

# **Initial Study and Proposed Mitigated Negative Declaration**

For

Proposed Motorsports and Concert Events at Humboldt County Fairgrounds

*California Environmental Quality Act (CEQA)*

July 24, 2020

Lead Agency:  
Humboldt County  
3015 H St.  
Eureka, CA 95501



Lead Agency Contact:  
Steve Lazar, Senior Planner  
707-268-3741  
[SLazar@co.humboldt.ca.us](mailto:SLazar@co.humboldt.ca.us)

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## List of Acronyms

CARB	California Air Resources Board
CEQA	California Environmental Quality Act
CNEL	Community Noise Equivalent Level
EIR	Environmental Impact Report
GHG	Greenhouse Gas
HCF	Humboldt County Fairs
HCFA	Humboldt County Fair Association
IS	Initial Study
NPDES	National Pollutant Discharge Elimination System

# 1. Project Summary

<b>Date:</b>	July 23, 2020
<b>Project Title:</b>	Proposed Motorsports and Concert Events at the Humboldt County Fair Grounds
<b>Project Summary:</b>	The proposed project would permit the use of the Humboldt County Fair Ground's facilities for four (4) scheduled motorsports events as well as ten (10) music events per year.
<b>Project Sponsor:</b>	Humboldt County Fair Association Joanna Rodoni, Vice President 1250 5 <sup>th</sup> Street Ferndale, CA 95536 (707)786-5515
<b>Lead Agency:</b>	Humboldt County
<b>Lead Agency Contact:</b>	Lead Agency Contact: Steve Lazar, Senior Planner (707)268-3741 <a href="mailto:slazar@co.humboldt.ca.us">slazar@co.humboldt.ca.us</a> 3015 H St. Eureka, CA 95501
<b>Report Author:</b>	Steven Lazar, Senior Planner, Humboldt County Planning & Building Department
<b>Contributors:</b>	Flynn Manetta-Tomlinson, E.I.T., Project Engineer, Whitchurch Engineering Inc.  Jeff Laikam, P.E., Project Manager, Whitchurch Engineering Inc.
<b>Contributor Contact:</b>	Whitchurch Engineering 610 9 <sup>th</sup> Street, Fortuna, CA 95540 (707)725-6926
<b>Project Location:</b>	Humboldt County Fairgrounds 1250 5th Street, Ferndale, CA 95536 Latitude:40.5855 Longitude: -124.2635  The project site is located in the Ferndale area, on the east side of 5th street between Van Ness and Arlington Ave., on the property known as 1250 5th Street.

<b>Coastal Zone:</b>	The majority of the Fairgrounds is located within Ferndale city limits and outside of the Coastal Zone, including the dirt racetrack, grandstands, and primary parking areas used during events.
<b>Affected Parcels:</b>	Assessor's Parcel Numbers (APNs): 100-181-003-000, 030-071-001-000, 030-011-003-000, 030-021-003-000, 030-112-017-000, 030-112-020-000, 030-081-006-000
<b>General Plan Designation:</b>	City of Ferndale P-F (Public Facility)
<b>Zoning:</b>	City of Ferndale P-F (Public Facility)
<b>Other Permits and Approvals required</b>	1) Adoption of Mitigated Negative Declaration (MND) 2) Approval of Conditional Use Permit 3) Authorization of Amended Lease Agreement with County of Humboldt
<b>Tribal Consultation</b>	At this time, no requests for Tribal Consultation (pursuant to Public Resources Code section 21080.3.1) have been received.

## **1.1. CEQA Requirement:**

The proposed changes to the lease agreement governing use of the Humboldt County Fairgrounds to allow Concerts and Motorsports events is a “project” subject to compliance with the requirements of the California Environmental Quality Act (CEQA). CEQA encourages lead agencies and applicants to modify their projects to avoid potentially significant adverse impacts (CEQA Section 20180 [C] [2] and State CEQA Guidelines Section 15070[b] [2]).

The Lead Agency for the proposed project is the County of Humboldt, per CEQA Guidelines Section 21067. Compliance with CEQA is being performed by the Humboldt County Planning & Building Department in tandem with processing of a Conditional Use Permit. The purpose of this Initial Study (IS) is to provide a basis for determining whether to prepare an Environmental Impact Report (EIR), Negative Declaration, or Mitigated Negative Declaration. This is intended to satisfy the requirements of CEQA (Public Resources Code, Div 13, Sec 21000-21177) and the State CEQA Guidelines (California Code of Regulations, Title 14, Sec 15000-15387).

Section 15063(d) of the State CEQA Guidelines states that an IS shall contain the following information in brief form:

- 1) A description of the project including the location of the project
- 2) An identification of the environmental setting
- 3) An identification of environmental effects by use of a checklist, matrix, or other method, provided that entries on a checklist or other form are briefly explained to provide evidence to support the entries
- 4) Discussion of means to mitigate identified significant effects, if any
- 5) An examination of whether the project would be consistent with existing zoning, plans, and other applicable land use controls
- 6) The name of the person or persons who prepared and/or participated in the Initial Study

The environmental checklist form contained in this document is based on Appendix G of the CEQA Guidelines (2020).

## 2. Project Description

### 2.1. Project Location

The proposed project to authorize Motorsports and Concerts at Humboldt County Fairgrounds will be located at the Humboldt County Fairgrounds (HCF) in Ferndale, California. The vicinity map for the project site is provided in Figure 1. The project is located 5 miles South-West of US-101 and 600 feet west of CA-211. The fairgrounds are located approximately half a mile north of down-town Ferndale, on the east side of 5th street between Van Ness and Arlington Ave., on the property known as 1250 5th Street. The majority of the Fairgrounds complex is located within Ferndale city limits and outside of the Coastal Zone, including the dirt racetrack, grandstands, and primary parking areas used during events.

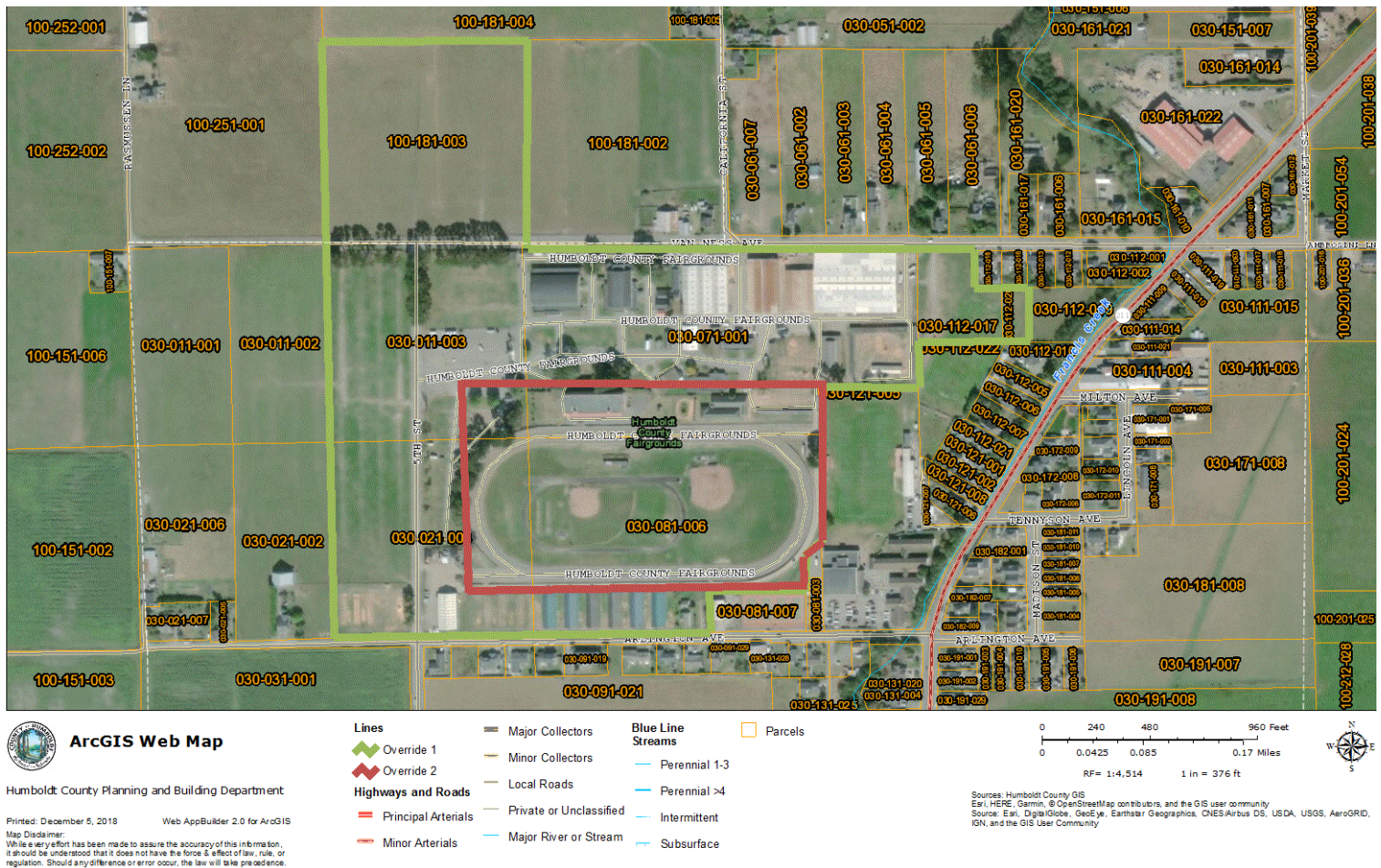


Figure 1: Ferndale Fairgrounds Vicinity Map - The project location is approximately 5 miles South-West of US-101.

The project would enable increased use of the dirt racetrack and grandstands for concerts and motorsports events, outside of the 6-week period in August and September associated with the Humboldt County Fair setup, operation, and cleanup. The existing oval flat racing track is located on the HCF premises at the location shown in Figure 2.



Figure 2: Ferndale Fairgrounds Area Map – The Green boundary shows the extent of the fairgrounds and the red boundary shows the location of the flat track.



## 2.2.Site Background

### 2.2.1. Site Description

Humboldt County Fairgrounds (HCF) is an approximately 60.5 acre site comprised of eight parcels (APN numbers 030-081-006, 030-071-001, 030-021-003, 030-011-003, 100-181-003, 030-112-017, 100-112-020). The flat racing track falls within APNs 030-081-006-000 and 030-021-003. The site parking lot falls within APN 030-011-003-000. APN 030-071-001-000 contains a variety of event buildings, stables, and other ancillary buildings to the Fairgrounds. This parcel is also the primary location for foot traffic between the fairgrounds parking lot and the flat racing track. The other three parcels would not be in use during events and activities associated with implementation of this project.

The property is currently owned by Humboldt County and leased to the Humboldt County Fair Association (HCFA), a California private nonprofit corporation. The HCFA manages the site and oversees the events and happenings of the fairgrounds.



### 2.2.2. Zoning/Land Use

Though owned by the County of Humboldt, the majority of the Fairgrounds properties are located within the city limits of Ferndale. All of the lands and facilities to be utilized under the proposed project are planned and zoned “Public Facilities” (PF). However, activities at the site are exempt from the city’s zoning and land use regulations (Lawler v. City of Redding, 1992).

### 2.2.3. Historical Use/Existing Condition

The HCF are an open-air venue currently, and historically, used for a wide variety of events. Numerous buildings exist throughout the site and are used for these events. Figure 3 depicts the existing building layout of the fairgrounds.

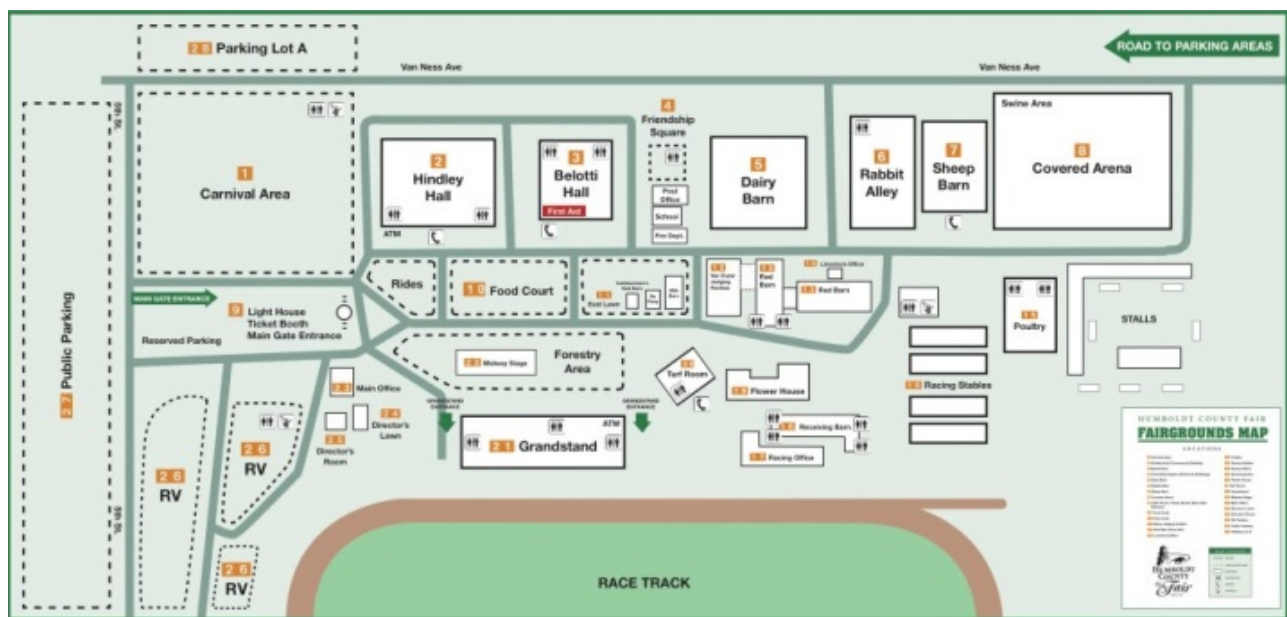


Figure 3: Humboldt County Fairgrounds event area approximate layout.

HCF is in good condition and sees regular use throughout the year. The grounds are maintained on a regular basis, including maintenance on all enclosed buildings, open air structures, and the race track. Buildings in use for events include the following:

- Belotti Hall
- Friendship Square
- Lath House
- Art Barn
- Judging Barn
- Hindley Hall
- Turf Room
- Jockeys Quarters
- Arena
- Grandstands

The fairgrounds and these buildings are either rented out for events or events are hosted by the HCFA. This includes the following events:

- Annual County Fair
- Personal Event Rentals
- Fireworks displays
- Craft and vendor fairs
- Highland Games
- Rodeos
- Athletic Events
- Funeral/Memorial Service
- Religious Retreats
- Auctions
- School events
- Horse Stall rental
- Skating
- Mud Run
- Equestrian Event
- Circus
- Animal Symposiums
- Graduations
- RV Parking
- Fourth of July
- Motorsports
- Logging conference
- Cycling Events
- Expos
- Carnival
- Performances/Theatrical
- Bingo Sporting Events

The grandstands border the race track and provide seating for observers during open-air events (seating for approximately 2500 people). Depending on the event, observers will also watch the events from the asphalt (2500-person approximate capacity) and the grass areas of the race track (5000-person approximate capacity).

Concerts and Motorsports events at the Humboldt County Fairgrounds are not without historic precedent. A review of information received from the Ferndale Enterprise reveals that live outdoor concert events have occurred on at least nine (9) separate occasions during the last twenty five (25) years. Given the nature of the facility, it is likely that use of the Fairgrounds for live concerts has occurred further back in time, especially during operation of the annual Humboldt County Fair each August. Newspaper information from both the Ferndale Enterprise and Humboldt Standard reveals the racetrack at the County Fairgrounds was used for automotive racing events as far back as 1947 and 1954.

year	month	Fair?	artist
1996		N	Willie Nelson
1997	August	Y	Suzy Boguss (concert 1)
1997	August	Y	Suzy Boguss (concert 2)
1997	August	N	Livestock 97
1998	August	Y	Ty Herndon
2001			Tim McGraw
2004	July	N	Lee Greenwood
2004	August		Loverboy
2011	September	N	Willie Nelson

HUMBOLDT STANDARD Thursday, August 5, 1954, P. 10



POWERSLIDING through a turn on a dirt track is Louie Tolstep of Milwaukie, Oregon. Louie is scheduled to make his bid for more points toward the Pacific Coast Championship this coming Sunday at the Ferndale Fairgrounds. The racing program starts at 2 p. m., under sponsorship of the American Racing Association. Time trials start at 1:00 p. m.

According to the archives of the Ferndale Enterprise, a race driver was killed during a meet in 1947. On page 10 of the August 5, 1954 edition of the Humboldt Standard appears an advertisement for a racing event at the Ferndale Fairgrounds.

#### **2.2.4. Surrounding Use**

HCF is bordered by agricultural land to on the north and west sides of the property, and residential areas to the south and east. The southern residential area, which resides on the opposite side of Arlington Ave from the fairgrounds, is approximately 200 feet from the closest edge of the fairgrounds flat track. The eastern residential area is located approximately 400 feet to the closest edge of the flat track, and is separated from HCF by the Ferndale High School field. The Ferndale High School buildings are adjacent to the southeast corner of the fairgrounds flat track, with the closest structure being approximately 80 feet from the track.

### **2.3. Project Description**

The scope of the proposed project is the allowance of two types of events to occur at the existing, dirt, flat track racing circuit located on the Humboldt County Fair Grounds premises at the location shown above in Figure 2. The two types of events that would be permitted under this project are Motorsports events and open air music events (Concerts). Events would be pre-scheduled and occur between March and October, excepting the six-week period (August 1st thru September 15th) associated with preparation, operation, and cleanup for the annual Humboldt County Fair. All events would end on or before 10 pm. Parking for spectators would occur through use of existing HCF parking areas.

#### **2.3.1. Motorsports Events**

The Humboldt County Fair Association (HCFA) is requesting authorization of up four (4) scheduled motorsports events to take place in a given year at HCF's flat track (Figure 2, and 3). Motorsports activities include: Tractor Pulls, 4x4 Truck events, Go Carts, Monster Trucks, and Motorcycle Racing. Flat track motorcycle racing involves up to 18 riders racing motorcycles, with a typical engine size of 250cc-450cc, on the dirt, oval, flat track. The races would potentially attract spectators who would view the events from the grandstands seating area on the north side of the track, as well as from the grassy area in the center of the track and other surrounding areas. Motorsports events would occur between the hours of 10:00 am and 10:00 pm, with some events ending earlier or starting later depending on the nature of the event. Motorcycle racing would take place in the afternoon, with a period for warmup and practice beforehand.

#### **2.3.2. Music Events**

The Humboldt County Fair Association (HCFA) is also requesting authorization of up ten (10) scheduled music events to take place at HCF's flat track (Figure 2, and 3) in a given year. These music performances would range from full band, amplified music to smaller acoustic events. Performers would set up in the interior of the race track on an installed temporary stage placed directly in front of the Grand Stands. Depending on the stage and event configuration, spectators would view the performance from the Grand Stands in addition to being allowed to stand or sit in

the area between the grandstands and the stage. Temporary tents or other such structures may be erected to provide an area for sound and lighting technician work areas or other ancillary activities to the performance. Concerts would occur between the hours of 12:00 pm and 10:00 pm, with some events ending earlier or starting later depending on the nature of the event.

### 3. Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by the proposed project, and would involve at least one impact that is determined to be a “Potentially Significant Impact” as indicated by the checklist on the follow pages of this report.

- |  |   |   |
|--|---|---|
| <input checked="" type="checkbox"/> Aesthetics       | <input type="checkbox"/> Agriculture and Forestry Resources | <input checked="" type="checkbox"/> Air Quality             |
| <input type="checkbox"/> Biological Resources        | <input type="checkbox"/> Cultural Resources                 | <input type="checkbox"/> Energy                             |
| <input type="checkbox"/> Geology/Soils               | <input type="checkbox"/> Greenhouse Gas Emissions           | <input type="checkbox"/> Hazards & Hazardous Materials      |
| <input type="checkbox"/> Hydrology/Water Quality     | <input type="checkbox"/> Land Use / Planning                | <input type="checkbox"/> Mineral Resources                  |
| <input checked="" type="checkbox"/> Noise            | <input type="checkbox"/> Population / Housing               | <input type="checkbox"/> Public Services                    |
| <input type="checkbox"/> Recreation                  | <input type="checkbox"/> Transportation                     | <input type="checkbox"/> Tribal Cultural Resources          |
| <input type="checkbox"/> Utilities / Service Systems | <input type="checkbox"/> Wildfire                           | <input type="checkbox"/> Mandatory Findings of Significance |

A detailed explanation of all responses follows in Section 4 of this report. All answers take into account the whole action involved, including off-site as well as on-site; cumulative as well as project-level; indirect as well as direct; and construction as well as operational impacts. The explanation of each issue identifies: (a) the significance criteria or threshold, if any, used to evaluate each question; and (b) the mitigation measure identified, if any, to reduce the impact to a less than significant level.

