

Final

# HUMBOLDT COUNTY

## Airport Land Use Compatibility Plan

Prepared for  
Humboldt County Airport Land Use  
Commission

April 2021



Adopted by the Airport Land Use Commission on April 13, 2021

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# COUNTY OF HUMBOLDT

For the meeting of: 4/13/2021

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File #: 21-378

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**To:** Board of Supervisors

**From:** Public Works

**Agenda Section:** Time Certain Matter

**SUBJECT:**

9:00 a.m. - Resolution by the Airports Land Use Commission adopting the Initial Study/Negative Declaration for 2021 Humboldt County Airport Land Use Compatibility Plan (ALUCP); establishing the Airport Influence Area for Samoa Field Airport; adopting the 2021 Airport Land Use Compatibility Plan; and affirming the 1993 Airport Land Use Compatibility Plan remains valid for the Hoopa Airport

**RECOMMENDATION(S):**

That the Board of Supervisors:

1. Adjourn as the Humboldt County Board of Supervisors;
2. Convene as the Governing Board of the Humboldt County Airport Land Use Commission and consider the following agenda:
  - a. Public comment on items not on the Airport Land Use Commission agenda.
  - b. Receive and review both the Initial Study/Negative Declaration for 2021 Humboldt County Airport Land Use Compatibility Plan (Attachment 1) and the 2021 Airport Land Use Compatibility Plan (Attachment 2).
  - c. Public comment.
  - d. Adopt a Resolution (Attachment 5) that:
    - i. Adopts the Negative Declaration prepared in accordance with the California Environmental Quality Act (CEQA) on the 2021 ALUCP for the California Redwood Coast - Humboldt County Airport, Dinsmore Airport, Garberville Airport, Kneeland Airport, Murray Field Airport, Rohnerville Airport, Samoa Field Airport, and Shelter Cove Airport
    - ii. Establishes the Airport Influence Area for Samoa Field Airport.
    - iii. Adopts the 2021 ALUCP for the California Redwood Coast - Humboldt County Airport, Dinsmore Airport, Garberville Airport, Kneeland Airport, Murray Field Airport, Rohnerville Airport, Samoa Field Airport, and Shelter Cove Airport.
    - iv. Affirms that the 1993 ALUCP is still valid for Hoopa Airport.
3. Adjourn as the Governing Board of the Humboldt County Airport Land Use Commission; and
4. Reconvene as the Humboldt County Board of Supervisors.

SOURCE OF FUNDING:

California Department of Transportation (Caltrans) Division of Aeronautics  
Aviation Capital Project (3539)  
City of Eureka  
Shelter Cove Improvement District

DISCUSSION:

In 2017, Public Works was notified by Caltrans that Humboldt County was selected for an Acquisition and Development grant for updating the 1993 Humboldt County Airports Land Use Compatibility Plan (ALUCP). The grant would provide \$250,000 in funding together with a local match of \$27,778 for a total budget of \$277,778. In order to be eligible for the grant on Mar. 28, 2017, the Airport Land Use Commission adopted Resolution No. 17-30, recommending the commencement of a work plan and an application for grant funding for the preparation of an update to the ALUCP. On the same date, the Board of Supervisors adopted Resolution No. 17-31, authorizing filing the grant application to update the ALUCP.

The 1993 ALUCP included the following airports:

- Arcata/Eureka (now known as the California Redwood Coast - Humboldt County Airport)
- Dinsmore Airport
- Hoopa Airport (now maintained by the Hoopa Tribe)
- Garberville Airport
- Kneeland Airport
- Murray Field Airport
- Rohnerville Airport
- Shelter Cove Airport (now maintained by the Resort Improvement District)

The 1993 ALUCP did not include Samoa Field (maintained by the City of Eureka). The 2021 ALUCP includes the six airports maintained by the county (California Redwood Coast - Humboldt County Airport, Dinsmore Airport, Garberville Airport, Kneeland Airport, Murray Field, and Rohnerville Airport). Public Works reached out to the City of Eureka (Samoa Field), Hoopa Tribe (Hoopa Airport), and Resort Improvement District (Shelter Cove Airport) to see if there was interest in participating in the update of the ALUCP. Based upon preliminary interest from these entities Public Works included them as additive options to the ALUCP update. This allowed the county to enter into agreements with these entities to participate in the ALUCP update.

