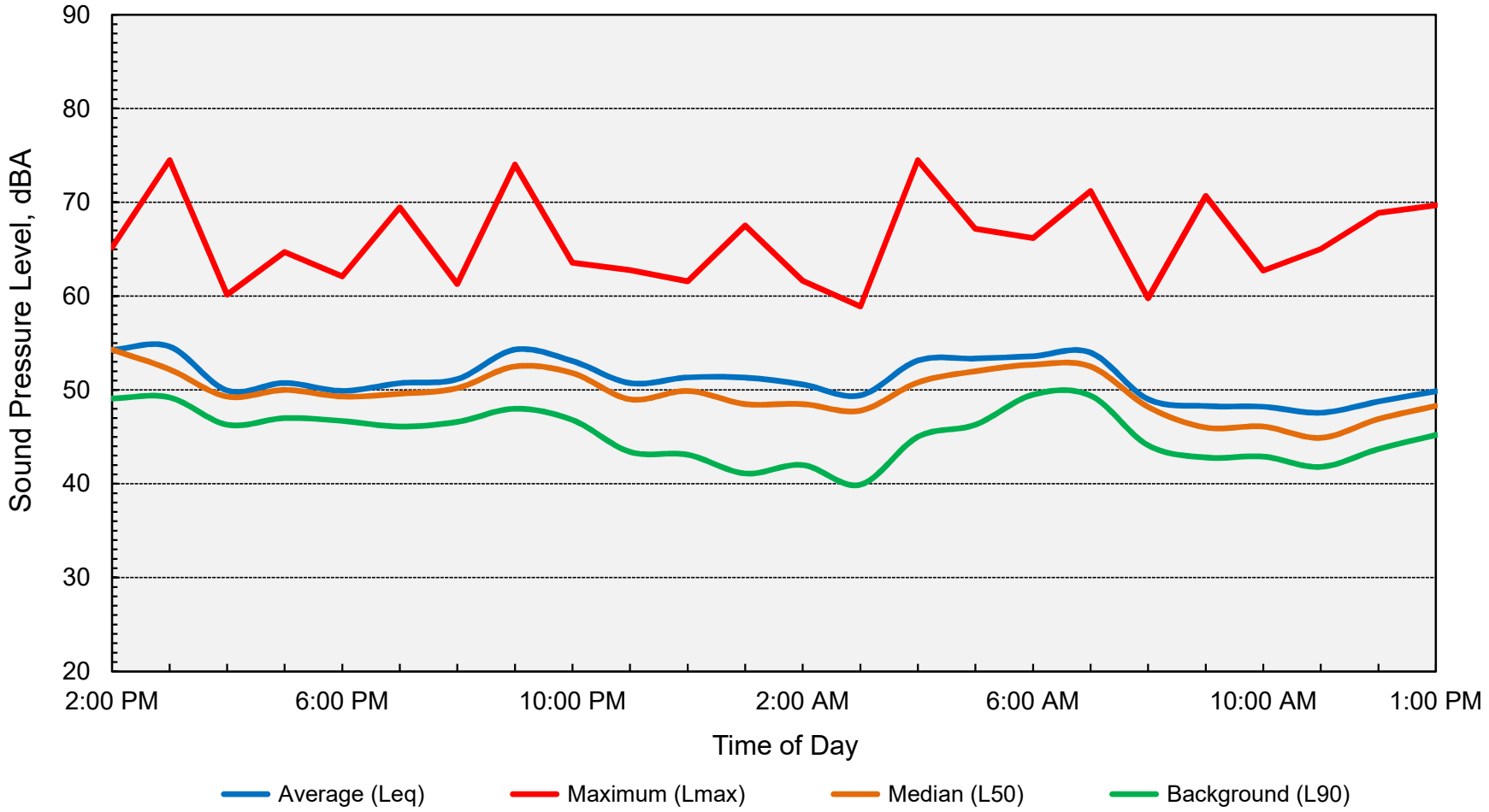
Appendix E-1
Ambient Noise Monitoring Results
Iron Horse Unlimited Events Center - Mt. Shasta (Siskiyou County), CA - Site 1
Wednesday-Thursday, April 17-18, 2019