### 3.1.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

7/24/20  
Date



### 3.2.Evaluation of Environmental Impacts

- 1) A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources a lead agency cites in the parentheses following each questions. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A “No Impact” answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
- 2) All answers must take account of the whole action involved, including offsite as well as onsite, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
- 3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. “Potentially Significant Impact” is appropriate if there is substantial evidence that an effect may be significant. If there are one or more “Potentially Significant Impact” entries when the determination is made, an EIR is required.
- 4) “Negative Declaration: Less Than Significant With Mitigation Incorporated” applies where the incorporation of mitigation measures has reduced an effect from “Potentially Significant Impact” to a “Less Than Significant Impact.” The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section XVII, “Earlier Analyses,” may be cross-referenced).
- 5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
  - a) Earlier Analysis Used. Identify and state where they are available for review.
  - b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
  - c) Mitigation Measures. For effects that are “Less Than Significant with Mitigation Measures Incorporated,” describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

- 6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
- 7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
- 8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
- 9) The analysis of each issue should identify:
  - a) the significance criteria or threshold used to evaluate each question; and
  - b) the mitigation measure identified, if any, to reduce the impact to less than significant

### 3.2.1. Aesthetics

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic building within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Discussion

For this analysis, a “scenic vista” is considered a viewpoint that provides expansive views of scenic resource. The Scenic Resources section of the Humboldt County General Plan (Humboldt County, 2017) includes the following when discussing scenic resources: Forests, open space, agricultural lands, scenic roads, rivers, and various features associated with the coastline.

(a), (b), (c) – No Impact: The project is not located within a city- or county-mapped, or designated, scenic vista; within a scenic resources area; or along a state scenic highway (Caltrans, 2013). There are no rock outcroppings and trees and buildings at the site are of arguable historic significance. Temporary manipulation of the existing oval track and staging of infrastructure in support of concerts and motorsports events is not out of keeping with activities which have occur during horseracing and other events using this part of the fairgrounds. Additionally, both types of uses are typically customary to County Fairgrounds and District Agricultural Association properties across the country. Redwood Acres and the Del Norte County Fairgrounds serve as useful local examples.

(d) – Less Than Significant Impact with Mitigation Incorporated: No additional permanent lighting will be installed as a result of this project. However, temporary lighting is commonly incorporated into music events for the purpose of aesthetics and/or stage illumination. AES-1 requires stage lighting to be reviewed by the Humboldt County Fairs Association prior to each music event to ensure that stage lighting will be directed towards the ground, North of the stage at intensities low enough to prevent the illumination of adjacent parcels. With mitigation incorporated, the proposed project would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area. A less than significant impact would occur.

### Mitigation Measures:

AES-1: Temporary stage lighting used during events will be directed towards the ground and north of the stage at intensities low enough to prevent light spillage (illumination of adjacent parcels). To insure that all lighting conforms to this standard, Humboldt County Fair Association staff shall review the temporary lighting design for each music event.

NOI-8: Annual Reporting Requirement/Adaptive Monitoring Program.

**Finding: With the above mitigation incorporated, the Project would have a less than significant impact on aesthetics.**

### 3.2.2. Agriculture and Forestry Resources

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g), timberland (as defined by PRC section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forestland to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### Discussion

The proposed project site is located on already developed parcels, zoned as Public Facility under the City of Ferndale. In addition, the site is owned by Humboldt County. Therefore, activities at the site are not subject to the city's zoning and land use regulations (Lawler v. City of Redding, 1992). There are no forestry resources on the project site that would be impacted by the project.

This project intends to use parcels 030-021-022, 030-011-002, and 100-181-003 for overflow parking during the proposed events. Parcels 030-021-022 and 030-0011-002 are zoned as Agricultural Exclusive by the City of Ferndale (although exempt from Ferndale Zoning

ordinances), and 100-181-003 has an Agricultural Exclusive zoning and general plan designation with Humboldt County.

The Humboldt County Fairgrounds is bordered by agricultural land to the north, both under the jurisdiction of Humboldt County (to the north-west) and City of Ferndale (to the north-east). This project has the potential to substantially convert this Farmland to non-agricultural use to the extent of any other project that is adjacent to Farmland. The types of events proposed are not new to the site (see discussion of historic uses included in Section 2.2.3) and can be found at similar locations throughout the state and country. The primary change proposed is in relation to the frequency and timing by which these uses occur. As similar and periodic prior events never resulted in conversion of Farmland to non-agricultural land, there is little reason to expect that the proposed change in event frequency would prompt conversion of surrounding agricultural land.

(a) – No impact: Humboldt county is not included in the California Department of Conservation’s Farmland Mapping and Monitoring program.

(b) – Less than significant impact: Parking would only occur on parcels designated as Agricultural Exclusive by Humboldt County and City of Ferndale without any land preparation that would result in permanent alteration to the physical properties of the site. No other activities are proposed to occur on this land. This land has historically been used for this purpose during other events at HCF and no significant impact has occurred. To prevent potential soil compaction and diminished productivity, it is customary that the fields are aerated following the close of the event season. Due to the infrequent and temporary use of this land, the impacts to the agricultural use of this land are not significant.

(c) and (d) – No impact: No forestland is present within the project area. Therefore the project will result in no impact to the resources on the project site.

(e) – Less than significant impact: There is no foreseeable reason why the proposed events would result in the conversion of the agricultural land on, or to the north of the project site. In addition, there is no nearby forest land. Therefore, the project will have a less than significant impact on these resources.

**Mitigation Measures:** No mitigation required.

**Findings:** The project would have a **less than significant impact** on agriculture and forestry resources.



### 3.2.3. 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:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

#### **Discussion:**

Humboldt County is listed as "attainment" or "unclassified" for all federal and state ambient air quality standards except the state 24-hour standard for particulate matter of 10 microns or less (PM<sub>10</sub>), for which Humboldt County is designated "nonattainment." PM<sub>10</sub> air emissions include chemical emissions and other inhalable particulate matter with an aerodynamic diameter of less than 10 microns. PM<sub>10</sub> emissions include smoke from wood stoves, airborne salts, diesel exhaust, and other particulate matter naturally generated by ocean surf. Primary sources of particulate matter include on-road vehicles (engine exhaust and dust from paved and unpaved roads), open burning of vegetation (both residential and commercial), residential wood stoves, and stationary industrial sources (factories). In 1995, the Air District conducted a study to identify the major contributors of PM<sub>10</sub>, which is summarized in the draft report entitled Particulate Matter PM<sub>10</sub> Attainment Plan. According to the Air District website, this report should be used cautiously as it is not a document that is required in order for the Air District to come into attainment for the state standard. Cars and trucks and other vehicles are considered a source of particulate matter within the district. Fugitive emissions as a result of vehicular traffic on unpaved roadways are the largest source of particulate matter emissions within the district.

In determining whether a project has significant air quality impacts on the environment, planners typically apply their local air district's thresholds of significance to projects in the review process. However, the Air District has not formally adopted significance thresholds, but rather utilizes the Best Available Control Technology emission rates for stationary sources as defined and listed in the Air District's Rule 110 - New Source Review and Prevention of Significant Deterioration. The Air District does not currently have any thresholds for toxics, but recommends the use of the latest version of the California Air Pollution Control Officers Association's "Health Risk Assessments for Proposed Land Use Project" to evaluate and reduce air pollution impacts from new development.

(a) – Less than significant impact: The proposed project has no development portion and therefore no potential for associated air quality impact. Potential air quality impacts of this project would be associated with an increase in automobile exhaust from event attendees and the flat track motorcycles, in addition to dust generated due to the flat track racing occurring on a dirt track. However, additional automobile exhaust as a result of the proposed events is negligible in comparison to that already generated by the allowable event types at HCF. Dust generated due to the flat track racing is also negligible when taking into consideration the duration and frequency of these events. In addition, the track on which the motorcycles race is maintained regularly and not expected to produce excessive dust.

(b) – Less than significant with mitigation incorporated: A calculation of estimated emissions is not necessary in order to conclude with certainty that the project would have a less than significant impact on increases of any criteria pollutants, and would not result in cumulatively considerable net increase of any criteria pollutants. The project would be consistent with the Air District's PM<sub>10</sub> Attainment Plan as the project does not include the operation of woodstoves or hearths, and would not emit PM<sub>10</sub> at levels that would exceed the Air District's threshold of 15 tons per year (NCUAQMD Regulation I, Rule 110). This project would not conflict with or obstruct implementation of the Air District's air quality objectives or standards, or contribute in a substantive way to a non-attainment of air quality objectives in the project area air basin. Under dry and windy conditions, potential exists for creation and transport of fugitive dust. To combat this, mitigation measure AQ-1 has been included whereby the operator will periodically apply water or other dust suppressants to minimize the potential for dust to escape during flat track racing or other Motorsports. Rule 104(d) adopted by the North Coast Unified Air Quality Management District (NQUAQMD Regulation I, Rule 104) includes prescriptions for managing fugitive dust and is enforceable in cases where a complaints are received.

(d) – Less than significant impact: The project site is bordered by potential sensitive receptors including Ferndale High School and several residential dwellings. Air emissions associated with the project are limited to vehicle related pollutants and increases in these emissions in relation to the background emissions are minor, infrequent, and limited in duration. Therefore these emissions do not present a significant exposure concern. Emissions from vehicles associated with the events will dissipate into the atmosphere before they could expose people working or residing in the area to substantial pollutants.

(e) – Less than significant impact: Any odors that could potentially result from the proposed events are minor and temporary. It is unlikely that nearby receptors would notice any odors associated with these events, especially when compared to those produced by events already allowed at the HCF.

### Mitigation Measures:

AQ-1: Where a racing event occurs during a period with dry and windy conditions, the operator shall apply water or other dust suppressants to the track prior to and between races to minimize the potential for dust to escape from the racetrack and fairgrounds properties.

NOI-8: Annual Reporting Requirement/Adaptive Management Program.

**Findings:** With Mitigation, the project would have a **less than significant impact** on Air Quality.

### 3.2.4. Biological Resources

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Discussion:

The project site is currently developed and the proposed project does not include any development activities or the installation of any permanent structures or other physical features.

(a)-(f) – No impact: There are no riparian areas or other areas that could provide habitat on or near the site. There is no established major vegetation on the site. There are no wetlands on site. The project site is not located on a known wildlife corridor or native wildlife nursery site. The proposed events would not interfere 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. No local ordinances or policies protecting biological resources would be violated as there are no biological resources located on the site.

The proposed project would not affect species located outside the site. Based on noise levels reported in the *Noise Impact Study* and *Noise Study Addendum* by Whitchurch Engineering Inc., and the sites close proximity to developed sites, no impact would occur to biological resources as a result of the proposed project.

**Mitigation Measures:** No mitigation required.

**Findings:** The project would have **no impact** on biological resources.

### 3.2.5. Cultural Resources

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

### Discussion

(a)-(c) – No Impact: The proposed scope of the proposed project does not include any permanent physical changes to the site including the alteration of any existing buildings, earth disturbing construction, or any other activities that would have the potential to alter or damage any cultural resources. Any temporary structures that may be used during the events such as tents, staging, etc. would be installed on top of the existing surface and would therefore result in no impact to potential cultural resources.

The closest designated historical resource is the Alford-Nielson House, a Victorian Cottage in the Second Empire style located approximately 450 feet east of the project site. While not designated at this time, the racetrack and grandstands are of sufficient age to possess potential historical significance. Given the project primarily involves authorizing uses and no permanent improvements, modifications, or physical changes to the site, there is no potential to cause an adverse change to the significance of potential or listed historical resources at the site or in the

vicinity. Any temporary structures that may be used during the events such as tents, staging, etc. would be installed on top of the existing surface and would therefore result in no impact to potential cultural resources.

**Mitigation Measures:** No mitigation required.

**Findings:** The project would have **no impact** on cultural resources.

### 3.2.6. Energy

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

### Discussion

(a)-(b) – No Impact: The project involves increased use of an existing public facility designed with capacity to accommodate large-scale events. Using existing event facilities (where needed ancillary infrastructure is already developed) is far more efficient than developing new event locations. There is significant embodied energy found in fairgrounds facilities being utilized, including: the grandstands, racetrack, parking areas, and electrical, sewer and water facilities.

**Mitigation Measures:** No mitigation required.

**Findings:** The project would have **no impact** energy.

### 3.2.7. Geology and Soils

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Prilo 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.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii. Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



iii. Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv. Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on expansive soils, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Discussion:

(a)(i), (ii), (iii), (iv), (d) – No impact: The scope of this project does not include onsite activities, or the addition, installation, or construction of any structures or other project elements that could be impacted or impact other sites as a result of geologic events/properties.

(b) – No impact: The scope of this project does not include any grading or other earth disturbing activities that could result in an increase in soil erosion or loss of topsoil.

(c) – No impact: Due to the moderate slopes of the project area, there is negligible potential for instability to result in on-or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.

(e) -- No impact: The scope of this project does not include the placement of a septic tank or alternative disposal system.

(f) – No impact: The scope of this project does not include any new grading or other earth disturbing activities that could result in an increase in soil erosion or loss of topsoil. The oval racetrack has been utilized for horse racing and similar events for over a century. Grading associated with track prep and course development will not result in significant amounts of new excavation at the site. Any temporary structures that may be used during the events such as tents, staging, etc. would be installed on top of the existing surface and would therefore have little likely potential to come into contact with or destroy a unique paleontological resource or geologic feature.

**Mitigation Measures:** No mitigation required.

**Findings:** The project would have **no impact** on geology and soils.

### 3.2.8. Greenhouse Gas Emissions

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

#### Discussion

Section 15064.4 of the CEQA guidelines specifies how the significance of impacts from greenhouse gas (GHG) emissions is to be determined. The Lead Agency is to make a good faith effort to describe, calculate, or estimate the amount of GHG emissions that will result from a project. The Lead Agency is also to consider the following factors when assessing the impacts of the GHG emissions on the environment:

1. Extent to which the project may increase or reduce GHG emissions, relative to the existing environmental setting
2. Whether the project emissions exceed a threshold of significance that the Lead Agency determines applies to the project
3. Extent to which the project complies with regulations adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions

Global climate change is a process whereby GHGs accumulating in the atmosphere contribute to an increase in the temperature of the earth's atmosphere. The primary GHGs contributing to global climate change are carbon dioxide, methane, nitrous oxide, and fluorinated compounds. These gases allow visible and ultraviolet light from the sun to pass through the atmosphere, but prevent heat from escaping back out into space.

Among the potential consequences of global climate change are rising sea levels and adverse impacts to water supply, water quality, agriculture, forestry, and ecosystems. In addition, global climate change may increase electricity demand for cooling, decrease the availability of hydroelectric power, and affect regional air quality and public health.

In California, the largest emitter of GHGs is the transportation sector, followed by electricity generation. Carbon dioxide, methane, and nitrous oxide emissions are byproducts of fossil fuel combustion. GHG emissions are typically reported as carbon dioxide equivalents (C02e) to account for the fact that different GHGs have different potentials to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. Expressing emissions in C02e takes the contributions of all GHG emissions to the greenhouse effect and converts them to a single unit

equivalent to the effect that would occur if only carbon dioxide was being emitted (BAAQMD, 2017).

In the fall of 2006, Governor Schwarzenegger signed AB 32, the Global Warming Solutions Act, into law. The bill requires reductions in statewide greenhouse gas emissions to 1990 levels by the year 2020. This requires a 28% reduction in current annual greenhouse gas emissions. In 2016, Governor Brown signed SB 32, requiring California to reduce greenhouse gas emissions to 40 percent below 1990 levels by 2030.

On December 11, 2008, California Air Resources Board (CARB) approved the Climate Change Scoping Plan (CEPA, Air Resources Board, 2008), pursuant to AB 32. The Climate Change Scoping Plan recommends a wide range of measures to reduce GHG emissions that include, but are not limited to:

- Expanding and strengthening existing energy efficiency programs
- Achieving a statewide renewable energy mix of 33 percent
- Developing a GHG emissions cap-and-trade program
- Establishing targets for transportation-related GHG emissions for regions throughout the State in addition to pursuing policies and incentives to meet those targets
- Implementing existing State laws and policies that include California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard
- Targeted fees to fund the state's long-term commitment to administering AB32

The primary greenhouse gas emissions that can be expected to be produced by this project are those produced by vehicle emissions. The average annual emissions of a typical passenger vehicle are approximately 4.6 metric tons of carbon dioxide per year, assuming 11,500 miles driven per year and an average fuel economy of 22.0 miles per gallon (EPA, 2018). This equates to 239 cars driving 11,500 miles a year in order to exceed the greenhouse gas threshold of 1,100 metric tons per year for non-stationary sources (BAAQMD, 2017). It should be noted that automobiles also produce other greenhouse gasses including methane and nitrous oxide which are not included in this calculation. However, carbon dioxide is the driving greenhouse pollutant and provides an adequate representation of vehicle emissions for this analysis.

(a) – Less than significant impact: Given the modest number of events associated with this project, the increase in vehicles that would come to these events relative to the events that are already permitted at HCF is minor. The other possible increase in greenhouse gas emissions would be those produced by the flat track racing motorcycles. The amount of greenhouse gases that 18 motorcycles can be expected to produce during four scheduled racing events a year, in addition to the increase in vehicles traveling to the event is less than significant in comparison with the sample BAAQMND significance threshold for mobile sources, which is represented by 239 passenger vehicles driving 11,500 miles each in a year.

(b) – Less than significant impact: The local Climate Action Plan for Humboldt County is currently being drafted. As such, there is currently no adopted plan or policy for the County of Humboldt specifically related to greenhouse gas emissions. The project would not pose any conflict with CARB's early action strategies or the Vibrant Communities and Landscapes / VMT Reduction Goals goals listed in CARB's 2017 Scoping Plan Update. Additionally, because the project is not classified as a major source of greenhouse gas emissions, the greenhouse gas emissions produced would not conflict with the state's ability to meet its AB 32 or SB 32 goals. The GHG emissions resulting from the project will not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. A less than significant impact would occur.

**Mitigation Measures:** No mitigation required.

**Findings:** The project would have a **less than significant impact** on greenhouse gas emissions.

### 3.2.9. Hazards and Hazardous Materials

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Discussion

The state of California Environmental Protection Agency, Department of Toxic Substances Control's EnviroStor website was reviewed on December 28, 2018 (<http://www.envirostor.dtsc.ca.gov/>). No concerns were identified for the site. The nearest identified site is 750 feet east of HCF, but is a historically identified site, where Humboldt County filed a complaint about heavy oil contamination on a feed-manufacturing site and it was referred to the Water Board in 1994. No other sites were identified in the area.

(a),(b) –No Impact: This project will not involve the routine transport, use, or disposal of hazardous materials. The project will not generate reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. The project will not emit hazardous emissions or involve handling of hazardous or acutely hazardous materials, substances, or waste. No construction activities involving possible hazardous materials will occur in association with this project

(c) – No impact: The project is within a quarter mile of Ferndale High School. However, the project will not involve emitting any hazardous emissions, the handling of hazardous or acutely hazardous materials, substances, or wastes.

(d) – No impact: The site has not been identified on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.

(e) – No impact: The nearest airport to the site is Rohnerville Airport. Located 6.7 miles south-east of HCF, Rohnerville Airport is a county-owned, public-use, general aviation airport. The project site is located beyond any of the airport compatibility zones that require special restrictions. Therefore, the project will not conflict with the air space routinely used by airplanes arriving and departing from Rohnerville Airport. There are no private airstrips in the vicinity. No impact would occur.

(f) – Less than significant: The events proposed by this project would not result in any significant change in traffic, pedestrian thoroughfare, or other such activities in relation to the events that already occur at the HCF. As such, the project would not interfere with an adopted emergency response plan or emergency evacuation plan; therefore, the impact would be less significant as a result of the proposed project.

(g) – No impact: According to the General Plan Hazard Mapping the area in which the HCF is located has a low fire hazard rating and is not subject to wildland fires.

**Mitigation Measures:** No mitigation required.

**Findings:** The project would have a **less than significant impact** on hazards and hazardous materials.



### 3.2.10. Hydrology and Water Quality

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) result in substantial erosion or siltation on- or off-site;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Discussion

New development is not within the scope of this project. Therefore, no grading or earth disturbing activities, development of new buildings, structures, paving, or other impervious features, or additions/alterations to existing buildings, structures, or other features will occur as part of this project.