On Dec. 13, 2017, Public Works issued Request for Proposal (RFP) DPW2017-010 for the ALUCP update with proposals due on Jan. 19, 2018. On May 8, 2018, the county entered into a services agreement with Environmental Services Associates (ESA) to prepare the updated ALUCP. Ultimately the Resort Improvement District (Shelter Cove Airport) and City of Eureka (Samoa Field) agreed to participate. The Hoopa Tribe (Hoopa Airport) did not participate. As a result, the 1993 ALUCP as adopted by the Airport Land Use Commission on May 25, 1993 (Item L1) for the Hoopa Airport will

remain in effect.

As part of updating the ALUCP, ESA conducted public outreach as follows:

- On Feb. 4, 2019, ESA held a public meeting for schools and other special purpose districts
- On May 19, 2020, ESA provided a status report on the update of the ALUCP to the Airport Land Use Commission
- On July 29, 2020, ESA made a presentation on the Draft ALUCP to the McKinleyville Municipal Advisory Committee
- On Aug. 26, 2020, ESA made a second presentation on the Draft ALUCP to the McKinleyville Municipal Advisory Committee
- On March 8, 2021, ESA conducted a public workshop on the Draft ALUCP to the general public

In Jul. 2020, the Draft ALUCP prepared by ESA was released for a 30-day public review. A public notice was published in the Times-Standard newspaper on Jul. 16, 2020 and the Humboldt County website sent out a newsflash on July 20, 2020. As part of that effort staff created a webpage for the Airport Land Use Commission (<https://humboldt.gov/2823/ALUC>) and posted the existing 1993 ALUCP as well as the draft ALUCP documents. In addition, the website provided a link to submit public comments electronically. To ensure adequate time for review, the public review period was extended to Aug. 27, 2020. A total of ten (10) comments were received from the public during the 30-day review period (Attachment 3). Revisions have been made to the Draft ALUCP in response to feedback received during the public review period.

In Feb. 2021, the Draft ALUCP and the Draft Initial Study / Negative Declaration prepared by ESA was released for a 30-day public review ending on Ma. 15, 2021. The county website sent out a newsflash on February 19, 2021 and a public notice was published in the Times-Standard newspaper on Feb. 21, 2021. A total of four (4) comments were received from the public during the 30-day review period (Attachment 4). Revisions have been made to the Draft ALUCP in response to feedback received during the public review period.

**Next Steps:**

1. Update the ALUC webpage with the adopted 2021 ALUCP and Initial Study / Negative Declaration.
2. The County of Humboldt, the City of Eureka, and the City of Fortuna will have 180 days to ensure that their general plans are consistent with the adopted 2021 ALUCP or to approve findings and overrule the Airport Land Use Commission.
3. Update the county GIS to reflect the adoption of the 2021 ALUCP.
4. Adopt an Ordinance to allow the recordation of Deed Notices in the Office of the County Recorder.

**FINANCIAL IMPACT:**

The project has an overall cost of \$277,778 with the Caltrans Division of Aeronautics grant covering

\$250,000 and the county being responsible for \$27,778. Of the county match, the City of Eureka and Shelter Cove Resort Improvement District each will contribute \$5,209. This lowered the county's responsibility to \$17,360. Expenditures have been included in the approved fiscal year 2020-21 budget for 3539-170-3510. There is no impact to the General Fund.

STRATEGIC FRAMEWORK:

This action supports your Board's Strategic Framework by enforcing laws and regulations to protect residents .

OTHER AGENCY INVOLVEMENT:

Humboldt County Aviation Department  
Humboldt County Planning & Building Department  
Humboldt County Recorder  
City of Eureka  
Shelter Cove Resort Improvement District  
Caltrans

ALTERNATIVES TO STAFF RECOMMENDATIONS:

The ALUC may choose not to adopt the Final Initial Study/Negative Declaration and the Final 2021 ALUCP. This action is not recommended.