Computed Ldn = 58 dB

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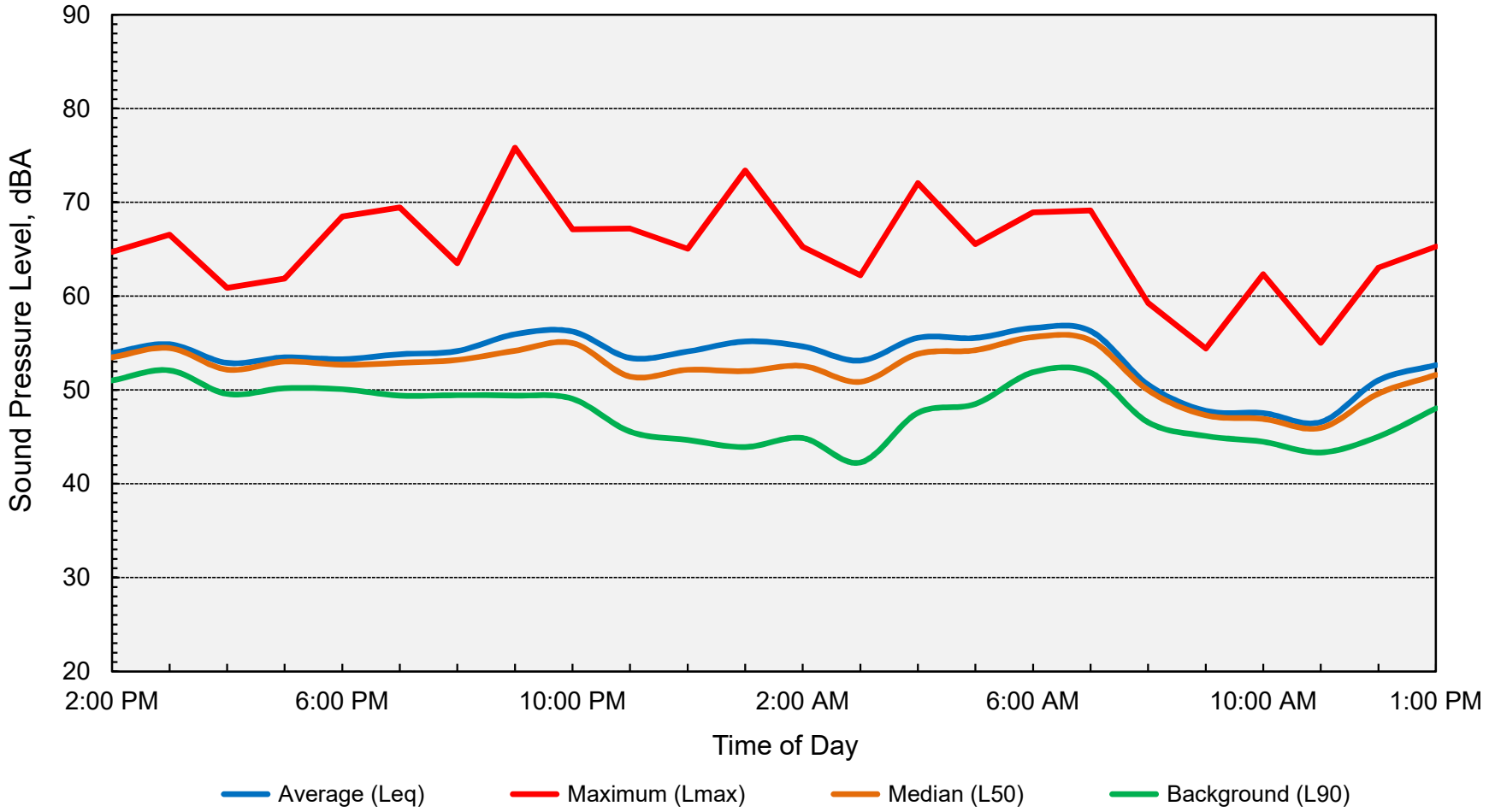
Appendix E-2
Ambient Noise Monitoring Results
Iron Horse Unlimited Events Center - Mt. Shasta (Siskiyou County), CA - Site 2
Wednesday-Thursday, April 17-18, 2019



Computed Ldn = 61 dB

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Appendix F-1

FHWA Traffic Noise Prediction Model (FHWA-RD-77-108)
Noise Prediction Worksheet

Project Information:

Job Number: 2019-019
Project Name: Iron Horse Unlimited Events Center
Roadway Name: State Route 89

Traffic Data:

Description:	Event
Average Daily OFF-SITE Traffic Volume:	515
Percent Daytime Traffic:	99
Percent Nighttime Traffic:	1
Percent Medium Trucks (2 axle):	1
Percent Heavy Trucks (3+ axle):	1
Assumed Vehicle Speed (mph):	55
Intervening Ground Type (hard/soft):	**Soft**

Traffic Noise Levels:

				----------L_{dn}, dB----------			
No.	**Description**	**Distance**	**Offset (dB)**	**Autos**	**Medium Trucks**	**Heavy Trucks**	**Total**
1	State Route 89 - Nearest Residence	100	0	48	35	39	49

Traffic Noise Contours (No Calibration Offset):

L_{dn} Contour, dB	Distance from Centerline, (ft)
75	2
70	4
65	8
60	17

Notes: 1. Event-generated average daily off-site traffic volume for State Route 89 was calculated using worst-case event generation infomation obtained from the project DIS/MND (600 persons), a multiplier of 0.41 guest trips per hour (an accepted multiplier for special events used in traffic planning), and includes trips from event caterers, staff, etc. (estimated to be approximately 25 trips).

Appendix F-2

FHWA Traffic Noise Prediction Model (FHWA-RD-77-108)
Noise Prediction Worksheet

Project Information:

Job Number: 2019-019
Project Name: Iron Horse Unlimited Events Center
Roadway Name: State Route 89

Traffic Data:

Description:	Existing (2017)
Average Daily OFF-SITE Traffic Volume:	3,350
Percent Daytime Traffic:	60
Percent Nighttime Traffic:	40
Percent Medium Trucks (2 axle):	4
Percent Heavy Trucks (3+ axle):	17
Assumed Vehicle Speed (mph):	55
Intervening Ground Type (hard/soft):	**Soft**

Traffic Noise Levels:

				----------L_{dn}, dB----------			
No.	**Description**	**Distance**	**Offset (dB)**	**Autos**	**Medium Trucks**	**Heavy Trucks**	**Total**
1	State Route 89 - Nearest Residence	100	0	61	55	66	67

Traffic Noise Contours (No Calibration Offset):

L_{dn} Contour, dB	Distance from Centerline, (ft)
75	31
70	66
65	142
60	306

Notes: 1. Existing average daily off-site traffic volume for State Route 89 obtained from Caltrans (2017 data) traffic counts (State Route 89 - from Broadway/Southern Avenue to Interstate 5 - 3,350 ADT).
2. Truck percentages for State Route 89 obtained from Caltrans (2016 data)