(a) – No impact: Since no earth disturbing activities, increases in impervious area, or other changes to the hydrologic properties of the land will occur, this project is not subject to the regulations of the NPDES, state Construction General Permit, or Humboldt County’s construction stormwater ordinance.

(b) – No impact: The project does not include any groundwater withdrawals and is not expected to impact groundwater in any other manner.

(c) – No impact: Since no physical changes to the site are within the scope of this project, no alteration to the existing drainage pattern, or stormwater quantities for the site or area are expected.

(d) – No impact: The project area is not situated within a FEMA mapped special flood hazard zone (FIRM No. 06023C1184F). No levees or dams are situated near the project area. The elevation of the project area precludes any risk of inundation by seich or tsunami, and the topography precludes any risk of mudflow.

(e) – No impact: No aspects of the project would result in the obstruction of a water quality control plan or sustainable groundwater management plan. The racetrack and grandstands are already developed and groundwater is not utilized by the proposed project or existing uses at the site.

**Mitigation:** No mitigation required.

**Findings:** The project would have **no impact** on hydrology and water quality.

### 3.2.11. Land Use and Planning

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### **Discussion**

Although the property is within the City of Ferndale, because it is a county-owned property, the city does not have jurisdiction over planning and zoning of the project site (Lawler v. City of Redding, 1992). However, the site is zoned as a public facility (P-F) by the City of Ferndale. The Ferndale General Plan Land Use Element states that permitted Public Facility Land uses to be enumerated by the Ferndale Zoning Ordinance. The Ferndale Zoning Ordinance permits the following uses for public facilities:

Principal permitted uses:

- a. Public schools, parks, playgrounds and recreational facilities.
- b. Public fairgrounds and related uses.
  - i. Public buildings, including City Hall, fire stations, libraries, courts, museums, auditoriums, hospitals, and similar uses.

Uses permitted with a Use Permit:

- a. Penal, correctional or detention institutions and facilities for the care of mental patients.
- b. Public corporation yards, shops, repair and storage yards and buildings.

The areas of the Fairgrounds where project related activities would occur are all located within the Ferndale City Limits and therefore not within the coastal zone.

(a) – No impact: This site does not include the construction or demolition of any structures and therefore does not have the potential dividing an established community.

(b) – Less than significant impact: Although county owned property within city limits is exempt from the city’s zoning and general plan requirements, the project does appear to be consistent with the uses allowed in the public facility zoning designation as a public fairgrounds related use.

Concern over adequate parking has resulted in the development of a *Parking Plan* by Whitchurch Engineering Inc. to demonstrate compliance with the Humboldt County Code parking requirements. Discussion concerning compliance with the Noise standards found within the Humboldt County General Plan is further discussed below within section 3.2.13 of this document.

**Mitigation Measures:** No mitigation required

**Findings:** The project would have **less than significant impact** on land use and planning.

### 3.2.12. Mineral Resources

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally important mineral resource recover site delineated on a local general plan, specific plan, or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Discussion

(a), (b) – No impact: The project will not use or otherwise deplete any mineral resources that are of value to the region or state.

**Mitigation Measures:** No mitigation required

**Findings:** The project would have **no impact** on mineral resources.

### 3.2.13. Noise

Would the project result in:	Potentially Significant Impact	Less Than Significant with	Less Than Significant Impact	No Impact

		Mitigation Incorporated		
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Discussion

A *Noise Impact Study* (August, 2018) to investigate the noise impacts of the proposed flat track racing events, and a *Noise Study Addendum Rev 2* (February, 2020) to investigate the noise impacts of the proposed open-air concerts, were developed by Whitchurch Engineering Inc. The results of these studies are summarized below. The studies are also attached as Appendices to this document.

Current ambient noise conditions within the vicinity of the racetrack are due to traffic noise and standard residential noise sources (lawnmowers, power tools, etc.). Residential areas in Ferndale have a continuous noise limit set to approximately 60 dB, with a limit of 45 dB interior (City of Ferndale, 2016). Conditional noise limits are set at 70 dB by both the City of Ferndale and the HCGP (Humboldt County, 2018). The 2016 draft of an updated Noise Element of the Ferndale General Plan remains unadopted at this time. The existing City of Ferndale General Plan Noise Element is included with the Public Safety and Scenic Highway Elements from 1975. This analysis is concerned with adherence to the Humboldt County General Plan and the noise limits set by Table 13-C (Humboldt County, 2016). This limit in question is 60 dB which is the upper limit of normally acceptable noise levels in residential areas. The normally unacceptable limit is 70 dB which may be permitted per a Conditional Use permit for temporary events.

Noise levels measured and calculated in the referenced noise studies do not show obvious compliance with the Humboldt County General Plan. However, the General Plan notes that, “The perception of nuisance will vary based upon sound level, frequency, and fluctuation. It also depends upon the character of the sound, number of noise events, familiarity and predictability, and the attitude of the listener. CNEL and  $L_{max}$  are typically the basis for making nuisance determinations but other factors may be considered. For example, an annual high school parade may exceed residential noise levels but might not be deemed a nuisance.”

For flat track racing events, the noise study resulted in a community noise equivalent level (CNEL) of 77.4 dB at the Arlington Avenue receptor and 75.7 dB at the Highway 211 receptor during peak racing conditions. The maximum noise level ( $L_{max}$ ) was 85.6 dB at the Arlington

Avenue receptor and 85.9 dB at the Highway 211 receptor. For concert events, the noise study resulted in a CNEL ranging from 90.8 - 100.7 dB and  $L_{max}$  values ranging from 98.0 – 101.0 dB.

Interior noise levels experienced will vary given the assortment of ages and construction types of homes in the vicinity of the project. Between 15-40 decibels of attenuation can be expected, depending on the design of the home (framing, fenestration, insulation) and materials utilized. Along Arlington Avenue, most homes are of a more recent vintage (only 2 homes appear in a photograph from 1948). On Main Street, 5<sup>th</sup> Street, and Van Ness one finds more of a mixture of older homes along with newer post-war development.

(a) – Less than significant with mitigation incorporated: Sensitive noise receptors in the vicinity of the Humboldt County Fairgrounds consist primarily of the neighboring residential areas. The Humboldt County General Plan lists the maximum interior noise level for residential homes as a CNEL of 45 dB. Noise exposure levels (CNEL values) below 55 dB are considered “clearly acceptable”, 55dB-60 dB is considered “normally acceptable”, 61-75 dB is considered “normally unacceptable”, and levels above 75 dB are considered “clearly unacceptable”. The short-term noise standard ( $L_{max}$ ) for residentially zoned areas is 65 dB, however the Humboldt County General Plan also allows for waiver of short-term noise standards where temporary events are operated in conformance with an approved Conditional Use Permit.

For flat track racing, unmitigated CNEL values fall into the “clearly unacceptable” range. Several potential mitigation measures are reviewed in the referenced noise study, including limiting the number of riders that participate in a race, adjusting the evening hour at which races stop, and requiring bikes to have new racing exhaust systems equipped. By adhering to one or more of these mitigation measures, the CNEL values associated with these events can be reduced to “normally unacceptable”. The largest reduction in resulting CNEL values can be accomplished by requiring all riders outfit their motorcycles with special exhaust system components designed to reduce sound. This typically involves use of resonators, fiberglass insulation, and baffles. This measure is being included as an operational restriction under the terms of the permit being requested and is reflected in Mitigation NOI-2. NOI-3 requires that all riders implement exhaust system treatments and submit to noise testing and verification before being allowed to compete in the races.

For the concert events, interior levels do not meet the general plan’s maximum noise level, and the unmitigated CNEL values fall into the “clearly unacceptable” range. The mitigation measures reviewed for these events in the *Noise Study Addendum Rev 2* consists of implementing a dense straw bale sound wall, ending the concerts at earlier times, and adjusting sound levels via a sound engineer. Through the implementation of the sound wall, it is possible to reduce sound impact by 21.6 dB. This very nearly brings the events into the “normally acceptable” range and into the lower end of the “normally unacceptable” range.

Further mitigation measures recommended in this report include sound level monitoring and adjustment for each individual concert event. This is incorporated as NOI-4. By conducting routine sound level monitoring and adjustment during events, noise from amplified music can be kept from exceeding specific agreed upon limits. During live amplified performances, sound from instruments is ultimately run into the Public Address (PA) system which performs the principal means for amplification of the live sound after receiving signal from the mixing board. Using faders on the mixing board which control the volume of various instruments and microphones, it is possible to precisely control the overall sound levels which occur during a performance.

Other Motorsports events include Tractor Pulls, 4x4 Truck events, Go Carts, and Monster Trucks. A 2-day Monster Truck event held at the Fairgrounds in June of 2017 resulted in a number of noise complaints. A story in the local paper claimed that sound levels between 80-95 decibels were registered near the Ferndale high school gym located southwest of the racetrack. Since noise from monster trucks is essential to the spectator experience, limiting the number of events was the best feasible mitigation available to help control impacts. NOI-5 limits Monster Truck events to one (1) event per year. Given the limited number of motorsports events and particular venue characteristics that are needed to host events of this sort, the project is a good candidate for considering an exception to the general plan short term noise standards.

(b) – Less than significant impact: There would be minimal potential to generate excessive groundborne vibration or noise. Vibration substantially attenuates with distance such that impacts at sensitive receptors would be less than significant.

(c) – No impact: There are no public or private airports within two miles of the project site. The nearest airport to the site is Rohnerville Airport, located 6.7 miles south-east of HCF.

### **Mitigation Measures:**

NOI-1: Concerts and Motorsports events shall end no later than 10pm. This limitation shall be made part of all event contracts. Compliance with this measure shall be documented as part of the Annual Report (NOI-8: Annual Reporting Requirement/Adaptive Monitoring).

NOI-2: During flat track racing events, racers may only use motorcycles which produce no more than 90 decibels of noise when measured 20 inches from the end of the exhaust pipe. To accomplish this, motorcycles shall be equipped with exhaust systems featuring sound reduction components, including resonators/mufflers, fiberglass insulation, and baffles.

NOI-3: During flat track racing events, noise from all participating motorcycles will be tested and measured prior to allowing riders to use the track. Noise shall be measured using the current testing procedure found in the 2020 American Flat Track Association Rulebook (Appendix D). Noise from each motorcycle must be at or below 90 decibels. To best ensure all riders are able to comply with this requirement to compete, event promoters and participants shall be notified of the noise standard as early as possible in advance of the event.

NOI-4: During all concert events, a dense strawbale soundwall will be installed near the rear of the stage between the concert and Arlington Avenue. The soundwall will be of sufficient thickness and height to insure it provides at least 20 decibels of noise attenuation and will be verified by a registered engineer or other qualified person conducting noise testing in front of and behind the soundwall system.

NOI-5: A sound engineer will be used during all concert events. The engineer will work with event staff to ensure that amplified music does exceed CNEL values and associated maximum noise levels identified in Table 1 (see NOI-7).

NOI-6: A maximum of four (4) motorsports events will be held each year. Only one (1) motorsport event per year can include Monster Trucks.

NOI-7: The calculated CNEL noise value shall not exceed 63 decibels during flat track motorcycle racing events. During concerts, the calculated CNEL noise value shall not exceed 73 decibels. HCFA will monitor noise levels during concerts and racing events to ensure that event-related noise levels remain at or below the following limits. Noise will be measured from the locations used in the Noise Impact Study prepared by Whitchurch Engineering (shown below).

Table 1 CNEL Noise Limits

EVENT TYPE	TIME WHEN MEASUREMENT IS TAKEN	MAX. CNEL VALUE (DB)	MEASUREMENT LOCATION
Motorcycle Racing	during largest race group / heat of the day	63	Arlington Ave.
			FHS admin lot
Concerts	during main performance (headlining act)	73	Arlington Ave.
			FHS admin lot



Figure 4 Sound Measurement Locations



NOI-8: Annual Reporting Requirement/Adaptive Management Program.

By December 31st of each year, the Humboldt County Fair Association shall prepare and submit an annual report to the Director of the Planning & Building Department. The report shall detail all Concert and Motorsports events held during that year and include the following information:

- *Listing and summary of all concerts and motorsports events held.* Including the scheduled date of each event, beginning and ending times for each event, number of tickets sold and number of attendees/spectators, parking areas utilized, and event-specific noise measurements.
- *Noise measurements.* Noise levels shall be measured during all concerts and motorsports events, and readings shall be taken from the Arlington Avenue and “City of Ferndale” locations used in the Noise Impact Study prepared by Whitchurch Engineering. A noise meter similar to the type used in the Noise Study (PCE Instruments PCE-322A) shall be used. If measurements reveal noise levels exceeding the following thresholds, HCFA staff shall document the exceedance and coordinate with event staff to implement measures which consistently reduce event-related noise to levels at or below the limits in Table 2.

EVENT TYPE	TIME WHEN MEASUREMENT IS TAKEN	MAX. CNEL VALUE (DB)	MEASUREMENT LOCATION
Motorcycle Racing	during largest race group / heat of the day	63	Arlington Ave.
			FHS admin lot
Concerts	during main performance (headlining act)	73	Arlington Ave.
			FHS admin lot

Table 1 CNEL Noise Limits

- *Adaptive management.* The report shall document wherever refinement or addition of a mitigation measure or operational restriction was needed to ensure events are held in conformance with the established conditions of the permit and lease agreement. These changes shall be memorialized in standard operating procedures and thereby remain a requirement of the Conditional Use Permit.
- *Lighting.* Photographs shall be taken showing the stage and track configuration used during each event. Photographs shall be provided for events which occurred in the evening, documenting compliance with the restrictions on temporary stage lighting to prevent light spillage onto neighboring residential properties.

The report may also include correspondence from agencies affected by the events (i.e., Humboldt County Public Works, Division of Environmental Health, Sheriff’s Office, California Highway Patrol, City of Ferndale Police Department, California Department of Transportation).

*Note: HCFA need only submit documentation showing that events have been successfully operated in conformance with all mitigation measures, operational restrictions, and conditions of project approval during two (2) successive instances for each of the following event types:*

- *Concerts*
- *Motorcycle Racing*
- *Monster Trucks/Tractor Pulling*

*The Director of Planning & Building Department may request further documentation where HCFA has not sufficiently demonstrated conformance with the terms of the permit and required mitigation measures. The Director may waive the need for submittal of future reports during subsequent years if review of the information submitted reveals strong compliance with the terms of the permit and mitigation measures.*

**Findings:** With Mitigation, the project would have a **less than significant impact** on noise.

### **3.2.14. Population and Housing**

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

### **Discussion**

(a), (b) – No impact: The proposed project has no association with population or housing.

**Mitigation Measures:** No mitigation required.

**Findings:** The project would have **no impact** on population and housing.

### **3.2.15. 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 public services:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Threshold of significance: Changes to an existing fire-protection system, or perceived need for such changes.				
b) Police protection?  Threshold of significance: Changes to an existing law enforcement system, or perceived need for such changes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Schools?  Threshold of significance: Changes in existing school enrollments, or uses of schools, or perceived need for such changes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Parks?  Threshold of significance: Changes to an existing park, resulting in less use, or a need for significant repairs to park facilities, or replacement parks.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Other public facilities?  Threshold of significance: Changes to other public facilities that are not directly a part of the county's roadway or storm water conveyance system.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Discussion

(a) through (e) – No impact: The proposed project in and of itself would not impact public services. The project site has a long track record of being used for public gatherings and large events. There is no reason to expect that authorizing use of the Fairgrounds for additional events would result in a significant increase in demand for public services.

**Mitigation Measures:** No mitigation required.

**Findings:** The project would have **no impact** on public services.

### 3.2.16. Recreation

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?  <u>Threshold of significance:</u> Increased demand for recreational facilities or increased use of existing recreational areas such that those areas are physical degraded.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

<u>Threshold of significance:</u> Increased demand for recreation facilities or increased use of existing recreational areas in a manner that would lead to an adverse change in the environment, such as degradation through over-use of environmentally sensitive areas.				
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## Discussion

(a), (b) – No Impact: The proposed project would not involve substantial population growth or other such activities that would put significant additional pressures on area parks or recreational facilities. No impact would occur.

**Mitigation Measures:** No mitigation required.

**Findings:** The project would have **no impact** on recreation.

### 3.2.17. Transportation/Traffic

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

## Discussion

Section 15064.3(b) of the CEQA Guidelines includes criteria for analyzing transportation impacts. At this time local guidance for evaluating VMT impacts is still in draft form. Where existing models or methods are not available, a lead agency may perform a qualitative analysis. This site has a long history of use for accommodating large assemblages of persons and vehicles. By their nature and purpose, county fairgrounds are often established in areas central to the county in which they are located, and the Humboldt County Fairgrounds is consistent with this pattern. It is anticipated that the majority of attendees at these events will be traveling from locations within Humboldt County. Being more centrally located, carpooling will be possible by a larger percentage of people.

(a) – No impact: There is no evidence that the proposed events would conflict with an ordinance or policy addressing the circulation system.

(b) – Less than significant impact: At this time local guidance for evaluating VMT impacts is still in draft form and no localized thresholds of significance exist. The fairgrounds is located within 35 miles of the major population centers of the county (Blue Lake, McKinleyville, Arcata-Eureka, Fortuna and Rio Dell –with Eureka and Fortuna being much closer). It is also more conveniently situated to residents in the southern and eastern portions of the county. Trips to the County Fairgrounds from these communities range from 11 miles shorter to over 20 miles shorter than trips to the next closest venue of similar size (the Redwood Acres facility in Eureka). Whereas, to attendees from communities north of Ferndale, the difference in trip length between Redwood Acres in Eureka and the Ferndale Fairgrounds is typically 17 miles. The benefit in reduced miles traveled by attendees from communities in southern and eastern portions of the county combined with increased potential for carpooling by residents from more densely populated communities to the north is in keeping with general principles for VMT reduction, whereby facilities are located in close proximity to the populations they serve.

(c) – No impact: no new roads would result from the project and the proposed new uses are compatible with the nature and purposed of the County Fairgrounds, a public facility designed to accommodate large assemblages of people.

(d) – The parcel is centrally situated and has a long track record of coordinating with the Ferndale Fire Department on event related concerns. No proposed project elements would have an impact on emergency access.

**Mitigation Measures:** No mitigation required.

**Findings:** The project would have a **less than significant impact** to transportation/traffic.

### 3.2.18. Tribal Cultural Resources

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:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register or historical resources as defined in Public Resources Code Section 5020.1(k)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth In subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

<u>Threshold of significance:</u> Adverse alteration of those physical characteristics of a tribal cultural resource that are significant for its eligibility in the national, state, or local register.				
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## Discussion

(a) and (b) – Less than significant impact: A less than significant impact is expected due to the lack of earth disturbing activities associated with the project and the similarity between the proposed events and historically permitted events at HCF. Grading associated with track prep and course development will not result in significant amounts of new excavation at the site. Any temporary structures that may be used during the events such as tents, staging, etc. would be installed on top of the existing surface and would therefore have little likely potential to come into contact with or result in a substantial adverse change to a tribal cultural resource.

**Mitigation Measures:** No mitigation required.

**Findings:** The project would have a **less than significant impact** on tribal cultural resources.

### 3.2.19. Utilities and Service Systems

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Discussion

The Fairgrounds already receives water and sewer service through the City of Ferndale. The complex also is developed with storm water drainage, electricity, natural gas, and telephone communications facilities.

(a) – No impact: The project would not result in the need to relocate or construct new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities.

(b) – No impact: There is no reason that new events associated with the project result in water use in exceeding the locally available water supply.

(c) – No impact: The Fairgrounds site has an established track record of wastewater generation and service received through the City of Ferndale. There is no reason to suggest that the new events associated with the project would exceed local wastewater capacity in the context of current commitments. The events are temporary and in total represent less than one half of one month of service.

(d)-(e) – No impact: Beyond modest waste from event-related concessions, the project is not expected to directly or indirectly result in a significant increase in waste as a result of operating 14 additional events each year. Volumes would be at or below baseline levels at the site, especially those generated during operation of the Annual County Fair.

**Mitigation Measures:** No mitigation required.

**Findings:** The project would have **no impact** on utilities and service systems.

### 3.2.20. Wildfire

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Discussion

(a) - (d) – No impact: The Fairgrounds is located within the City limits of the City of Ferndale and over ½ a mile from the nearest State Responsibility Area for Fire Protection.

**Mitigation Measures:** No mitigation required.

**Findings:** The project would have a **less than significant impact** on Wildfire.

### **3.2.21. Mandatory Findings of Significance**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Does the project have the potential to 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 a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## Discussion

(a) – Less than significant impact: As documented in this Initial Study, the project would not substantially degrade the quality of the environment; substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; reduce the number or restrict the range of an endangered, rare, or threatened species; or eliminate important examples of the major periods of California history or prehistory.