ATTACHMENTS:

1. Final Initial Study/Negative Declaration [Not attached]
2. Final 2021 Airport Land Use Compatibility Plan
3. Public Comment on the June 2020 DRAFT [Not attached]
4. Public Comment on the February 2021 DRAFT [Not attached]
5. Resolution of the Humboldt County Airports Land Use Commission adopting the Initial Study/Negative Declaration for the 2021 Humboldt County Airport Land Use Compatibility Plan; adopting the 2021 Airport Land Use Compatibility Plan; and affirming the 1993 Airport Land Use Compatibility Plan remains valid for the Hoopa Airport [Attached]

PREVIOUS ACTION/REFERRAL:

Board Order No.: H-5  
Meeting of: 5/19/2020  
File No.: 20-572

**BOARD OF SUPERVISORS, COUNTY OF HUMBOLDT, STATE OF CALIFORNIA**

Certified copy of portion of proceedings, Meeting of April 13, 2021

RESOLUTION NO. 21-36

**RESOLUTION OF THE HUMBOLDT COUNTY AIRPORTS LAND USE COMMISSION ADOPTING THE INITIAL STUDY/NEGATIVE DECLARATION FOR THE 2021 HUMBOLDT COUNTY AIRPORT LAND USE COMPATIBILITY PLAN; ESTABLISHING THE AIRPORT INFLUENCE AREA FOR SAMOA FIELD AIRPORT; ADOPTING THE 2021 AIRPORT LAND USE COMPATIBILITY PLAN; AND AFFIRMING THE 1993 AIRPORT LAND USE COMPATIBILITY PLAN REMAINS VALID FOR THE HOOPA AIRPORT.**

**WHEREAS**, the Humboldt County Board of Supervisors is designated as the Humboldt County Airports Land Use Commission; and

**WHEREAS**, the Humboldt County Airports Land Use Commission is the designated lead agency responsible for preparing environmental documents in compliance with the California Environmental Quality Act; and

**WHEREAS**, on March 28, 2017 the Humboldt County Airports Land Use Commission adopted Resolution No. 17-30 recommending commencement of a work plan and an application for grant funding for the preparation of an update to the Airport Land Use Compatibility Plan for Humboldt County Airports; and

**WHEREAS**, the City of Eureka requested that Samoa Field be included in the 2021 Airport Land Use Compatibility Plan; and

**WHEREAS**, the Resort Improvement District requested that Shelter Cover Airport be included in the 2021 Airport Land Use Compatibility Plan; and

**WHEREAS**, the Hoopa Tribe did not participate in having Hoopa Airport included in the 2021 Airport Land Use Compatibility Plan; and

**WHEREAS**, the Humboldt County Airports Land Use Commission has prepared the 2021 Humboldt County Airport Land Use Compatibility Plan for the California Redwood Coast - Humboldt County Airport, Dinsmore Airport, Garberville Airport, Kneeland Airport, Murray Field Airport, Rohnerville Airport, Samoa Field Airport, and Shelter Cove Airport; and

**WHEREAS**, the Humboldt County Airports Land Use Commission has prepared an Initial Study for the 2021 Humboldt County Airport Land Use Compatibility Plan for the California Redwood Coast - Humboldt County Airport, Dinsmore Airport, Garberville Airport, Kneeland Airport, Murray Field Airport, Rohnerville Airport, Samoa Field Airport, and Shelter Cove Airport (Project), in compliance with California Environmental Quality Act; and

**WHEREAS**, the Humboldt County Airports Land Use Commission determined that a Negative Declaration needed to be prepared and circulated a draft Initial Study/Negative Declaration for public review and comment between February 12, 2021 and March 15, 2021; and

**WHEREAS**, the Initial Study/Negative Declaration concluded that implementation of the Project would not result in a significant effect on the environment; and



**BOARD OF SUPERVISORS, COUNTY OF HUMBOLDT, STATE OF CALIFORNIA**  
Certified copy of portion of proceedings, Meeting of April 13, 2021

RESOLUTION NO. 21-36

**WHEREAS**, the Humboldt County Airports Land Use Commission has reviewed and considered the Initial Study/Negative Declaration in compliance with California Environmental Quality Act and state and local guidelines implementing California Environmental Quality Act.