(b) – No impact: The project includes operation of events at a facility already used year-round for this purpose. The Fairgrounds is the largest event venue in the Humboldt County, and has a record of hosting many similar Motorsports and Concert events during its 100+ year history. It is both capable and customary for the venue to host events of this sort. Given this, cumulative impacts are therefore unlikely.



(c) – Less than significant impact: No evidence for significant direct or indirect impacts with the potential to cause substantial adverse effects on human beings were identified for this project.

**Mitigation Measures:** No mitigation required.

**Findings:** The project would have **a less than significant impact** on any mandatory findings of significance.

### **3.2.22. Discuss of Mitigation Measures, Monitoring, and Reporting Program**

#### **Mitigation Measures, Monitoring, and Reporting Program (MMRP)**

All of the following mitigation measures are required to mitigate impacts from the proposed use of the County Fairgrounds for Motorsports and Concert events.

##### **Mitigation Measure 1.**

AES-1: Temporary stage lighting used during events will be directed towards the ground and north of the stage at intensities low enough to prevent light spillage (illumination of adjacent parcels). To insure that all lighting conforms to this standard, Humboldt County Fair Association staff shall reviewing the temporary lighting design for each music event.

Timing for Implementation/Compliance: prior to each event

Person/Agency Responsible for Monitoring: Applicant / Humboldt County Planning & Building Department (HCP&BD)

Monitoring Frequency: To be confirmed during review of annual report submitted to Planning & Building Department.

Evidence of Compliance: Documentation, evidence, and discussion of Lighting will be included as part of the Monitoring Report required under Mitigation Measure 10.

##### **Mitigation Measure 2.**

AQ-1: Where a racing event occurs during a period with dry and windy conditions, the operator will periodically apply water or other dust suppressants to minimize the potential for dust to escape from the racetrack and fairgrounds properties.

Timing for Implementation/Compliance: On-going

Person/Agency Responsible for Monitoring: Applicant / Humboldt County Planning & Building Department (HCP&BD)

Monitoring Frequency: Each Motorsports event

Evidence of Compliance: Documentation, evidence, and discussion of compliance with event cut off will be included as part of the Monitoring Report required under Mitigation Measure 10.

##### **Mitigation Measure 3.**

NOI-1: Concerts and Motorsports events shall end no later than 10pm.

Timing for Implementation/Compliance: On-going

Person/Agency Responsible for Monitoring: Applicant / Humboldt County Planning & Building Department (HCP&BD)

Monitoring Frequency: Each event

Evidence of Compliance: Documentation, evidence, and discussion of compliance with event cut off will be included as part of the Monitoring Report required under Mitigation Measure 10.

#### **Mitigation Measure 4.**

NOI-2: During flat track racing events, racers may only use motorcycles which produce no more than 90 decibels of noise when measured 20 inches from the end of the exhaust pipe. To accomplish this, motorcycles shall be equipped with exhaust systems featuring sound reduction components, including resonators/mufflers, fiberglass insulation, and baffles.

Timing for Implementation/Compliance: Prior to start of race/On-going

Person/Agency Responsible for Monitoring: Applicant / Humboldt County Planning & Building Department (HCP&BD)

Monitoring Frequency: Each event

Evidence of Compliance: Documentation, evidence, and discussion of compliance with exhaust system sound reduction will be included as part of the Monitoring Report required under Mitigation Measure 10.

#### **Mitigation Measure 5.**

NOI-3: During flat track racing events, noise from all participating motorcycles will be tested and measured prior to allowing riders to use the track. Noise shall be measured using the current testing procedure found in the 2020 American Flat Track Association Rulebook (Appendix D). Noise from each motorcycle must be at or below 90 decibels. To best insure all riders are able to comply with this requirement to compete, event promoters and participants shall be notified of the noise standard as early as possible in advance of the event.

Timing for Implementation/Compliance: prior to each event

Person/Agency Responsible for Monitoring: Applicant & all flat track event operators

Monitoring Frequency: To be confirmed during review of annual report submitted to Planning & Building Department.

Evidence of Compliance: Documentation, evidence, and discussion will be included as part of the Monitoring Report required under Mitigation Measure 10.

### **Mitigation Measure 6.**

NOI-4: During all concert events, a dense strawbale soundwall will be installed near the rear of the stage between the concert and Arlington Avenue. The soundwall shall be of sufficient thickness and height to insure it provides at least 20 decibels of noise attenuation.

Timing for Implementation/Compliance: prior to each event

Person/Agency Responsible for Monitoring: Applicant / Humboldt County Planning & Building Department (HCP&BD)

Monitoring Frequency: Each event

Evidence of Compliance: Documentation, evidence, and discussion will be included as part of the Monitoring Report required under Mitigation Measure 10.

### **Mitigation Measure 7.**

NOI-5: A sound engineer will be used during all concert events. The engineer will work with event staff to ensure that amplified music does not exceed CNEL values and associated maximum noise levels identified in Table 1.

Timing for Implementation/Compliance: prior to event/on-going

Person/Agency Responsible for Monitoring: Applicant / Humboldt County Planning & Building Department (HCP&BD)

Monitoring Frequency: Each event

Evidence of Compliance: Documentation, evidence, and discussion will be included as part of the Monitoring Report required under Mitigation Measure 10.

### **Mitigation Measure 8.**

NOI-6: A maximum of four (4) motorsports events will be held each year. Only one (1) motorsport event will occur featuring Monster Trucks.

Timing for Implementation/Compliance: prior to event season/on-going

Person/Agency Responsible for Monitoring: Applicant / Humboldt County Planning & Building Department (HCP&BD)

Monitoring Frequency: Annually

Evidence of Compliance: Documentation, evidence, and discussion will be included as part of the Monitoring Report required under Mitigation Measure 10.

## Mitigation Measure 9.

NOI-7: The calculated CNEL noise value shall not exceed 63 decibels during flat track motorcycle racing events. During concerts, the calculated CNEL noise value shall not exceed 73 decibels. HCFA will monitor noise levels during concerts and racing events to ensure that event-related noise levels remain at or below the following limits. Noise will be measured from the locations used in the Noise Impact Study prepared by Whitchurch Engineering (shown below).

Table 1 CNEL Noise Limits

EVENT TYPE	TIME WHEN MEASUREMENT IS TAKEN	MAX. CNEL VALUE (DB)	MEASUREMENT LOCATION
Motorcycle Racing	during largest race group / heat of the day	63	Arlington Ave.
			FHS admin lot
Concerts	during main performance (headlining act)	73	Arlington Ave.
			FHS admin lot



Figure 5 Sound Measurement Locations

Timing for Implementation/Compliance: During event/on-going

Person/Agency Responsible for Monitoring: Applicant / Humboldt County Planning & Building Department (HCP&BD)

Monitoring Frequency: Each event

Evidence of Compliance: Documentation, evidence, and discussion of conformance with noise standards will be included as part of the Monitoring Report required under Mitigation Measure 10.

### **Mitigation Measure 10.**

NOI-8: Annual Reporting Requirement/Adaptive Management Program. By December 31st of each year, the Humboldt County Fair Association shall prepare and submit an annual report to the Director of the Planning & Building Department. The report shall detail all Concert and Motorsports events held during that year and include the following information:

- *Listing and summary of all concerts and motorsports events held.* Including the scheduled date of each event, beginning and ending times for each event, number of tickets sold and number of attendees/spectators, parking areas utilized, and event-specific noise measurements.
- *Noise measurements.* Continuous Noise levels shall be measured during all concerts and motorsports events, and readings shall be taken from the Arlington Avenue and “City of Ferndale” locations used in the Noise Impact Study prepared by Whitchurch Engineering. A noise meter similar to the type used in the Noise Study (PCE Instruments PCE-322A) shall be used. If measurements reveal noise levels exceeding the following thresholds, HCFA staff shall document the exceedance and coordinate with event staff to implement measures which consistently reduce event-related noise to levels at or below these limits.

**Table 1 CNEL Noise Limits**

<b>EVENT TYPE</b>	<b>TIME WHEN MEASUREMENT IS TAKEN</b>	<b>MAX. CNEL VALUE (DB)</b>	<b>MEASUREMENT LOCATION</b>
Motorcycle Racing	during largest race group / heat of the day	63	Arlington Ave.
			FHS admin lot
Concerts	during main performance (headlining act)	73	Arlington Ave.
			FHS admin lot

- *Dust.* The report shall document whether measures were needed to prevent the escape of fugitive dust during Motorsports events. The report shall include a list and explanation of all measures taken and an analysis of their effectiveness.
- *Adaptive management.* The report shall document wherever refinement or addition of a mitigation measure or operational restriction was needed to ensure events are held in conformance with the established conditions of the permit and lease agreement. These changes shall be memorialized in standard operating procedures and thereby remain a requirement of the Conditional Use Permit.

- *Lighting.* Photographs shall be taken showing the stage and track configuration used during each event. Photographs shall be provided for events which occurred in the evening, documenting compliance with the restrictions on temporary stage lighting to prevent light spillage onto neighboring residential properties.

The report may also include correspondence from agencies affected by the events (i.e., Humboldt County Public Works, Division of Environmental Health, Sheriff's Office, California Highway Patrol, City of Ferndale Police Department, California Department of Transportation).

*Note: HCFA need only submit documentation showing that events have been successfully operated in conformance with all mitigation measures, operational restrictions, and conditions of project approval during two (2) successive instances for each of the following event types:*

- *Concerts*
- *Motorcycle Racing*
- *Monster Trucks/Tractor Pulling*

*The Director of Planning & Building Department may request further documentation where HCFA has not sufficiently demonstrated conformance with the terms of the permit and required mitigation measures. The Director may waive the need for submittal of future reports during subsequent years if review of the information submitted reveals strong compliance with the terms of the permit and mitigation measures.*

Timing for Implementation/Compliance: Prior to December 31<sup>st</sup> of each year events are held.

Person/Agency Responsible for Monitoring: Applicant / Humboldt County Planning & Building Department (HCP&BD)

Monitoring Frequency: Annually until the applicant has demonstrated that they have successfully operated in conformance with all mitigation measures and project conditions following two (2) instances for each of the following event types:

- Concerts
- Motorcycle Racing
- Monster Trucks/Tractor Pulling

To be confirmed during review of the report submitted to Planning & Building Department.

Evidence of Compliance: Documentation, evidence, and discussion of Lighting will be included as part of the Monitoring Report required under Mitigation Measure 1.

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## **5. Appendices**

**5.1. Noise Impact Study – Flat Track Racing at Humboldt County Fairgrounds**

**5.2. Noise Study Addendum – Open Air Concerts (Rev. 2 – February 11, 2020)**

**5.3. Plan of Operations**

**5.4. Humboldt County General Plan – Chapter 13 – Noise Element**

# **Noise Impact Study**

## **Flat Track Racing at Humboldt County Fairgrounds**

Prepared for:

**Humboldt County Fairgrounds  
1250 5<sup>th</sup> Street  
Ferndale, CA 95536**

Prepared by:

**Whitchurch Engineering, Inc.**

**610 9<sup>th</sup> St.**

**Fortuna, CA 95540**

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## Acronyms and Abbreviations

APN	Assessor's Parcel Number
AMA	American Motorcycle Association
CNEL	Community Noise Equivalent Level
FTA	Federal Transport Administration
HCF	Humboldt County Fairgrounds
HCGP	Humboldt County General Plan
INC.	Incorporated

# 1 Overview

The Humboldt County Fairgrounds (HCF) are an open-air venue used for a variety of events including dog shows, art expositions, agricultural fairs, and county amusement fairs. The premises include a dirt flat track racing circuit used for including horse racing, and motorcycle racing events. HCF were built in 1896 and have been home to the annual Humboldt County Fair. The purpose of this analysis and report is to determine if normal flat track motorcycle racing operations generate excessive noise, which significantly impacts nearby residents as defined by the Humboldt County General Plan (HCGP).

Noise generated during racing has potential negative impacts on the surrounding area, which includes a residential area in close proximity to the south.

This report will determine existing ambient noise levels and evaluate if noise levels occurring during proposed flat track motorcycle racing exceed the standards set in the HCGP. If mitigations are determined to be necessary, recommendations of mitigation measures will be included in this report.

## 2 Project Description

### Name and Location of Facility:

Humboldt County Fairgrounds  
1250 5<sup>th</sup> Street  
Ferndale, CA 95536

The objective of this project is to determine and report the potential noise levels produced during flat track motorcycle racing and propose mitigations if significant noise impacts are identified at HCF in Ferndale, CA. This report addresses the following objectives.

1. Conduct a noise analysis per HCGP.
2. Determine if mitigation efforts are needed for motorcycle racing.
3. Make recommendations for the implementation of said mitigation efforts.

### 2.1 Current Usage and Hours of Operation

HCF have conducted horse races, and other small racing events at the dirt flat track and are expanding the variety of races to include dirt flat track motorcycle racing.

Flat track motorcycle racing involves several riders (up to 18) racing on a dirt, oval flat track (approximately ¼ mile). Motorcycle engine displacement can range from 250cc-450cc in a single cylinder format (in the case of HCF events). In recent years, flat track racing has become more popular, and HCF would like to capitalize on the popularity of the sport to bring new business to HCF and the surrounding community.

Flat track motorcycle racing adheres to rules and requirements set by the American Motorcyclist Association (AMA). The requirements set in their rule book include sound limits and testing procedure to ensure all participant machines adhere to the sound limit (AMA, 2017).

The HCF hours and days of operation vary based on what events are scheduled. Flat Track racing will occur in the early afternoon into the evening ( $\approx 2:00\text{pm}-10:00\text{pm}$ ). Late night racing until 10:00pm will be avoided if possible.

The HCGP determines the desirable noise level upper limits that any project must remain below during active hours to be an allowable activity. These limits are found in the following noise analysis (Section 3).

## 2.2 Setting

HCF is located on the northwest edge of Ferndale, CA which is situated on CA. Highway 211. HCF is made up of three other parcels to the north, northwest, and west with an approximate total area of 41 acres. The parcel which contains the racing track is listed as APN 030-081-006-000. The parcel is approximately 14 acres, and is classified as Public Land, Schools, and Non-Taxable Entities. The parcel is not in a Coastal Zone and is located within Township T2N R2W, and Section S2 T2N R2W.

HCF is bordered by agricultural land to the north and west. The south and east boundaries of the fairgrounds border residential areas. The southern residential area is approximately 0.05 miles from the flat track, situated on Arlington Avenue. The eastern parcel is approximately 0.2 miles from the track, this area includes Ferndale Highschool (APN 030-121-005-000). The connected parcel consists of primarily open field on the northern portion of Ferndale High School.



**Figure 1: Ferndale Fairgrounds Area Map – Green boundary being the extent of the fairgrounds, and red boundary being the race track area.**



### 3 Noise Analysis

HCGP requirements for a noise study are based on the U.S. Department of Housing and Urban Development Noise Guidebook, or its equivalent (Department of Housing and Urban Development, 2013). The noise study must address the following requirements.

- Measure Community Noise Equivalent Level (CNEL)
- Maximum Noise Level ( $L_{max}$ ) at surrounding property lines
- If feasible, include nearby sensitive receptor locations

The AMA set a limit of 105 dB measured on the 'A' scale for all motorcycles participating in motorcycle flat track racing. This measurement is conducted in accordance with flat track sound testing procedure found in the American Flat Track Rulebook (Appendix D). The race administration will enforce these guidelines and perform testing on all participating vehicles.

Current ambient noise conditions within the vicinity of the track are due to traffic noise and standard residential noise sources (lawnmowers, power tools, etc.). Residential areas in Ferndale have a continuous noise limit set to approximately 60 dB, with a limit of 45 dB interior (City of Ferndale, 2016). Conditional noise limits are set at 70 dB by both the City of Ferndale and the HCGP (Humboldt County, 2018). The Noise Element of the Ferndale General Plan is currently in draft format, and therefore does not apply to this project. This report will be concerned with adherence to the HCGP and the noise limits set by Table 13-C (Humboldt County, 2016). This limit in question is 60 dB which is the upper limit of normally acceptable noise levels in residential areas. The normally unacceptable limit is 70 dB which may be permitted per a Conditional Use permit for temporary events.

Sensitive receptors are defined as land uses or users that are interrupted (rather than impacted) by relatively low levels of noise (City of Ferndale, 2016). Ferndale High School falls under this definition of sensitive receptor. Acceptable sound limits for Schools, Libraries, Churches, Hospitals, Nursing Homes are at max, 70 dB, with an interior limit of 45 dB per the HCF. Races are not anticipated to be scheduled during regular school hours.

#### 3.1 Equipment Used

The noise meter used for this study is a PCE-322A. Specifications for this device are found in Appendix A attached to this document.

The PCE-322A comes calibrated from PCE Instruments to meet the standards for sound meter set by IEC 61672-1 for a Class II meter (International Electrotechnical Commission, 2013).

### 3.2 Community Noise Equivalent Level

CNEL is a noise measurement system calculated using experimental dBA readings as opposed to computer calculations as other measurement systems are. It is calculated as follows (Caltrans, 2013).

$$CNEL = 10 * \log_{10} \left[ \left( \frac{1}{24} \right) \sum_{i=1}^{24} 10^{(L_{eq}(h)_i + W_i)/10} \right]$$

Where

CNEL = Community Noise Equivalent Level (dB)

$L_{eq}(h)_i$  = Equivalent Noise level at the  $i$ th hour (dB)

$W_i$  = Time weighting factor

[= 0 (7am-7pm), = 4.77 (7pm-10pm), = 10 (10pm to 7am)]

The CNEL is used as a metric to evaluate the normally experienced noise level by receptors in a pre-determined location.

### 3.3 Total Sound Pressure Level

Sound pressure level (SPL) is a decibel (dB) measurement of the noise level in an area. In the case of this study, to simulate noise levels resulting from racing conditions, the noise level experienced from three motorcycles were taken, and assumed to be identical for multiple motorcycles. The following equation is used to calculate the noise level experienced for average race conditions.

$$SPL_{Total} = SPL_1 + 10 \log_{10}(N)$$

Where

$SPL_{Total}$  = Total noise level experiences (dB)

$SPL_1$  = Sound pressure level of one source (dB)

N = Number of identical sources

### 3.4 Field Analysis

A representative of Whitchurch Engineering, Inc. conducted a noise sampling survey between the flat track and the surrounding parcels to determine typical day-time noise levels on both 6/21/2018 during the hours of 2pm-4pm, and 6/22/2018 during the hours of 8am-10am. The locations of measurement on Arlington Avenue and Highway 211 are found in Figure 2.



*Figure 2: Area map of Arlington Avenue and City of Ferndale noise testing sites*

#### 3.4.1 Procedure

Ambient sound testing was conducted in the morning (8:00-10:00am) to set a baseline, and during the same time period as racing would occur (2:00-4:00pm). Measurements were made on acoustically absorptive ground at a height of approximately 1.2 m (4 ft) with no nearby reflecting surfaces. Monitoring was conducted in accordance with Humboldt County General Plan for a duration of 15 minutes (Humboldt County, 2018).

Ambient noise level measurements were made at the Arlington Avenue location indicated on Figure 2.

Racing normally continues into the evening, up to 10:00pm at the latest per communication with the HCF director. Peak noise levels are assumed to remain consistent for the duration of racing events.

Exceedance testing to determine noise levels during racing conditions were conducted from the same location on Arlington Avenue. A secondary reading was taken between the race course and CA Highway 211 to estimate noise levels within the City of Ferndale (marked in Figure 2). The accumulative SPL equation from Section 3.3 was used to calculate a simulated total noise level

experienced during regular racing conditions with a maximum amount of motorcycles (18 vehicles). These adjusted values are reported in Section 4.

## 4 Results

### 4.1 Raw Ambient Monitoring Data

Ambient conditions were monitored in 2 second intervals for the time periods specified in Section 3.4.1. Table 1 below includes the pertinent noise analysis data taken between Arlington Avenue and the HCF. These results represent the maximum and minimum ambient noise levels during both the assumed low traffic time period and exceedance study period.

*Table 1: Ambient Noise monitoring results Arlington Avenue*

8:00am – 10:00am Study Period		
Parameter	Level (dB)	Time (HH:MM)
L <sub>min</sub>	38.2	7:19
L <sub>max</sub>	78.7	7:21
2:00pm – 4:00pm Study Period		
Parameter	Level (dB)	Time (HH:MM)
L <sub>min</sub>	38.7	2:17
L <sub>max</sub>	76.9	3:41

### 4.2 Noise Impact on the Surrounding Area

Noise impact on Arlington Avenue was calculated to determine base line conditions for the surrounding area.

#### 4.2.1 Ambient Noise Impact

Ambient noise impact values are based on the study periods listed in Section 3.4.1. These values have been processed and calculated using the equations found in Section 3, to determine background community noise equivalent levels and sound pressure levels.

*Table 2: Noise Impact measured and calculated results measured on the property line of Arlington Avenue.*

8:00am – 10:00am Study Period	
Parameter	Level (dB)
L <sub>max</sub>	78.7
L <sub>eq</sub>	55.5
CNEL	62.2
2:00pm – 4:00pm Study Period	
Parameter	Level (dB)
L <sub>max</sub>	76.9
L <sub>eq</sub>	54.4
CNEL	61.0

The L<sub>eq</sub> calculated during the 8:00am-10:00am period was used as a baseline for non-racing conditions, while the 2:00pm-4:00pm ambient noise conditions were used for further calculations occurring during racing conditions.

#### 4.2.2 Exceedance Testing

Exceedance testing was conducted per section 3.4.1. Values included in Table 3 are derived from unprocessed field data.

**Table 3: Noise levels observed during triple motorcycle racing conditions.**

Exceedance Testing	
Arlington Avenue	
Parameter	Level (dB)
L <sub>min</sub>	46.0
L <sub>max</sub>	85.6
Highway 211	
Parameter	Level (dB)
L <sub>min</sub>	44.7
L <sub>max</sub>	85.9

The data was processed and then pertinent values are calculated per Section 3. These values were then adjusted per Section 3.4.1 to simulate conditions during peak racing conditions.

**Table 4: Noise Impact measured and calculated results on the property line Arlington Avenue, and Highway 211. Adjusted values made for maximum racing conditions at the limit of active motorcycles possible.**

Arlington Avenue	
Parameter	Level (dB)
L <sub>max</sub>	85.6
L <sub>max, adjusted</sub>	93.4
L <sub>eq</sub>	69.6
CNEL	69.7
CNEL <sub>adjusted</sub>	77.4
Highway 211	
Parameter	Level (dB)
L <sub>max</sub>	85.9
L <sub>max, adjusted</sub>	93.7
L <sub>eq</sub>	67.9
CNEL	68.0
CNEL <sub>adjusted</sub>	75.7

Based on assumed wall construction of an average single-family residence a noise level loss of 40 dB is expected (Gypsum Association, 2006). Based on the observed noise levels at the exterior of the building, the interior noise experiences are estimated to be between 14.4dB – 53.4dB during peak, intermittent events.

Exterior noise levels experienced during race conditions all fall within the interior 45dB limit for continuously experience noise based upon CNEL and CNEL<sub>adjusted</sub> (29.7dB - 37.4dB). L<sub>max</sub> levels are instantaneous and not used for continual noise level adherence.

$L_{max}$  is used in determining adherence to short-term noise standards. The limit set within the HCF is 65 dB from 6:00am – 10:00pm (Humboldt County, 2018). Both during exceedance testing, and simulated maximum racing conditions, this limit is exceeded. This limit can be disregarded with the acceptance of a Conditional Use Permit (Humboldt County, 2018).

## 5 Potential Attenuation Measures

Noise impacts on the residential community on Arlington Avenue and the town of Ferndale were determined to have some impact during flat track racing conditions. Possible mitigations and their associated costs are described below. Mitigation design is outside of the scope of this report.

### 5.1 Reduced Active Racers

Reducing the number of racers on the track per heat can reduce experienced noise levels both in terms of CNEL and  $L_{max}$  significantly. Table 5 outlines expected noise reduction along Arlington Avenue by limiting the number of riders per race.

*Table 5: Noise attenuation values through reduction in active racers*

Racers	$L_{max}$ (dB)	CNEL (dB)
18	93.4	75.2
15	92.6	74.5
12	91.6	73.6
9	90.4	72.4
6	88.6	70.8

### 5.2 Earlier Racing

The nature of calculating CNEL utilizes sound adjustment values for evening hours. By shifting the time of racing to normal day time hours and ensuring racing does not proceed late into the evening hours, CNEL can be reduced. Table 6 outlines the possible reduction in CNEL based upon ceasing racing earlier in the evening.

*Table 6: CNEL reduction based upon the cessation of racing earlier in the evening.*

Hour of Racing cessation	CNEL (dB)
10pm	75.2
9pm	74.3
8pm	73.0
7pm	71.1
6pm	70.3

### 5.3 Racing Exhaust Measures

New racing exhaust systems (including full exhaust piping and mufflers) have been designed to consider both power and noise limits set on race courses. There are several measures that can be taken to reduce noise from the exhaust. These include, but are not limited to repacking the exhaust, fitting a baffle, increasing the length of the muffler, installing a new exhaust system utilizing sound reduction components (resonators, fiberglass insulation, baffles). The range of effectivity can vary from



approximately 2dB – 20dB reduction per motorcycle (NIET, 2017). These mitigations can vary in cost from approximately \$9-\$600 per motorcycle. Expected reduction in CNEL of the low end and high end of mitigations are found in Table 7.

*Table 7: Effect of exhaust measure mitigations on CNEL experienced by Arlington Avenue residents.*

Exhaust Measure	CNEL (dB)
Repacking	68.4
Full exhaust system	62.4

## 5.4 Combination of Mitigation

A combination of attenuation measures could potentially attain HCGP required levels of CNEL. Table 8 reports the reduction of noise both through the number of active racers and ceasing racing early in the evening.

*Table 8: Combined noise attenuation mitigation on CNEL from reducing active racers, ceasing racing earlier in the evening, and the low end and high-end exhaust noise reduction measures (repacking exhaust/full exhaust system replacement).*

	Hour of racing cessation	10pm	9pm	8pm	7pm	6pm
		CNEL <sub>mitigated</sub>				
<b>Racers</b>	18	75.2	74.3	73.0	71.1	70.3
	15	74.5	73.5	72.2	70.5	69.6
	12	73.5	72.2	70.5	69.6	68.6
	9	72.4	71.5	70.3	68.6	67.9
	6	70.8	69.9	68.8	67.3	66.7
<b>Repacking</b>	Hour of racing cessation	10pm	9pm	8pm	7pm	6pm
		CNEL <sub>mitigated</sub>				
<b>Racers</b>	18	73.4	72.4	71.2	69.4	68.7
	15	72.6	71.7	70.5	68.8	68.1
	12	71.7	70.8	69.6	68.0	67.4
	9	70.6	69.7	68.6	67.1	66.5
	6	69.1	68.3	67.3	66.0	65.4
<b>Full Exhaust system</b>	Hour of racing cessation	10pm	9pm	8pm	7pm	6pm
		CNEL <sub>mitigated</sub>				
<b>Racers</b>	18	62.4	62.4	62.3	62.3	62.2
	15	62.3	62.3	62.2	62.2	62.2
	12	62.2	62.2	62.2	62.2	62.2
	9	62.0	62.1	62.1	62.1	62.1
	6	61.9	62.0	62.0	62.1	62.1

Due to the nature of assuming the  $L_{eq}$  during non-racing hours is based upon day time experimental data,  $L_{eq}$  assumed becomes higher than  $L_{eq}$  experimental. This results in lower CNEL for racing which proceeds later into the evening when the higher experimental  $L_{eq}$  is used for calculation over the lower calculated  $L_{eq}$  experienced from racing conditions.

Adjusting experimental data for exhaust measures cannot be adequately modelled with a direct reduction in experimental sound levels, these results are preliminary, and subject to change with more extensive testing.

## **5.5 Sound Wall**

A sound wall is a common mitigation technique used to attenuate intrusive sound from high traffic areas. Sound walls can be made from a variety of materials and can reduce noise levels received up to 20 dBA for thin walls, and 23 dBA for berms (Caltrans, 2013). The Federal Transit Administration estimates that sound walls are approximately \$25-\$35 per ft<sup>2</sup> not accounting for design and costs (Federal Transit Administration, 2006). This alternative is most likely cost prohibitive.

## **6 Compliance with Humboldt General Plan**

This report is compliant with the guidelines set by the Humboldt County General Plan. These include the values reported in Section 3, as well as guidelines found within The Noise Guidebook (U.S. Department of Housing and Urban Development, 1991).

- $L_{max}$  and CNEL
- Analysis of the characteristic of the project in relation to noise levels
- Feasible mitigation
- Projected noise impacts

## **7 Conclusion and Recommendations**

After noise testing in accordance with the Humboldt County General Plan was conducted, it has been determined that noise impacts occurring from motorcycle flat track racing require mitigation. Noise levels are within acceptable standards for interior noise based on building wall noise attenuation data, but exterior noise is not within normally acceptable limit of 60 dB but not a conditionally approved noise limit of 70 dB. However, if a Conditional Use Permit is acquired, temporary exceedances can be disregarded. It is recommended that a combination of noise attenuation measures be implemented to limit harmful noise level exposure to the surrounding residences. Noise from the motorcycle flat track racing can be reduced to acceptable levels per the Humboldt County General Plan after implementation of the proper noise attenuation measure or utilizing a combination of mitigation measures.



## 8 References

1. American Motorcycle Association (2018). "American Flat Track Racing Rulebook", AMA (June 16, 2018).
2. Caltrans (2013). "Technical Noise Supplement to the Traffic Noise Analysis Protocol", Caltrans (June 20, 2018).
3. Caltrans (1995). "Traffic Noise Attenuation as a Function of Ground and Vegetation", Caltrans (July 5, 2018).
4. City of Ferndale (2016). "City of Ferndale Draft General Plan – Noise & Air Quality Elements", City of Ferndale (June 20, 2018).
5. Federal Transit Administration (2006). "Transit Noise and Vibration Impact Assessment", United States of American Department of Transportation, (July 7, 2018).
6. Gypsum Association (2006). "Fire Resistance Design Manual and Sound Control: GA-600-2006", (June, 28, 2018).
7. Humboldt County Planning Commission (2017). "Chapter 13. Noise Element, Humboldt County General Plan", Humboldt County (June 24, 2018).
8. International Electrotechnical Commission (2013). "Electroacoustics – Sound Level Meters – Part 1: Specifications". (June, 10 2018).
9. U.S. Department of Housing and Urban Development (1991). "The Noise Guidebook", U.S. Department of Housing and Urban Development (June 29, 2018).

## Appendix A: PCE-322A Noise Meter



Figure 3: PCE-322A noise meter used in study

Table 9: PCE-322A noise meter specifications

Specification	
Standard Applied	IEC61672-1 CLASS2
Accuracy	±1.4dB
Frequency Range	31.5Hz - 8KHz
Dynamic Range	50dB
Memory	32700
Level ranges	LO:30dB - 80dB
Med	50dB - 100dB
Hi	80dB - 130dB
Auto	30dB - 130dB
Frequency Weighting	A/C
Time Weighting	FAST (125ms), SLOW (1s)
Microphone	1/2 inch electret condenser microphone
Analog output	AC/DC output from earphone outlet
	AC = 1 Vrms, DC = 10mV/dB]

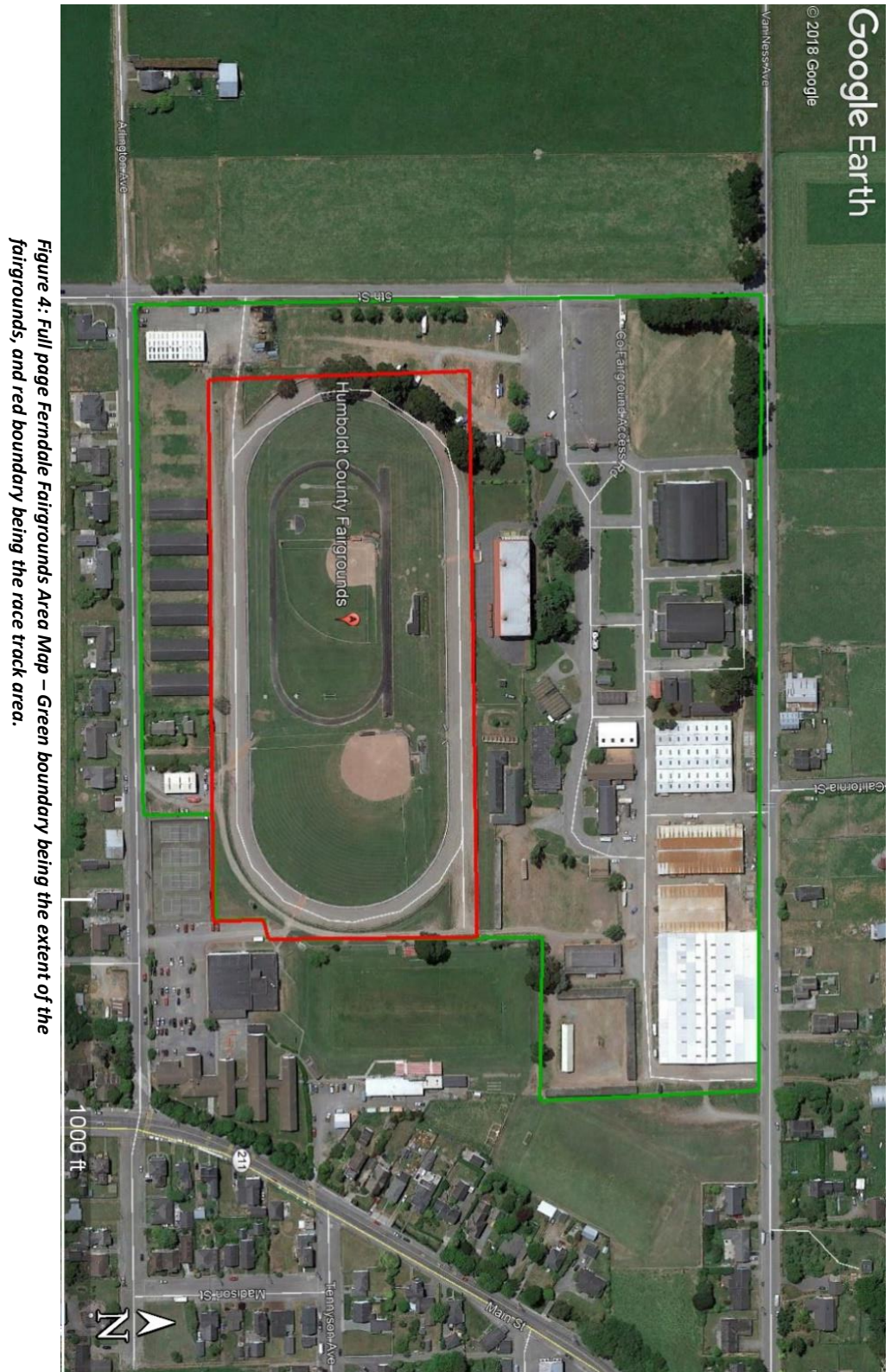
## Appendix B: Noise Study Data and Calculations

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## **Appendix C: Humboldt County General Plan Pertinent Code**

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## Appendix D: Area Maps



*Figure 4: Full page Ferndale Fairgrounds Area Map – Green boundary being the extent of the fairgrounds, and red boundary being the race track area.*





Figure 5: Full Page area map of Arlington Avenue and City of Ferndale noise testing sites

# **Noise Study Addendum**

## **Open Air Concerts**

**Rev. 2 – February 11, 2020**

Prepared for:

**Humboldt County Fairgrounds  
1250 5<sup>th</sup> Street  
Ferndale, CA 95536**

Prepared by:

**Whitchurch Engineering, Inc.**

**610 9<sup>th</sup> St.**

**Fortuna, CA 95540**

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## Acronyms and Abbreviations

APN	Assessor's Parcel Number
HCF	Humboldt County Fairgrounds
HCGP	Humboldt County General Plan
INC.	Incorporated

# 1 Overview

This noise Addendum is in reference to the original noise study conducted for HCF in regards to flat track motorcycle racing. The Humboldt County Fairgrounds (HCF) are an open-air venue used for a variety of events, included by not limited to the Annual County Fair, auctions, personal events, motorsports, concerts, community events (Highland games, Rodeos), and a variety of expos. The purpose of this Addendum is to address the potential noise impact resulting from open air concerts conducted on the dirt flat track field. Mitigations for potential noise impact will be included.

## 2 Project Description

### Name and Location of Facility:

Humboldt County Fairgrounds  
1250 5<sup>th</sup> Street  
Ferndale, CA 95536

HCF is used by the community for a variety of events throughout the year. The grounds are upkept on a regular basis, including maintenance on all enclosed buildings, open air structures, and the dirt race track.

The race track is surrounding by the grand stands and are associated with racing and open-air events located on the open field.

HCF will be adding the following events to their calendar.

1. Musical events (10/year)

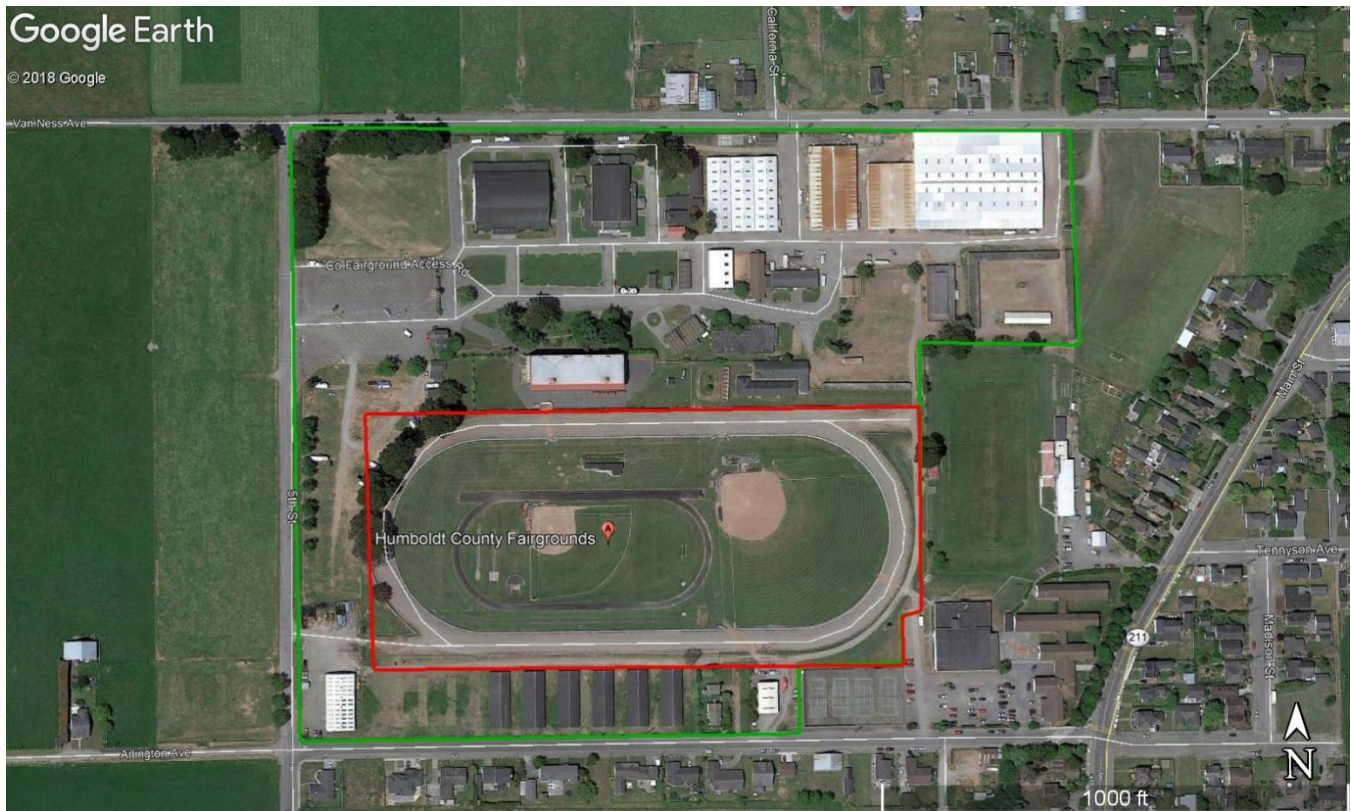
- Musical events at HCF occur on the dirt flat track. Seating expands to the surrounding area, including approximately 2500 in the stands, 1500 on the asphalt, and the surrounding grass area ( $\approx$ 5000).

This project will include the potential noise impact from musical events on the surrounding community to determine if mitigation is necessary.

### 2.1 Setting

HCF is located on the northwest edge of Ferndale, CA which is situated on CA Highway 211. HCF is made up of three other parcels to the north, northwest, and west with an approximate total area of 41 acres. The parcel which contains the racing track is listed as APN 030-081-006-000. The parcel is approximately 14 acres, and is classified as Public Land, Schools, and Non-Taxable Entities. The parcel is not in a Coastal Zone and is located within Township T2N R2W, and Section S2 T2N R2W.