**NOW THEREFORE, BE IT RESOLVED THAT:**

1. The Humboldt County Airports Land Use Commission does hereby adopt the Initial Study/Negative Declaration in pursuant to California Environmental Quality Act making the following findings:
  - a) it has independently reviewed and analyzed the Initial Study/Negative Declaration and other information in the record and has considered the information contained therein, prior to acting upon or approving the Humboldt County Airport Land Use Compatibility Plan; and
  - b) the Initial Study/Negative Declaration prepared for the Humboldt County Airport Land Use Compatibility Plan has been completed in compliance with California Environmental Quality Act and consistent with state and local guidelines implementing California Environmental Quality Act; and
  - c) the Initial Study/Negative Declaration represents the independent judgment and analysis of the Humboldt County Airports Land Use Commission as lead agency for the Project. The Humboldt County Airports Land Use Commission designates the Airports Director as the custodian of documents and records of proceedings on which this decision is based; and
  - d) the Project would not have a significant effect on the environment.
2. The Humboldt County Airports Land Use Commission does hereby adopt the Initial Study/Negative Declaration for the Project.
3. The Humboldt County Airports Land Use Commission establishes the Airport Influence Area for Samoa Field as included in the 2021 Airport Land Use Compatibility Plan.
4. The Humboldt County Airports Land Use Commission does hereby adopt the 2021 Airport Land Use Compatibility Plan for the California Redwood Coast - Humboldt County Airport, Dinsmore Airport, Garberville Airport, Kneeland Airport, Murray Field Airport, Rohnerville Airport, Samoa Field Airport, and Shelter Cove Airport.
5. The Humboldt County Airports Land Use Commission affirms that the 1993 Airport Compatibility Plan for the Hoopa Airport as adopted by the Airport Land Use Commission on May 25, 1993 (Item L1) remains valid for the Hoopa Airport.

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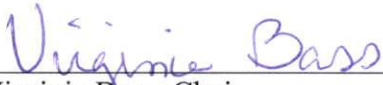
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**BOARD OF SUPERVISORS, COUNTY OF HUMBOLDT, STATE OF CALIFORNIA**

Certified copy of portion of proceedings, Meeting of April 13, 2021

RESOLUTION NO. 21-36

Dated: April 13, 2021

  
\_\_\_\_\_  
Virginia Bass, Chair  
Humboldt County Board of Supervisors

Adopted on motion by Supervisor Madrone, seconded by Supervisor Bushnell, and the following vote:

AYES:	Supervisors	Bohn, Bass, Madrone, Bushnell
NAYS:	Supervisors	--
ABSENT:	Supervisors	Wilson
ABSTAIN:	Supervisors	--

STATE OF CALIFORNIA    )  
County of Humboldt    )

I, KATHY HAYES, Clerk of the Board of Supervisors, County of Humboldt, State of California, do hereby certify the foregoing to be an original made in the above-entitled matter by said Board of Supervisors at a meeting held in Eureka, California.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the Seal of said Board of Supervisors.

  
\_\_\_\_\_  
Ryan Sharp  
Deputy Clerk of the Board of Supervisors  
of the County of Humboldt, State of California

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# CHAPTER 1

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## Introduction

### 1.1 Overview of the Plan

This document is an update to the state-mandated airport land use compatibility plan (ALUCP or Compatibility Plan) for the areas around the public-use airports in Humboldt County. The ALUCP applies to land use in areas surrounding the following airports:

- California Redwood Coast – Humboldt County Airport
- Dinsmore Airport
- Garberville Airport
- Kneeland Airport
- Murray Field Airport
- Rohnerville Airport
- Samoa Field Airport
- Shelter Cove Airport

Hoopa Airport is a public-use airport also located in Humboldt County; however, the Airport and the area surrounding it are located on the Hoopa Valley Reservation. Airport Land Use Commissions (ALUCs) have no mandatory duty or authority to review land use on tribal lands. Accordingly, the areas surrounding Hoopa Airport and on tribal land are not subject to this ALUCP. Regardless, general policies applicable to all airports are recommended for areas around Hoopa Airport and the ALUC may provide advisory determinations on land use in the Hoopa Airport area at the request of the Hoopa Valley Tribe.

This ALUCP was prepared under the direction of the Humboldt County Board of Supervisors in its designated role as the ALUC for Humboldt County. The policies contained in this document are designed to promote compatibility between the Humboldt County’s public use airports and surrounding land uses “to the extent that these areas are not already devoted to incompatible uses “(Pub. Util. Code, § 21674(a)). These policies provide the foundation upon which the ALUC can execute its duty to review land use development in areas around airports.

This ALUCP replaces the Airport Land Use Compatibility Plan for Humboldt County Airports that was prepared in 1993 (1993 Plan). The 1993 Plan was adopted only for Shelter Cove Airport (adopted as amended in 1997) and California Redwood Coast – Humboldt County Airport (adopted as amended in 1998); however, the General Plans of Humboldt County and the Cities of Eureka and Fortuna have subsequently been updated to be consistent with the policies in the 1993 Plan.<sup>1</sup>

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<sup>1</sup> The Humboldt County General Plan was last updated in 2017, the City of Eureka General Plan was last updated in 2018, and the City of Fortuna General Plan was last updated in 2010.

The following sections discuss the State of California’s requirements for airport land use compatibility planning, the roles and responsibilities of the agencies that participate in the airport land use compatibility planning process, the purpose and need for the ALUCP, and the scope of the ALUCP document. This chapter concludes with a glossary of terms used throughout this document. Chapter 2 of this document includes an overview of the ALUCP as well as the general policies and procedural requirements applicable to the ALUC and relevant local agencies. These policies and procedures, together with the policies and compatibility criteria in Chapter 3 and individual airport maps in Chapters 4 through 11, comprise the tools the ALUC uses in reviewing proposed land use actions.

## **1.2 State Requirements for Airport Land Use Compatibility Planning**

The State Aeronautics Act (Pub. Util. Code, § 21670 *et seq.*) was enacted in 1954 to “to further and protect the public interest in aeronautics and aeronautical progress.” In 1967, the State of California amended the Act to require the formation of ALUCs in each county with one or more airports serving the general public. The Act was further amended in 1970 to require ALUCs to prepare comprehensive land use plans, today referred to as ALUCPs. Since 1970, the law has been amended numerous times; however, the fundamental purpose of ALUCs has remained unchanged:

“to protect public health, safety, and welfare by ensuring the orderly expansion of airports and the adoption of land use measures that minimize the public's exposure to excessive noise and safety hazards within areas around public airports to the extent that these areas are not already devoted to incompatible uses” (Pub. Util. Code, § 21670(a)(2)).

To help meet that purpose, this ALUCP provides the policies and criteria to be used by the ALUC when assessing the compatibility between the County’s public use airports and proposed land use development in the areas surrounding them. Specifically, this ALUCP provides for the orderly growth of the airports and the area around the airports; and safeguards the general welfare of the inhabitants within the vicinity of the airports and the public in general (Pub. Util. Code, § 21675(a)). In addition, this ALUCP provides compatibility policies and criteria applicable to local agencies in their preparation or amendment of land use plans and to landowners in their design of new development.

Use of the ALUCP is not solely limited to the ALUC. As previously stated, the compatibility criteria included in this ALUCP must be used by local agencies during the preparation or amendment of their land use plans. State law requires each local agency to modify its land use plans to be consistent with the ALUCP or to take special steps to overrule the ALUC (Gov. Code, § 65302.3(b)-(c)). The ALUC also has the authority to review all local agency plans. Accordingly, this ALUCP also applies to plans prepared by school districts, community college districts, special districts, and other local agencies located around the County’s airports. (Pub. Util. Code, § 21674(d)).

## 1.3 Airport Land Use Planning in California: Roles and Responsibilities

The following sections describe the roles and responsibilities of ALUCs, as well as state and local agencies, with respect to aviation and airport/community land use compatibility planning in California.

### 1.3.1 Airport Land Use Commissions

Section 21674 of the State Aeronautics Act endows ALUCs with the following powers and duties:

- To prepare and adopt an airport land use compatibility plan pursuant to Section 21675.
- To assist local agencies in ensuring compatible land uses in the vicinity of new and existing airports to the extent these areas are not already devoted to incompatible uses.
- To review the plans, regulations, and other actions of local agencies and airport operators pursuant to Section 21676.
- To coordinate planning at the state, regional, and local levels, so as to provide for the orderly development of air transportation, while at the same time protecting the public health, safety, and welfare.