HCF is bordered by agricultural land to the north and west. The south and east boundaries of the fairgrounds border residential areas. The southern residential area is approximately 0.05 miles from the flat track, situated on Arlington Avenue. The eastern parcel is approximately 0.2 miles from the track, this area includes Ferndale Highschool (APN 030-121-005-000). The connected parcel consists of primarily open field on the northern portion of Ferndale High School.



*Figure 1: Ferndale Fairgrounds Area Map – Green boundary being the extent of the fairgrounds, and red boundary being the race track area.*

### 3 Noise Analysis

Refer to Section 3 of the original HCF Noise Study for noise study variable requirements. These variables are based on the U.S. Department of Housing and Urban Development Noise Guidebook, or its equivalent (Department of Housing and Urban Development, 2013). Noise limits set by the Humboldt County General Plan (HCGP) are included for the surrounding area. Ambient noise conditions experienced along the perimeter of the HCF near the dirt flat track are also found in Section 3. These values will be used in calculations as a baseline to determine noise impacts experienced on the surrounding parcels.

Refer to Sections 3.2-3.3 for the equations used in calculations to determine noise impact.

#### 3.1 Estimating Concert Noise Levels

It is not feasible to take field measurements of noise levels experienced during a concert as it would be time and cost prohibitive. In lieu of experimental data, noise levels observed in other studies will be used. Noise levels typically experience during concerts range from 95 – 110 dB (Health and Safety Authority, 2007).

To apply the methodology found in the Section 3 of the original Noise Study, the full range of probable noise levels were distributed across an hour time period. This hour-long period was assumed to apply to each hour of which the concerts would be running. Based on communication with HCF administration, concerts will begin from 6-7pm and continue until 10-10:30pm.

It is assumed that sound rebounding off of the grand stands will result in an increase in sound levels. This is due to rebounded sound adding to the sound level from the primary source (Caltrans, 2013). To model a conservative estimate of noise levels, it was assumed that noise levels would increase by 3 dB due to rebounding sound from the grand stands.

The concerts taking place at HCF will feature majorly instrumental bands. Modern studies of noise typically are based on large scale shows featuring popular musicians and DJs whose music is generated either digitally or through large scale amplification systems. While concerts at HCF will include some form of amplification, it has been assumed that it these systems will not be generating the same noise level as larger shows. Small instrumental bands concerts typically generate noise ranges between 90 – 98dB (Health and Safety Authority, 2007).

To include all of these assumptions, several cases were modelled, a base case, the base case with the addition of reflection, small concert, and a small concert with the addition of reflection.

Each case was analyzed using the procedure outlined in Section 3 of the original Noise Study.

## 4 Results

To conform to the format found in Section 4 of the initial noise study, required variables will be addressed which affect the community noise level.

*Table 1: Noise Impact experienced during the considered noise generation cases.*

Analysis Case	Base Case	Reflection addition	Small Concert	Small Concert Reflected
Parameter	Level (dB)	Level (dB)	Level (dB)	Level (dB)
<b>L<sub>max</sub></b>	110.0	113.0	98.0	101.0
<b>L<sub>eq</sub></b>	104.5	107.5	94.6	97.6
<b>L<sub>eq, background</sub></b>	55.5	55.5	55.5	55.5
<b>CNEL</b>	100.7	103.7	90.8	93.8

Based on assumed wall construction of an average single-family residence a noise level loss of 40 dB is expected (Gypsum Association, 2006). Based on the estimated noise levels at the exterior of the building, the interior noise experiences are estimated to be between 58dB – 73dB during peak, intermittent events.

Exterior noise levels experienced during performances will not result in interior noise levels below the **45dB** limit for continuously experience noise based upon CNEL (50.8dB – 60.7dB). L<sub>max</sub> levels are instantaneous and not used for continual noise level adherence.

L<sub>max</sub> is used in determining adherence to short-term exterior noise standards. The limit set within the HCGP is **65dB** from 6:00am – 10:00pm (Humboldt County, 2018). Based on estimated concert noise levels from studies, this limit is exceeded in all cases (98.0dB - 113.0dB). This limit can possibly be disregarded with the acceptance of a Conditional Use Permit (Humboldt County, 2018).

Noise levels are experienced on a logarithmic scale by the human ear. An increase in noise levels of 10 dB is perceived as being twice as loud (Caltrans, 2013). Experienced CNEL noise levels, in reference to the noise limit, range from readily perceptible increase (+5dB) to almost 3 times as loud (+15dB). This is an estimation, and it is entirely possible that an experienced sound engineer will be able to attenuate noise levels to an acceptable level.

## 5 Potential Attenuation Measures

Noise impacts on the residential community on Arlington Avenue and the town of Ferndale were determined to have impact during concert performances. Possible mitigations and their associated costs are described below. Mitigation design is outside of the scope of this report.

### 5.1 Earlier Concerts

The nature of calculating CNEL utilizes sound adjustment values for evening hours. By shifting performance times to day time hours and ensuring events do not proceed late into the evening hours, CNEL can be reduced. Table 2 outlines the possible reduction in CNEL based upon limiting the hours of concerts to the early evening.

*Table 2: Attenuation of Noise levels based on cessation of musical events earlier in the evening.*

	Hour of cessation	10pm	9pm	8pm	7pm
		CNEL <sub>mitigated</sub>			
Scenario	Base Case	100.7	99.2	96.8	90.7
	Reflection Addition	103.7	102.2	99.8	93.7
	Small Concert	90.8	89.3	86.8	80.9
	Small Concert Reflection Addition	93.8	92.3	89.8	83.8

### 5.2 Sound Wall

A sound wall is a common mitigation technique used to attenuate intrusive sound from high traffic areas. Sound walls can be made from a variety of materials and can reduce noise levels received up to 20 dBA for thin walls, and 23 dBA for berms (Caltrans, 2013). The Federal Transit Administration estimates that sound walls are approximately \$25-\$35 per ft<sup>2</sup> not accounting for design and costs (Federal Transit Administration, 2006). This alternative is most likely cost prohibitive due to the potential height and length required by the site to shield the nearby residences.

A possible alternative to a permanent, hard material sound wall would be a temporary dense straw bale wall. Dense straw bales can provide effective noise attenuation, and are not cost prohibitive. Several options for varied placement of the sound wall were analyzed to determine noise attenuation with varied distance from the performance stage. Results of the calculations can be found in Table 3 below. The average noise reduction reported is a combination of all frequencies mitigated through the use of a sound wall (i.e. bass, midrange).

**Table 3: Noise Attenuation Average with the installation of a Straw bale Sound Wall**

Scenario	Average Noise Attenuation (dB)	Attenuated Noise CNEL (dB, small concert, reflected)
Near Concert	21.6	72.2
Within Racetrack	19.6	74.2
Farside of Track	17.9	75.9
Nearside of Stables	18.2	75.6
Fence Line	18.8	75.0

The implementation of the straw bale sound wall brings the level of noise into the “normally unacceptable” range.

### 5.3 Sound Level Monitoring and Adjustment

Through the use of a sound meter, the sound levels experienced in the surrounding area can be determined during a sound check. By determining these levels before the concert, adjustments can be made to reduce the sound level through a variety of means. A sound engineer can adjust the levels of amplification, as well as adjust the positioning of speakers to reduce the sound directed towards the surrounding area.

### 5.4 Combination of Mitigation

Through the combination of several mitigation options, the attenuation of noise can be increased to more desirable levels. Combining both the analysis of the earlier concerts and the straw bale wall results in higher mitigate, which the results can be found in Table 4 below.

**Table 4: Noise Attenuation of Combination of mitigation including a sound wall and earlier concert cessation times.**

	Hour of racing cessation	10pm	9pm	8pm	7pm
		CNEL <sub>mitigated</sub>			
<b>Scenario (Small concert reflection)</b>	Near Concert	72.2	70.7	68.2	62.2
	Within Racetrack	74.2	72.7	70.2	64.2
	Farside of Track	75.9	74.4	71.9	65.9
	Nearside of Stables	75.6	74.1	71.6	65.6
	Fence Line	75.0	73.5	71.0	65.0



## 6 Conclusion and Recommendations

This addendum follows the same methodology used in the original noise study prepared for HCF in regards to flat track motorcycle racing. Based on referenced typical noise ranges experienced during musical concerts, there is a potentially significant noise impact on the surrounding residents on Arlington Avenue, and in the town of Ferndale. The mitigation measures reviewed for these events within this Noise Addendum consists of implementing a dense straw bale sound wall, ending the concerts at earlier times, and adjusting sound levels via a sound engineer. Through the implementation of the sound wall, it is possible to reduce sound impact by 21.6 dB. This very nearly brings the events into the “normally acceptable” range and into the lower end of the “normally unacceptable” range. Combining both the sound wall, and an earlier cessation of events time, it is possible to bring these events into the “normally acceptable” range of noise. Interior noise levels would be acceptable with the assumed noise attenuation resulting for standard building construction and exterior noise level mitigation. We recommend the implementation of a dense straw bale sound wall near the rear of the stage between the concert and Arlington Avenue. Additionally, concerts should be scheduled to end on or before 10 pm. Further attenuation may be possible with monitoring of preconcert noise levels with a calibrated noise meter, adjustment of the volume and positioning of the amplification system and speakers to reduce impacts to the nearby residents. A Conditional Use Permit should be also acquired, to allow for temporary “normally acceptable” exceedances for the potential 10 events a year. Through this combination of mitigations and permitting, sounds levels not considered a nuisance by the Humboldt County should be able to be obtained in all analysis cases.

## 7 References

1. Caltrans (2013). "Technical Noise Supplement to the Traffic Noise Analysis Protocol", Caltrans (June 20, 2018).
2. Caltrans (1995). "Traffic Noise Attenuation as a Function of Ground and Vegetation", Caltrans (July 5, 2018).
3. Federal Transit Administration (2006). "Transit Noise and Vibration Impact Assessment", United States of American Department of Transportation, (July 7, 2018).
4. Gypsum Association (2006). "Fire Resistance Design Manual and Sound Control: GA-600-2006", (June, 28, 2018).
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6. Humboldt County Planning Commission (2017). "Chapter 13. Noise Element, Humboldt County General Plan", Humboldt County (June 24, 2018).
7. U.S. Department of Housing and Urban Development (1991). "The Noise Guidebook", U.S. Department of Housing and Urban Development (June 29, 2018).



**Plan of Operations**  
**For**  
**Humboldt County Fairgrounds**  
**Conditional Use Permit,**  
**Motorsport Events and Concerts**

1250 5<sup>th</sup> Street  
Ferndale, California 95536

**May 14, 2019 Rev 0**

Prepared for: **Humboldt Bay Harbor Commission**

Prepared By: Eric Allen      Date: May 14, 2019

Checked By: Jeff Laikam      Date: May 14, 2019

Attn: Richard Conway, General Manager Humboldt County Fair Association

## **Table of Contents**

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## **References**

Reference 1: Initial Study and Proposed Mitigated Negative Declaration

Reference 2: Noise Impact Study

Reference 3: Humboldt County Fairgrounds Expanded Parking Plan

Reference 4: Humboldt County Fairgrounds Hazardous Waste Business Plan

## **Abbreviations List**

FFD	Ferndale Fire Department
FPD	Ferndale Police Department
WEI	Whitchurch Engineering Incorporated
IS	Initial Study
CFSA	California Fair Service Authority
NIS	Noise Impact Study
HCFG	Humboldt County Fairgrounds
HCFA	Humboldt County Fair Association

## **Definitions**

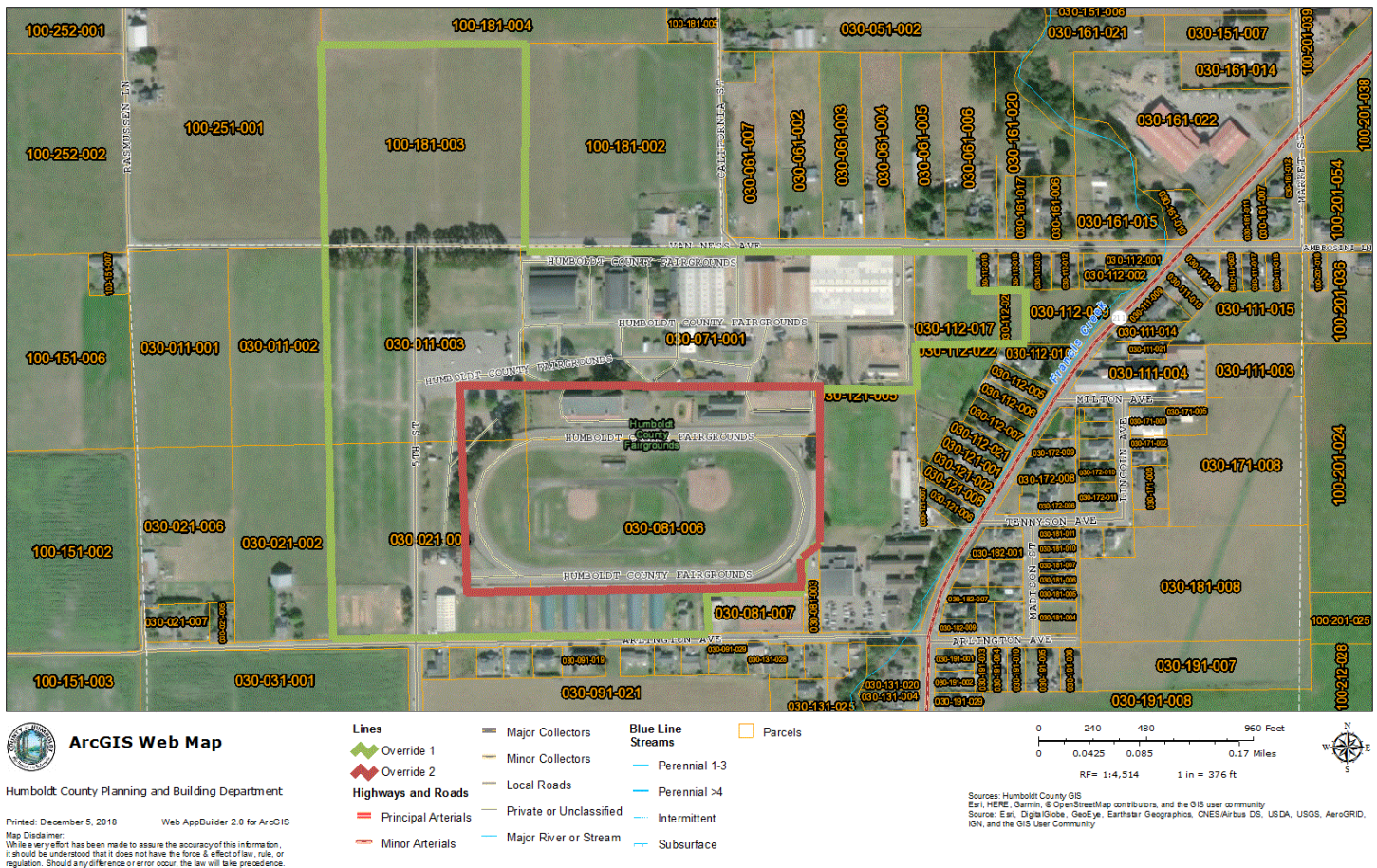
Attendees: People who pay for tickets and enjoy the fair as general population.

Participant: People associated with acts, activities, rides, vendors or other professional fair engagements.

## Project Description:

The purpose of this plan is to provide general operational details for the events that are held at Humboldt County Fairgrounds and specific details for motorsports and concert events. The Humboldt County Fairground (HCFG) events, activities, resources, procedures, and other logistics will be documented for reference throughout the year for all of the facilities. The focus will be on the operations plans for motor sports and concerts which will utilize the grandstands and oval track facilities.

## Event Specific Information about Motorsports and Concerts Held at the Grandstands:



**Figure 1: Ferndale Fairgrounds Area Map – The green boundary shows the extent of the fairgrounds and the red boundary shows the location of the flat track**

### **General Concert and Motorsport Information:**

Humboldt County Fairgrounds have hosted horse racing and other small racing events historically at the oval dirt flat track and are expanding to include motorsport events and concerts. Motorsports and concerts are held at the oval dirt track in front of the grandstands at the south side of the Humboldt County Fairgrounds. The venue expects a maximum of 4 motor sport events and 10 concert events per year. The motorsport events can include: Tractor Pulls, 4x4 Truck events, Go Carts, Monster Trucks, and Motorcycle Racing. Concert events may be amplified bands, DJs, acoustic shows, and other performances.

The motorsports and concert venue are located within APNs 030-081-006 and 030-021-003 seen in Figure 1. The site parking lot is within APN 030-011-003. The parcel APN 030-071-001 has a variety of event buildings, stables, and other ancillary buildings to the Fairgrounds. This parcel is also the primary location for foot traffic between parking and the flat racing track. The other three fairground parcels would not be in use during concerts and motorsports.

The property is currently owned by Humboldt County and leased to the Humboldt County Fair Association (HCFA), a California private nonprofit corporation. The HCFA manages the site and oversees the events and happenings of the fairgrounds.

### **Motorsports:**

#### **Attendance Limits:**

Attendance for the events will be up to approximately 5,000 people which includes 2,500 seated in the grandstands and an additional 2,500 people seated in portable bleachers in front of the grandstands. The adjacent grassy areas may be used as a standing area in front of the grandstands instead of portable bleachers. It is also possible to open up the center of the oval track for occupation under the right Ferndale Fire Department approved circumstances.

#### **Staff:**

During events, two to five paid staff will be on site to assist the producing organization with basic logistics and to contact required personnel if needed. Fairground staff has extensive knowledge of the grounds and can coordinate and organize work events efficiently. Staff will be provided by the producing organization depending on the specific needs of each event. Production staff could be, but is not limited to, 5-20 people.

#### **Parking Areas Utilized:**

Parking for the attendees to the motorsport events will be accommodated with the paved parking lot at the grounds entrance which has 126 parking spaces; the adjacent field to the west (APN: 030-011-003) which holds 984 vehicles can be filled from north to south. If additional parking is required an additional



1,172 spaces are available in the next lot over to the west (APN: 030-011-002) bringing the total parking to 2,282 vehicles.

Participants in the motorsports may camp in the RV park which has 65 RV spaces available with hookups. Motor vehicles and hauling trailers can be staged in the RV park for smaller space needs or in other spaces in the fairground that do not cross pedestrian traffic. Using the track access road at the south and east of the oval track, motorsports participants can stage in the area adjacent to the stables or the horseman parking area (APN: 030-112-017).

### **Events Dates/Date Ranges:**

The grandstands and oval track are available to hold motorsports events from March to October which does not include a window from the first of August to the middle of September for the Humboldt County Fair preparation and cleanup.

### **Event Hours:**

The motorsport events may take place during the day during the window from 10:00 am to 10:00 pm depending on the type of event.

### **Areas of the Property Utilized:**

The grandstands will be used to seat the attendees as well as portable bleachers that can be added directly in front of the grandstands. Using standing room in front of the grandstands is a possible configuration depending on the needs for a particular event. The aforementioned parking lots will be used to accommodate attendees as well as the RV park for lodging the participants. Additional staging areas can be used near the horse stables as well as the horseman parking area which are connected to the track area via the track access road.

### **Security Measures:**

To determine the necessary security, the Fairground management will meet with the Ferndale police chief and presents the details of the event including estimated attendance, nature of event, activities, and areas to be utilized. The police department will make a recommendation for security, depending on the event, that the Fairgrounds will implement. Private security can be hired per recommendation from the police. The fairground is less than a 1-mile drive from police station which enables the police to respond quickly to the site. The police are notified in advance of the event which prepares the department and inform the officers of what to expect during the event.

### **Safety Measures:**

Before motorsport events, the FFD inspects the venue and production setup prior to the opening. Any safety concerns will be addressed during the inspection and FFD will determine if a follow up visit or onsite presence is needed of fire personnel or EMT services. Inspections for events can be made the day of

events, or days prior depending on what the fire department suggests. FFD visits the site two months in advance for annual inspections of the grounds.

Annual safety inspections are done by the CFSA to identify and later certify the grounds to safely conduct the annual county fair. An initial inspection is held two months before the fair event. A list is generated to create a punch list of correction which are checked during the follow up inspection. FFD also performs inspections focusing on fire safety and other potential hazards. Both the CFSA and FFD inspect the grounds the day before the fair to ensure all required corrections have been completed.

### **Measures for Controlling or Limiting Noise:**

Events conducted at the fairgrounds in Ferndale have historically generated noise that could be heard from adjacent locations. Large, cheering crowds, loudspeaker announcers, and a variety of other sounds have been emitted from the grounds during historic events. In 2019, the 123<sup>rd</sup> Humboldt County Fair will be held. There is no data collected on the noise effects of these historical events on the surrounding areas.