The State Aeronautics Act also cites three important limitations on an ALUC's authority:

1. ALUCs have no authority over existing land uses regardless of whether such uses are incompatible with airport activities (Pub. Util. Code, § 21670 (a)(2) and § 21674(a));
2. ALUCs have no jurisdiction over the “operation of airports” (Pub. Util. Code, § 21674(e)) (However, ALUC’s have authority to review plans, regulations, and non-aviation development on airport property (Pub. Util. Code, § 21674(d)); and
3. ALUCs have no jurisdiction over federal lands, such as military bases and lands controlled by the U.S. Forest Service, U.S. Bureau of Land Management, or lands under the authority of American Indian tribes and bands (Pub. Util. Code, § 21675(b)).

The State Aeronautics Act emphasizes that local land use plans are the primary mechanism by which the policies of an ALUCP are to be implemented. Accordingly, each local agency with jurisdiction over land located within an airport influence area is required to make its land use plans consistent with the ALUCP, or to take steps to overrule all or part of the ALUCP (Pub. Util. Code, §§ 21675.1(d), 21676, 21676.5(a)). The power to overrule all or part of an ALUCP represents a fourth quasi-limit on ALUC authority. Local agencies can also overrule individual actions taken by the ALUC, although the overrule process must follow specific steps and be supported by adopted findings. If a local agency overrules the ALUC with respect to a publicly owned airport that the local agency does not operate, the airport operator will not be liable for damages to property or personal injury resulting from the local agency’s decision to proceed contrary to the ALUC. (Pub. Util. Code, § 21678).

In addition to the limitations described above, State law does not authorize ALUCs to usurp local government authority by zoning property or applying other land use controls. Furthermore, ALUCs have no authority to issue permits prior to construction of a building or grant approvals for the recording of subdivision plats.

### 1.3.2 California Department of Transportation, Division of Aeronautics

The State Aeronautics Act requires the California Department of Transportation (Caltrans) to “develop and implement a program or programs to assist in the training and development of the staff of airport land use commissions.” (Pub. Util. Code, § 21674.5.) Activities undertaken by Caltrans in meeting this obligation include issuance of grants to ALUCs to help fund the development of ALUCP documents and preparation of the California Airport Land Use Planning Handbook (Caltrans Handbook). The Caltrans Handbook is intended to serve as the starting point for compatibility planning around individual airports. The Caltrans Handbook is not regulatory and does not constitute formal State policy; however, in preparing ALUCPs, ALUCs must rely upon the guidance provided in the Caltrans Handbook (Pub. Util. Code, § 21674.7).

### 1.3.3 Local Agencies

Once an ALUC has adopted an ALUCP, affected local agencies (i.e., jurisdictions with land use planning authority) must update their land plans and regulations to be consistent with the ALUCP (Gov’t. Code, § 65302.3). A general plan consistency checklist is provided in **Appendix A**. As stated in Section 1.3.1, *Airport Land Use Commissions*, the law also allows local agencies to take certain steps to overrule part or all of the ALUCP as it applies to their jurisdiction. The overrule process is discussed further in Chapter 2. If a local agency fails to update their land use plans or overrules all or part of the ALUCP, then it must submit all land use policy actions, development actions, and facility master plans within the applicable airport influence area to the ALUC for review. Even if the local government agency has amended its plan(s) to be consistent with the ALUCP or has overruled the ALUCP, it must still submit proposed new and amended land use plans, land use ordinances, regulations, and facility master plans to the ALUC for review (Pub. Util. Code, § 21676.5(a)).

Another aspect of the relationship between the ALUC and local agencies concerns implementation of the ALUCP. Although the ALUC has the sole authority to adopt this ALUCP and to conduct consistency reviews for proposed development, the authority and responsibility for implementing the policies in this ALUCP rests with the local agencies that control land uses within the relevant airport influence area(s). Furthermore, because the ALUC’s authority is limited to the area within the county, the ALUCP is merely advisory in parts of neighboring counties that may lie within an airport influence area.

While the ALUC does not require the approval of any local agency to adopt this ALUCP or to carry out its responsibilities reviewing land use actions, it must coordinate its activities with local agencies. For example, the ALUC is required to establish the airport influence area boundaries for

each airport after a hearing and consultation with the involved agencies (Pub. Util. Code, § 21675(c)).

### 1.3.4 Airports

State law obligates airport operators to submit proposed airport master plans, plans for expansion of an existing airport, and plans for construction of a new airport (or heliport) to the ALUC for review (see Pub. Util. Code, §§ 21676(c), 21664.5, and 21661.5, respectively.) This requirement is in effect regardless of whether an ALUC has adopted an ALUCP or a local agency has updated its planning documents to be consistent with the ALUCP. The ALUC reviews non-aviation related on-airport development plans for consistency with the ALUCP and takes note of any proposed development that would necessitate an update to the ALUCP. Proposed facilities or forecast operations that might impact Community Noise Equivalent Level (CNEL) contours or safety zone configuration should be documented and addressed in subsequent ALUCP updates. Examples of airport master plan projects that could affect the ALUCP include:

- A decrease/increase in forecasted aircraft operations
- Updated CNEL contours
- Runway additions/closures
- Runway extensions/segment closures
- Runway relocations/reorientations
- Displacement of runway thresholds

## 1.4 Humboldt County Airports and Airport Influence Areas

**Figure 1-1** depicts the locations of the Humboldt County airports covered by this ALUCP. The following sections describe the Airport Influence Areas (AIAs) for each airport. The AIA boundaries represent the geographical extent of the ALUC's authority and define areas where noise, safety, airspace protection, and overflight notification policies and compatibility criteria are applied to certain proposed future land use policy actions. AIA Review Area 1 represents the area in which the policies and compatibility criteria associated with noise and safety apply. AIA Review Area 2 represents the area in which airspace protection and overflight notification policies are applicable. The policies, standards, and criteria applicable within the AIA and contained in this ALUCP are designed to:

- (1) minimize the exposure of the public to noise and safety hazards,
- (2) provide for safer aircraft operations,
- (3) protect the airport from encroachment and minimize incompatible development in the immediate vicinity of the airport, and
- (4) ensure notification of prospective buyers of real estate of the presence of the Airport and aircraft overflights.

The noise, safety, airspace protection, and overflight notification policies and compatibility criteria are further discussed in Chapter 3.

### 1.4.1 California Redwood Coast – Humboldt County Airport

California Redwood Coast – Humboldt County Airport (ACV) is located in the community of McKinleyville in unincorporated Humboldt County, approximately eight miles north of the city of Arcata. ACV is the sole commercial-service airport in Humboldt County. The U.S. Coast Guard Humboldt Bay Air Station is located within ACV property. The U.S. Coast Guard leases and uses facilities on the airfield. **Figure 1-2** depicts the AIA for ACV. The noise, safety zone, airspace protection, and overflight notification area maps for ACV are provided in Chapter 4.

### 1.4.2 Dinsmore Airport

Dinsmore Airport (D63) is located in the community of Dinsmore in far eastern unincorporated Humboldt County. The Airport is a general aviation (GA) facility. **Figure 1-3** depicts the AIA for D63. The noise, safety zone, airspace protection, and overflight notification area maps for D63 are provided in Chapter 5.