Based on the Noise Impact Study (NIS), prepared by Whitchurch Engineering Inc. (WEI) dated 8/6/2018, it was concluded that the noise levels are within acceptable standards for interior noise based on building wall noise attenuation data. However, the exterior levels at the studied locations are above the normally accepted 60 decibels. To be in compliance, even with feasible mitigation measures, a conditional use permit from Humboldt County would need to be granted to allow for temporary exceedances.

The noise levels present during motorsport events may be mitigated through noise controlling procedures as well as mechanical methods. The noise controlling measures are focused on flat track racing which is the activity of concern for surrounding locations and was a subject of the noise impact study performed by WEI in 2018 seen in Reference 2.

### **Noise Controlling Procedures:**

To mitigate noise, flat track races can be held earlier during the day to be in less contrast with background noise and the event may reduce the number of racers on the track at once. Mechanical methods can be employed which would include governors placed on the engines to limit noise. In addition, upgraded or newly maintenance exhaust systems can be applied by the participants to further reduce excessive sound. Combining mitigation methods will compound the effectiveness to reduce noise. With mitigation measures in place sound levels and ground vibrations may be less than significant impact to exposed persons according the Initial Study prepared by WEI in Reference 1.

### **Byproducts and Methods of Disposal:**

During motorsport events, byproducts consist of trash and wastewater which are collected and passed on to the appropriate service by the fairgrounds. Trash cans are set out for the events for spectators and participants to dispose of typical event trash. The collected trash is consolidated after the event and placed in the fairground dumpster to be hauled off by Recology Eel River waste disposal on a weekly basis. Waste water created during the events is generated by the facilities on site including bathrooms, kitchens, and

RV hookups at the fairgrounds. This waste water is sent (via sewer system) to the City of Ferndale for treatment.

For motorsports events, individual participants are responsible for the containment and disposal of their own hazardous waste which mostly consists of various lubricants. Hazardous waste generated by the fairground's maintenance include motor oil and other typical hazardous waste associated with grounds upkeep. Waste is managed in compliance with Recology's hazardous waste collection, storage, reporting, and disposal guidelines. Hazardous waste generation at the grounds is less than 50 gallons per year (see Reference 4).

Spill kits are available at the grounds for any onsite spill from staff maintenance operations as well as participants to us in the case of an accidental release. In addition, individual participants should have their own spill containment resources for typical situations that could be encountered with care of their own equipment.

Greenhouse gas generation will be reduced by encouraging motor vehicle operators to minimize engine idle time and unnecessary engine revs when not participating in races. Also, governors placed on the engines will lower the maximum amount of fuel that can be consumed by the engine under clean burning conditions.

#### **Other Utilities and Public Facilities Used:**

The roads used to access events at the Fairgrounds are Van Ness and 5<sup>th</sup> Street. When necessary, the county will post one-way signs to direct traffic west on Van Ness from California Street to 5<sup>th</sup> Street.

Potable water is provided by the City of Ferndale during all events. During the highest demand, there is not a significant impact on the city's delivery system.

Energy is provided to the grounds by PG&E within the designed capacity and projected usage of the fairgrounds.

#### **Concerts:**

The grandstands and track area are available to be booked for concerts during the year with the exception of the first of August to the middle of September for the Humboldt County Fair preparation and cleanup. The venue expects a maximum of 10 concerts per year. Producers may reserve the venue and set it up in a configuration that will best serve the needs of the performance to be held.

#### **Attendance Limits:**

Attendance capacity for concerts will be approximately 5,000 people which includes 2,500 seated in the grandstands and an additional 2,500 people seated in portable bleachers in front of the grandstands. The adjacent grassy areas can be used as well as standing area in front of the grandstands instead of portable bleachers. It is also possible to open up the center of the oval track for occupation if approved by FFD

### **Staffing:**

Two to five paid staff will be on site to assist the producing organization with basic logistics and be able to contact necessary personnel if needed. They will also have knowledge of the grounds and be able to work in the best interest of all involved.

### **Parking Areas Utilized:**

Parking for the attendees to the motor sports will be accommodated with the paved parking lot at the grounds entrance which has 126 parking spaces; the adjacent field to the west (APN: 030-011-003) which holds 984 vehicles can be filled from north to south. If additional parking is required an additional 1,172 spaces are available in the next lot over to the west (APN: 030-011-002), bringing the total parking to 2,282 vehicles.

Production crew and performers may camp in the RV park which has 65 RV spaces available with hookups. Transportation busses and equipment haulers can be staged in the RV park for smaller space needs or in other paved spaces in the fairground that do not conflict with pedestrian traffic. The area in the center of the flat track is also available for vehicles that house concert performers.

### **Events Dates/Date Ranges:**

The grandstands and the adjacent oval track area are available to host concert events from March to October not including a window of time from the first of August to the middle of September to allow for the Humboldt County Fair preparation, setup, and teardown.

### **Event Hours:**

Concert events may occur during the day during the window from 12:00 pm to 10:00 pm depending on the perforce and duration of event production. Concerts events will typically be between two to four hours per set. It is possible there could be multiple sets in which concert events could be as much as six or eight hours in total.

### **Areas of the Property Utilized:**

The grandstands will be used to seat the attendees as well as portable bleachers that can be added directly in front of the grandstands. The area in front of the grandstands can be configured to accommodate standing room depending on the needs for the particular event. Fairground parking lots will be used to accommodate attendees as well as the RV park for lodging production crew and performers if needed. Additional staging areas can be used if necessary, including areas adjacent to the grandstand out of the way of pedestrian traffic.



### **Security Measures:**

To determine the necessary security for each concert, the Fairground management will meet with the Ferndale police chief and presents the details of the event. The police department will make a recommendation for security, depending on the event, that the Fairgrounds will implement. Private security can be hired per recommendation from the police. Gene Bass with Pacific Coast Security is generally used for the fairground security detail. The fairground is less than a 1-mile drive from police station which enables a quick response to the site if the police need to be called. The police are notified in advance of the event which helps prepare the department and inform the officers of what to expect.

### **Safety Measures:**

Before concert events the FFD inspects the venue and production setup prior to the opening. Any safety concerns will be addressed during the inspection and FFD will determine if a follow up visit or onsite presence is needed of fire personnel or EMT services. Inspections are made before each concert event as well as annual inspections of the grounds.

### **Measures for Controlling or Limiting Noise:**

Events at the held at the fairgrounds in Ferndale have generated noise historically that could be heard from adjacent locations. Cheering crowds, loudspeaker announcers, and a variety of other sounds have been produced from this location during historic events. There is no engineering data collected on the noise effects of these historical events on the surrounding areas.

### **Courtesy Procedure:**

Concert noise levels can be mitigated by decreasing the volume of amplified events to a compliant level. Audience cheering or acoustic music events are assumed to be within the noise threshold of acceptance. With mitigation incorporated sound levels and ground vibrations will have less than significant impact to exposed persons according to the IS prepared by WEI.

### **Byproducts and Methods of Disposal:**

Typical concert waste will be collected in trash cans and consolidated at the end of each event and placed in fairground dumpsters to be collected by Recology on a weekly basis. No hazardous waste is expected to be generated during concerts. If any is discovered proper disposal measures will be taken according to the nature of the discovery. No greenhouse gasses will be produced from the site during the concerts.

Waste water created during the events is generated by the facilities on site including bathrooms, kitchens and RV hookups at the fairgrounds. This waste water is sent, via sewer system, to The City of Ferndale for treatment. Times of highest use are able to be accommodated by the city's waste treatment system.

### **Other Utilities and Public Facilities Used:**

The roads used for events at the grounds are Van Ness and 5<sup>th</sup> street. When necessary, the county will post one-way signs to direct traffic west on Van Ness from California street to 5<sup>th</sup> street.

Potable water is provided by the City of Ferndale during all events. During the highest demand there is not a significant impact on the city's delivery system.

Energy is provided to the grounds by PG&E within the designed capacity and projected usage of the fairgrounds.

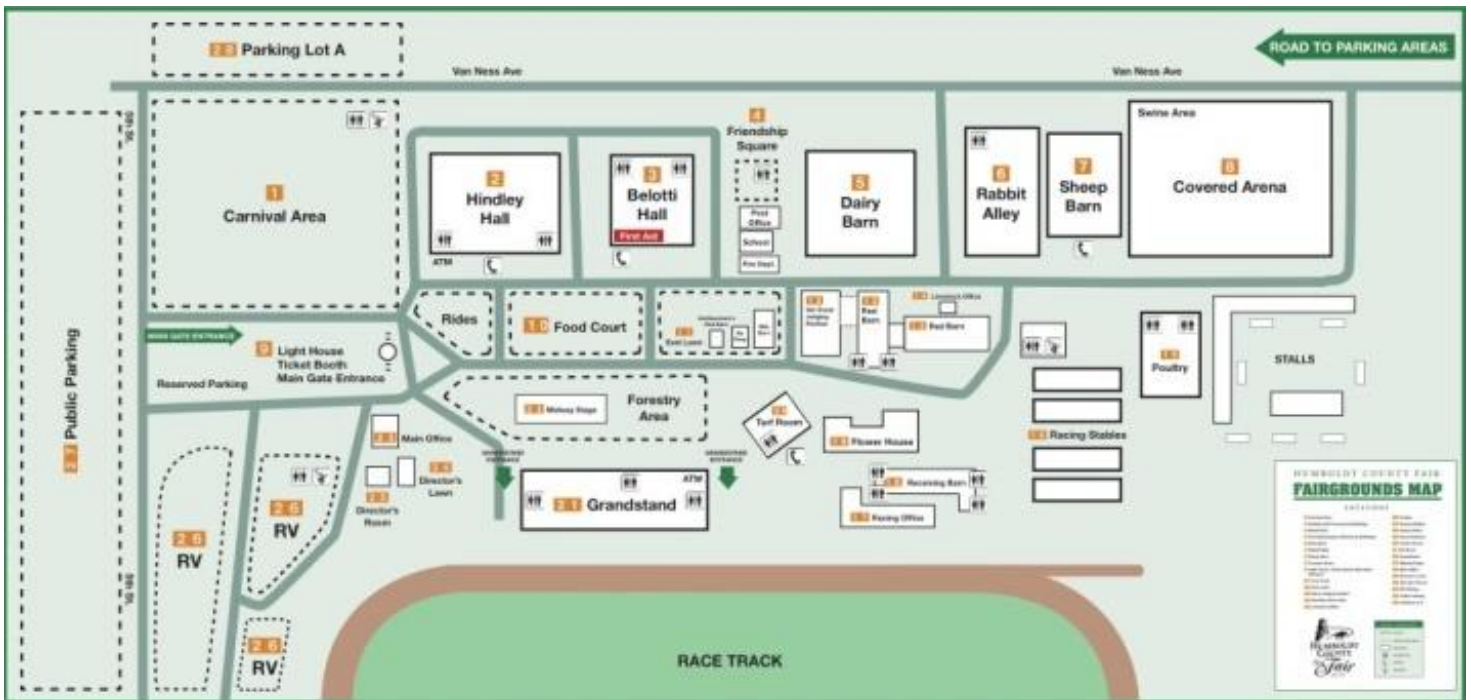
### **General Fairground Information:**

The Humboldt County Fairgrounds are located in Ferndale, CA, 5 miles south-west of US-101 and 600 feet west of CA-211 seen in Figure 2. The Humboldt County Fairground is comprised of eight parcels (APN numbers 030-081-006, 030-071-001, 030-021-003, 030-011-003, 100-181-003, 030-112-017, 100-112-020). It is approximately 60.5 acres and consists of numerous indoor and open-air structures that are available throughout the year to rent for a variety of activities. No portion of the fairground is available during the time from the first of August to the middle of September for logistics related to the annual Humboldt County Fair.



**Figure 2: Ferndale Fairgrounds Vicinity Map - The project location is approximately 5 miles south-west of US-101**

The grounds contain rentable space, fairgrounds maintenance resources, animal housing, offices, storage, camping and more (See Figure 3). Areas such as Hindley hall and the Friendship square are used for vendors and have maps kept by HCFG that show specific vendor locations during the Humboldt County Fair. Other events may have alternative vendor configurations.



**Figure 3: Humboldt County Fairgrounds event area approximate layout**

The buildings and areas available to be reserved for events include:

- Belotti Hall
- Hindley Hall
- Friendship Square
- Turf Room
- Lath House
- Jockeys Quarters
- Art Barn
- Arena
- Judging Barn
- Grandstands

The buildings may be rented out by private organizations or used by the fairgrounds and staff to host events. Event activities vary from year to year depending on who reserves the spaces and for what purpose. Bathroom, kitchen, and shower facilities are available on site depending on the specific event needs.

The typical activities include but are not limited to:

- Annual County Fair
- Auctions
- RV Parking
- Personal Event Rentals
- School Events
- Fourth of July
- Fireworks Displays
- Horse Stall Rental
- Motorsports
- Concert/Dance Events
- Craft and Vendor Fairs
- Skating
- Logging Conference
- Highland Games
- Mud Run
- Cycling Events
- Rodeos
- Equestrian Event
- Expos
- Athletic Events
- Circus
- Carnival
- Funeral/Memorial Service
- Animal Symposiums
- Performances/Theatrical
- Religious Retreats
- Graduations
- Bingo Sporting Events
- Weddings
- Weekly Rotary Meetings
- Training/Conference

Some larger buildings are also used for covered storage during the fair off season and are available for rent by the public. Storage buildings available for rent during the fair off season are: Hindley Hall, Dairy Barn, Beef Barn, and Sheep Barn.

### **Events:**

The facility operates year-round and hosts events that can range in duration from a few hours such as dinners and school events to multiple day events like the Humboldt County Fair, dog show and holiday craft events. Multiple areas and buildings are used for larger events in some cases. For instance, this could include the halls in combination with the friendship area or the flat dirt track in combination with the stalls and other necessary locations.

### **Staffing:**

The number of staff members employed by HCFG can range from three to five for regular maintenance and office duties to as much as two hundred and fifty to work the county fair. All staff members on site for the annual county fair are paid staff. Staff responsibilities for smaller events include setting up tables and chairs, checking facilities to be utilized, and doing pre event walk throughs to make sure area is safe and efficiently operating.

### **Security:**

Fairground management is in regular contact with the Ferndale Police Department (FPD) to coordinate the necessary security that should be present throughout the year during various activities.

A request is sent to the FPD by the fairgrounds and the police department will give return requirements. Prior to the Fair or other large events, a meeting will take place with the police chief to determine the amount of security personnel and other possible measures that need to be taken. Small events could require some or no security based on the recommendations by the FPD. During larger events, fairground officials will use gates, counters, radios, and personnel to maintain a secure environment. Designated security may be recommended by the police and hired to assist with the security detail. Participants of events will have a designated area for staging equipment away from public access. FDP is about one mile from the grounds and is available to respond if needed and prepared for the situation based on prior coordination

### **Safety:**

The grounds are subject to inspections throughout the year to ensure the facilities are safe for public attendance.

Fire: The Ferndale Fire Department inspects annually for hazards and potentially unsafe conditions 2 months before the annual fair. They later return and signs off on the safety of the venue the night before the Fair if all requirements are met. For other large or medium events, the FFD is contacted and invited to come and inspect for safety hazards and make recommendations before each event is held. Before



small events, the HCFG inspects all areas that will be utilized and ensure no hazardous conditions are present. Also, individual events are able to design their activities to safeguard against unsafe conditions.

CFSA: Fairground inspections also are performed annually by California Fair Services Authority (CFSA) two months prior to the County fair and then again, the night before. The initial inspection identifies any hazards, egress requirements, setup concerns, and much more. The follow up inspection checks to make sure corrections were made if needed and the fair is ready to begin.

### **Parking:**

Depending on the amount of people attending and the location of the event, the appropriate parking will be opened up for attendees and participants (*see Reference 3*). Small events may have parking on the grounds i.e. around Friendship Square or in front of barns. Medium and large events use the paved parking area first at the fairground entrance which holds 126 spaces. Additional parking is added to the field lots to the west and filled from north to south and east to west in APN: 030-011-003 (560 spaces), APN: 030-021-003 (424 Spaces), APN: 030-011-002 (704 spaces) and APN: 030-021-002 (468 spaces). There is also additional parking to the north in field lots which is filled south to north and east to west APN: 100-181-003 (1370 spaces). Parking can be accessed from two routes following both Van Ness or 5<sup>th</sup> Street.

Parking passes for participants distinguish their vehicles for horseman parking that allows them to park closer to their horses in the stables and the event.

Traffic and parking control are conducted by fairground staff using radios, gates, high visibility attire, and visual communication with drivers. A network of signs and flaggers will send cars to the appropriate lots in the order and magnitude that is needed. Radio communication are used in determining parking lot capacities in real time.

### **Waste:**

Standard trash is collected using cans spread throughout the fairgrounds and buildings which is collected by staff and placed in fairground dumpsters. Recology Eel River collects the trash on a weekly basis and takes it to a Recology transfer station. Recycling bins are made available which are also collected weekly by Recology.

Hazardous waste generated from vehicle and ground maintenance is stored, labeled, and disposed of according to Recology's hazardous waste protocol. Reporting is done online for the annual hazardous waste totaling less than 50 gallons per year.

All animal waste including manure, bedding, hay, and other organic green waste material are given to local farmers who use it to create compost.

### **Public Utilities:**

Water and sewer are provided by the City of Ferndale. The city's water and sewer system have capacity to accommodate the loads generated throughout the year by fairground events.

During the Humboldt County Fair 8-9 porta potties are rented for remote locations such as the field parking lots and other remote areas on the grounds for the comfort of the people attending the Fair.

The energy company that services the fairgrounds is PG&E which is able to accommodate the gas and electric loads associated with the fairground's activities throughout the year.

Roads to the fairgrounds are Van Ness and 5<sup>th</sup> Street. For large events, if traffic is foreseen to be an issue, Humboldt County is contacted and the county will place one-way traffic signs from California Street to 5<sup>th</sup> Street to direct vehicles from east to west for improved traffic flow. For events that the county does not see fit to control traffic, the staff will open up necessary parking and post signage directing attendees to the proper lots if needed.

### **Emissions:**

Emission concentrations are minimized to maintain air quality by staggering fuel burning activities, encouraging clean air fuel and processes, as well as minimizing unnecessary running of emissive machinery when possible. Governors are included on vehicles to limit the amount of fuel emissions during clean burn conditions during motorsport events at the dirt flat track. For air quality dusty areas will be wetted down when possible.

### **Space Usage:**

Several types of areas are used throughout the year. These spaces are indoor, outdoor, barn, grandstand, or a combination. The appropriate space for the event will be approved for the safety of occupants and the facility. Spaces to be used for each event are approved ahead of time by HCFG staff and appropriate public authorities.

## Chapter 13. Noise Element

### 13.1 Purpose

This Element identifies the County's approach to managing noise levels to minimize the exposure of community residents to excessive noise. The analysis follows the guidelines adopted by the Office of Noise Control of the California Department of Health Services.

### 13.2 Relationship to Other Elements

Noise levels are considered in the Land Use Element to avoid direct conflicts between neighboring uses and to establish patterns of land uses that minimize noise exposure. Policies in the Circulation Element related to road location, design, and non-motorized transportation can affect traffic noise levels. Policies of the Housing Element and Open Space Element also reflect noise considerations.

### 13.3 Background

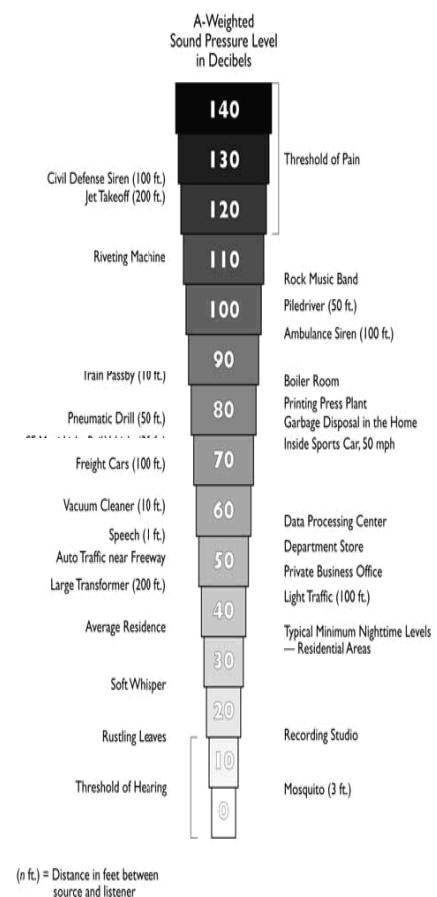
#### Measuring and Characterizing Noise

Assessing the community noise environment involves measuring three aspects of sound: level, frequency, and variation. Sound level is the magnitude or loudness of a sound, expressed in decibels (see Figure 13-1 and the glossary). Frequency is a measure of the pitch of the sound, and variation is the change in noise exposure over time. When sound is disagreeable or unwanted, it is considered noise.

Most community noise is produced by many distant sources, which rise and fall gradually throughout the day creating a relatively steady background sound having no identifiable source. The Community Noise Equivalent Level (CNEL) is a measure that describes average noise exposure over a period of time.

Because communities are more sensitive to impacts from nighttime noise, noise descriptors must specifically take this time period into account. Common measures include the CNEL and the Day-Night Average Level (Ldn). Both reflect noise exposure over an average day, with greater weight given to noise occurring during the evening and night. The two descriptors are roughly equivalent but CNEL is used in this Plan for regulating cumulative noise exposure over a 24-hour period.

**Figure 13.1: Sound Level Comparison Chart**





Noise levels of short duration, such as aircraft flyovers or concerts, are not well characterized by average noise level measurements yet are often the source of complaints. Maximum Noise Level (Lmax) is used in this Plan for the purposes of regulating short-term noise levels.

## Principal Noise Sources

Table 13-A lists prominent noise sources within unincorporated areas of the county and Table 13-B provides the results of community noise surveys by ESA conducted in November 2016 for selected roadways in the incorporated, unincorporated, and rural areas of the County.

The Map Book Appendix contains noise level contours for state highways, selected county roads, county airports, and other prominent sources. Other noise sources not included in the inventory include noises from persons, pets and livestock, industrial equipment, and construction sites.

<b>Table 13-A. Inventory of Prominent Sources of Noise within Communities of Humboldt County</b>				
	<b>SOURCE OF NOISE</b>			
<b>COMMUNITY</b>	<b>ROADS</b>	<b>AIRPORTS</b>	<b>RAILROAD*</b>	<b>STATIONARY SOURCES</b>
ALTON	U.S. 101, State Highway 36	Rohnerville	Northwestern Pacific	NONE
ARCATA	U.S. 101, State Highways 299 & 255	NONE	Northwestern Pacific	NONE
BLOCKSBURG	NONE	NONE	NONE	Gravel operations
BLUE LAKE	State Highway 299	NONE	NONE	Gravel operations
BRIDGEVILLE	NONE	NONE	NONE	Gravel operations
CAPETOWN	NONE	NONE	NONE	Gravel operations
CARLOTTA	State Highway 36	NONE	NONE	Gravel operations
DINSMORE	State Highway 36	Dinsmore Airport	NONE	NONE
DYERVILLE	NONE	NONE	NONE	Gravel operations
EUREKA	U.S. 101, Myrtle Ave. Harris, Henderson & "H" St	Murray Field	Northwestern Pacific	Redwood Acres
FAIRHAVEN	New Navy Base Rd.	City of Eureka Airport	NONE	Racetrack
FERNDAL	State Highway 211	NONE	NONE	Fairgrounds, Gravel operations
FLDDBROOK	NONE	NONE	NONE	NONE

<b>Table 13-A. Inventory of Prominent Sources of Noise within Communities of Humboldt County (Continued)</b>				
	<b>SOURCE OF NOISE</b>			
<b>COMMUNITY</b>	<b>ROADS</b>	<b>AIRPORTS</b>	<b>RAILROAD*</b>	<b>STATIONARY SOURCES</b>
FIELDS LANDING	U.S. 101	NONE	Northwestern Pacific	Shipping operations
FORTUNA	U.S. 101, Main St.	Rohnerville Airport	Northwestern Pacific	Gravel operations
FRESHWATER	Freshwater Rd.	NONE	NONE	NONE
GARBERVILLE	U.S. 101	Airport	NONE	Gravel operations
HOOPA	State Highway 96	Former County Airport	NONE	Gravel operations
HYDESVILLE	State Highway 36, Rohnerville Rd.	Rohnerville	NONE	NONE
KNEELAND	NONE	Kneeland Airport	NONE	NONE
LOLETA	NONE	NONE	Northwestern Pacific	NONE
MANILA	State Highway 255 (New Navy Base Rd.)	NONE	NONE	NONE
MAPLE CREEK	NONE	NONE	NONE	Gravel operations
MARTIN'S FERRY/ WEITCHPEC	NONE	NONE	NONE	Gravel operations
McKINLEYVILLE	U.S. 101, Central Ave.	Eureka/Arcata Airport	NONE	Gun Club
MOONSTONE/ WESTHAVEN	U.S. 101	NONE	NONE	NONE
ORLEANS	NONE	NONE	NONE	Gravel operations
ORICK	U.S. 101	NONE	NONE	NONE
PETROLIA	NONE	NONE	NONE	Gravel operations
REDWAY	Redwood Dr.	NONE	NONE	NONE
RIO DELL	U.S. 101, Wildwood Ave.	NONE	Northwestern Pacific	NONE
ROHNERVILLE (See Fortuna)				
SAMOA	New Navy Base Rd.	NONE	NONE	Pulp mill, cogeneration plant, shipping operations

<b>Table 13-A. Inventory of Prominent Sources of Noise within Communities of Humboldt County (Continued)</b>				
	<b>SOURCE OF NOISE</b>			
<b>COMMUNITY</b>	<b>ROADS</b>	<b>AIRPORTS</b>	<b>RAILROAD*</b>	<b>STATIONARY SOURCES</b>
SCOTIA	U.S. 101	NONE	Northwestern Pacific	Mill, gravel operations
TRINIDAD	U.S. 101	NONE	NONE	NONE
SHELTER COVE	Shelter Cove Rd.	Shelter Cove	NONE	NONE
WEOTT	U.S. 101	NONE	NONE	NONE
WILLOW CREEK	State Highways 299 & 96	NONE	NONE	Gravel operations
* Note: The former Northwestern Pacific Railroad is now under the direction of the North Coast Railroad Authority. While local rail lines have not operated on a regular basis for several years, future rail usage should continue to be considered in land use planning decisions, unless the railroad right-of-ways are abandoned.				

## Traffic Noise

Traffic noise depends primarily on the speed of traffic and the percentage of truck traffic. The primary source of noise from automobiles is high-frequency tire noise, which increases with vehicle speed. In addition, trucks and older automobiles produce engine and exhaust noise, and trucks generate wind noise.

As illustrated in Table 13-B, Humboldt County is primarily subject to noise impacts from U.S. Highway 101, which creates noise in areas up to 500 feet away. Differences in elevation can amplify or dampen noise levels; for example, noise from a thoroughfare in a trough or valley between residential areas will be reflected upward and focused while noise from an elevated thoroughfare may dissipate. On flat ground, a buffer, such as a sound wall or dense vegetation, will greatly reduce noise escaping to surrounding areas. The California Department of Transportation (Caltrans) sometimes installs sound walls along state roads when new construction or widening is proposed. In Humboldt County, Caltrans has not pursued sound wall construction along existing highways.

<b>Table 13-B. Traffic Noise Levels in Humboldt County, 2016</b>						
<b>Location</b>	<b>Route</b>	<b>Post Mile</b>	<b>Measured CNEL</b>	<b>Distance from Centerline (feet)</b>	<b>Distance to 65 CNEL (feet)</b>	<b>Distance to 60 CNEL (feet)</b>
Benbow	US 101	9.1	73.4	86	312	673
North of Metropolitan Rd.	US 101	54.9	71.4	74	198	426
South of Loleta Dr.	US 101	65.6	75.1	56	264	569
North of Indianola Cutoff	US 101	82.8	75.6	112	570	1,228
North of Airport Rd.	US 101	94.2	69.6	106	215	463
South of Seawood Dr.	US 101	102.8	67.2	130	182	393
South of Bald Hills Rd.	US 101	122.0	68.0	58	92	198
South of Corbett Ranch Ln.	SR 36	7.7	68.1	27	43	94
East of Blue Lake Blvd.	SR 299	8.5	65.7	64	71	154
West of Will Rd.	SR 299	37.8	69.4	56	110	237
South of Orchard Park Ln.	SR 96	2.1	65.2	38	39	84
South of Owl Mine Rd.	SR 96	35.8	63.1	31	23	50
<b>Source: ESA, 2016</b>						

Noise surveys were conducted at various locations along US 101, State Route (SR) 299, SR 96 and SR 36 over a 24-hour period in November 14 through November 18, 2016.

Monitoring sites included incorporated, unincorporated, and rural areas of the County. Distances to the 60 dBA CNEL contour ranged from 50 feet south of Owl Mine Road along SR 96 near Orleans to 1,228 feet north of Indianola Cutoff along Highway 101 near Brainard.

### **Airport Noise**

Airport noise caused by aircraft depends on the type of aircraft and the frequency and direction of flights. Noise from aircraft warming up early in the morning can also be a significant source of noise from airports. Diagrams showing existing and projected noise levels associated with airport noise are contained in the County's Airport Land Use Compatibility Plans. The most current diagrams are shown in the Map Book Appendix.

## Noise Compatibility

Evaluating new development projects for noise impacts should be based on a comparison of the noise compatibility standards in Table 13-C with noise contours and other available information. Fences, landscaping, and noise insulation can be used to mitigate the hazards of excessive noise levels.

A standard construction wood frame house reduces noise transmission by 15dBA. Since interior noise levels for residences are not to exceed 45dBA, the maximum exterior noise level for residences is 60dBA without requiring additional insulation. In areas where CNEL noise levels exceed 60dBA, the need for additional noise insulation will vary depending on the land use designation; adjacent uses; distance-to-noise source; and intervening topography, vegetation, and other buffers. The building code provides standards for meeting noise insulation requirements.

Appropriate standards for short-term noise levels measured by Lmax varies with the type of land use and time of day. Acceptable daytime levels in industrial and commercial areas are typically based on a combination of health and nuisance considerations and typically do not exceed 85 dBA. In residential areas, standards are typically set to avoid the perception of nuisance, such as noise levels that block normal conversation. Noise level above 66 dBA requires raised voices to be heard at a distance of three feet. Indoor noise levels between 50 and 60 dBA can disturb sleep.

The perception of nuisance will vary based upon sound level, frequency, and fluctuation. It also depends upon the character of the sound, number of noise events, familiarity and predictability, and the attitude of the listener. CNEL and Lmax are typically the basis for making nuisance determinations but other factors may be considered. For example, an annual high school parade may exceed residential noise levels but might not be deemed a nuisance.

**Table 13-C Land Use / Noise Compatibility Standards**

CLEARLY ACCEPTABLE		NORMALLY ACCEPTABLE		NORMALLY UNACCEPTABLE		CLEARLY UNACCEPTABLE			
LAND USE INTERPRETATION FOR CNEL (or Ldn) VALUE									
LAND USE CATEGORY		Maximum Interior Noise Levels*	50 – 60	61 - 70	71 - 80	81 - 90	91+		
Residential Single Family, Duplex, Mobile Homes		45							
Residential Multiple Family, Dormitories, etc.		45							
Transient Lodging		45							
School Classrooms, Libraries, Churches		45							
Hospitals, Nursing Homes		45							
Auditoriums, Concert Halls, Music Shells		35							
Sports Arenas, Outdoor Spectator Sports									
Playgrounds, Neighborhood Parks									
Golf Courses, Riding Stables, Water Rec., Cemeteries									

LAND USE CATEGORY	Maximum Interior Noise Levels*	50 – 60	61 - 70	71 - 80	81 - 90	91+
Office Buildings, Personal, Business & Professional	50					
Commercial: Retail, Movie Theaters, Restaurants	50					
Commercial: Wholesale, Some Retail, Ind., Mfg., Util.						
Manufacturing, Communications(Noise Sensitive)						
Livestock Farming, Animal Breeding						
Agriculture (except Livestock), Mining, Fishing						
Public Right-of-Way						
Extensive Natural Recreation Areas						

\*Due to exterior sources

(Source: Bolt, Beranek, and Newman, Inc., 1974)

**CLEARLY ACCEPTABLE:** The noise exposure is such that the activities associated with the land use may be carried out with essentially no interference. (Residential areas: both indoor and outdoor noise environments are pleasant.)

**NORMALLY ACCEPTABLE:** The noise exposure is great enough to be of some concern, but common constructions will make the indoor environment acceptable, even for sleeping quarters. (Residential areas: the outdoor environment will be reasonably pleasant for recreation and play at the quiet end and will be tolerable at the noisy end.)

**NORMALLY UNACCEPTABLE:** The noise exposure is significantly more severe so that unusual and costly building constructions are necessary to ensure adequate performance of activities. (Residential areas: barriers must be erected between the site and prominent noise sources to make the outdoor environment tolerable.)

**CLEARLY UNACCEPTABLE:** The noise exposure at the site is so severe that construction costs to make the indoor environment acceptable for performance of activities would be prohibitive. (Residential areas: the outdoor environment would be intolerable for normal residential use.)

## 13.4 Goals and Policies

### Goals

- N-G1. Excessive Noise.** A quiet and healthful environment with limited disagreeable noise.
- N-G2. Incompatible Land Uses.** Land uses arranged to reduce annoyance and complaints and minimize the exposure of community residents to excessive noise.

### Policies

- N-P1. Minimize Noise from Stationary and Mobile Sources.** Minimize stationary noise sources and noise emanating from temporary activities by applying appropriate standards for average and short-term noise levels during permit review and subsequent monitoring.

- N-P2. Guide to Land Use Planning.** Evaluate current noise levels and mitigate projected noise levels when making community planning and zoning decisions to minimize the exposure of community residents to nuisance noise levels. Minimize vehicular and aircraft noise exposure by planning land uses compatible with transportation corridors and airports, and applying noise attenuation designs and construction standards. Avoid zoning patterns that permit people to “move to the nuisance” unless mitigated through project conditions or recorded notice.
- N-P3. Noise from U.S. Highway 101 (U.S. 101) and State Highway 299.** The County shall support efforts to reduce noise levels on U.S. 101 and State Highway 299 along sections in proximity to concentrated residential development through prioritized roadway surface maintenance, use of noise-reducing surface treatments, traffic-safe tree or shrub plantings, or, in cases of significant noise exposure, use of lower speed limits and construction of sound walls.
- N-P4. Protection from Excessive Noise.** Protect persons from existing or future excessive levels of noise which interfere with sleep, communication, relaxation, health or legally permitted use of property.

## 13.5 Standards

- N-S1. Land Use/Noise Compatibility Matrix.** The Land Use/Noise Compatibility Standards (Table 13-C) shall be used as a guide to ensure compatibility of land uses. Development may occur in areas identified as “normally unacceptable” if mitigation measures can reduce indoor noise levels to “Maximum Interior Noise Levels” and outdoor noise levels to the maximum “Normally Acceptable” value for the given Land Use Category.
- N-S2. Noise Impact Combining Zones.** The 20-year projected noise contours in the Map Book Appendix and the most current Airport Land Use Compatibility Plans shall be used to identify noise impact combining zone areas to indicate where special sound insulation measures may apply.
- N-S3. Environmental Review Process.** For noise sensitive locations where noise contours do not exist, the environmental review process required by the California Environmental Quality Act shall be utilized to generate the required analysis and determine the appropriate mitigation per Plan and state standards. Future noise levels shall be predicted for a period of at least 10 years from the time of building permit application.

- N-S4. Noise Study Requirements.** When a discretionary project has the potential to generate noise levels in excess of Plan standards, a noise study together with acceptable plans to assure compliance with the standards shall be required. The noise study shall measure or model as appropriate, Community Noise Equivalent Level (CNEL) and Maximum Noise Level (Lmax) levels at property lines and, if feasible, receptor locations. Noise studies shall be prepared by qualified individuals using calibrated equipment under currently accepted professional standards and include an analysis of the characteristics of the project in relation to noise levels, all feasible mitigations, and projected noise impacts. *The Noise Guidebook* published by the U.S. Department of Housing and Urban Development, or its equivalent, shall be used to guide analysis and mitigation recommendations.
- N-S5. Noise Standards for Habitable Rooms.** Noise reduction shall be required as necessary in new development to achieve a maximum of 45 CNEL (Community Noise Equivalent Level) interior noise levels in all habitable rooms per California building standards.
- N-S6. Noise Reduction Requirements for Exterior Areas in Residential Zones.** Newly created single family residential lots of 5,000 square feet or more, should contain a usable outdoor area at least 200 square feet in size per dwelling unit that meets the 60 CNEL (Community Noise Equivalent Level) standard.
- N-S7. Short-term Noise Performance Standards (Lmax).** The following noise standards, unless otherwise specifically indicated, shall apply to all property within their assigned noise zones and such standards shall constitute the maximum permissible noise level within the respective zones.

SHORT-TERM NOISE STANDARDS (Lmax)		
Zoning Classification	Day (maximum)	Night (maximum)
	6:00 a.m. to 10:00 p.m. dBA	10:00 p.m. to 6:00 a.m. dBA
MG, MC, AE, TPZ, TC, AG, FP, FR, MH	80	70
CN, MB, ML, RRA, CG, CR C-1, C-2, C-3,	75	65
RM, R-3, R-4	65	60
RS, R-1, R-2, NR	65	60

Exceptions. The Short Term Noise levels shown in the above table shall not apply to uses such as, but not limited to:

1. Portable generator use in areas served by public electricity when electrical service is interrupted during emergencies as determined by the Planning Director.
2. Temporary events in conformance with an approved Conditional Use Permit.
3. Use of chainsaws for cutting firewood and power equipment used for landscape maintenance when accessory to permitted on-site uses.



4. Heavy equipment and power tools used during construction of permitted structures when conforming to the terms of the approved permit.
5. Emergency vehicles.

Protocol for measuring exceedances:

1. Calibrate and establish reference for sound meter:  
Decibel measurement made shall be based on a reference sound pressure of 0.0002 microbars as measured with a sound level meter using the "A" weighted network.
2. Determine ambient background noise levels:  
Ambient noise without the noise source in operation shall be observed at 15 second intervals for a period of 15 minutes, measured along the property line in a direct line between the noise source and the nearest receptor. The lowest reading is interpreted as the ambient noise level of that sampling point. If this reading is above the standard set for the noise zone, steps must be taken to determine the source or sources of the intruding high-level noise followed by appropriate control action before continuing the survey. If the reading is equal to or below the standard, the survey can proceed.
3. Measure for exceedences:  
With the noise source in operation, record the instantaneous response at 15 second intervals for a 15 minute period. Or, for a noise source of less than 15 minutes, record the instantaneous response at 15 second intervals for the time the noise source is in operation. The lowest response level recorded while the noise source is in operation is interpreted as the intruding noise level. Compare the intruding noise levels with the standard. If the noise level generated from the noise source exceeds the standard, the noise source is generating noise levels in excess of the allowable standards set for the noise zone.

## 13.6 Implementation Measures

- N-IM1. Noise Impact Combining Zone.** Utilize Noise Impact Combining Zone designations to identify areas where noise impact mitigations are required.
- N-IM2. Periodic Review of Combining Zones.** Periodically identify and evaluate potential noise problem areas for mitigation or as candidates for noise impact combining zones, particularly during Airport Land Use Compatibility Plan updates.
- N-IM3. Compliance Program.** The County shall investigate complaints of excessive noise and control noise sources consistent with the standards established by the Plan. Nuisance determinations shall be based on noise levels, duration, and number of noise events.

- N-IM4. Noise from U.S. Highway 101 (U.S. 101) and State Highway 299.** Working through its representation on Humboldt County Association of Governments (HCAOG), the County shall work with other affected jurisdictions and request California Department of Transportation (Caltrans) to consider implementing noise reduction measures on U.S. 101 and State Highway 299 along sections in proximity to concentrated residential development.
- N-IM5. Adoption of Performance Standards.** Adopt Industrial Performance Standards Countywide.
- N-IM6. Noise Control Ordinance.** Prepare and consider a noise control ordinance to regulate noise and vibration sources in order to protect persons from existing or future excessive levels of noise and/or vibration which interfere with sleep, communication, relaxation, health or legally permitted use of property. The ordinance shall define excessive levels of noise for construction activities to be incorporated as permit requirements and other noise sources and may exempt or modify noise requirements for agricultural uses, school functions, property maintenance, waste collection and other sources. The ordinance shall include responsibilities and procedures for enforcement, abatement and variances.
- N-IM7. Highways Noise Contours.** Request Caltrans to update current and projected noise contours for highways.
- N-IM8. Airport Noise Contours.** Incorporate into the Noise Impact Maps in Appendix F the new noise contour data for airports and surrounding areas from Airport Master Plans, and from new ALUPs within six months of adoption of a new ALUP.
- N-IM9. Garberville Airport Noise Impact Combining Zone.** Add a Noise Impact (N) Combining Zone to the areas surrounding the Garberville Airport that are subject to noise levels equal to or above 60 CNEL according to Figure 5B of the 2007 Garberville Airport Master Plan Report, or the most recent Garberville Airport Master Plan Report.