### 1.4.3 Garberville Airport

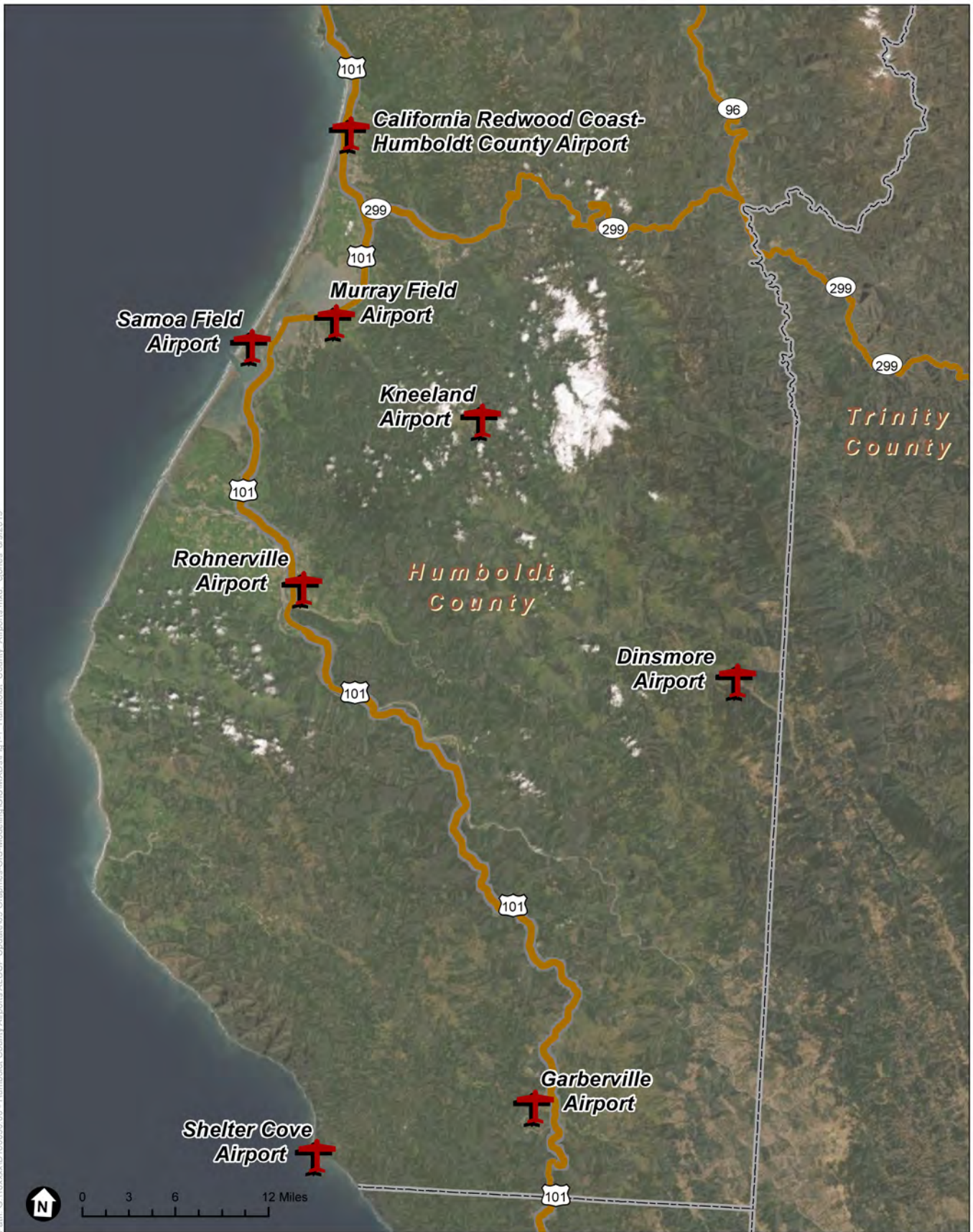
Garberville Airport (O16) is a GA facility, located approximately two miles south of the community of Garberville in southern unincorporated Humboldt County. **Figure 1-4** depicts the AIA for O16. The noise, safety zone, airspace protection, and overflight notification area maps for O16 are provided in Chapter 6.

### 1.4.4 Kneeland Airport

Kneeland Airport (O19) is a GA facility, located approximately ten miles southeast of the city of Eureka in unincorporated Humboldt County. **Figure 1-5** depicts the AIA for O19. The noise, safety zone, airspace protection, and overflight notification area maps for O19 are provided in Chapter 7.

### 1.4.5 Murray Field Airport

Murray Field (EKA) is located adjacent to Humboldt Bay in the city of Eureka. A small portion of the Airport property extends into Unincorporated Humboldt County. The Airport is primarily a GA facility with some cargo service provided by Federal Express. **Figure 1-6** depicts the AIA for EKA. The noise, safety zone, airspace protection, and overflight notification area maps for EKA are provided in Chapter 8.

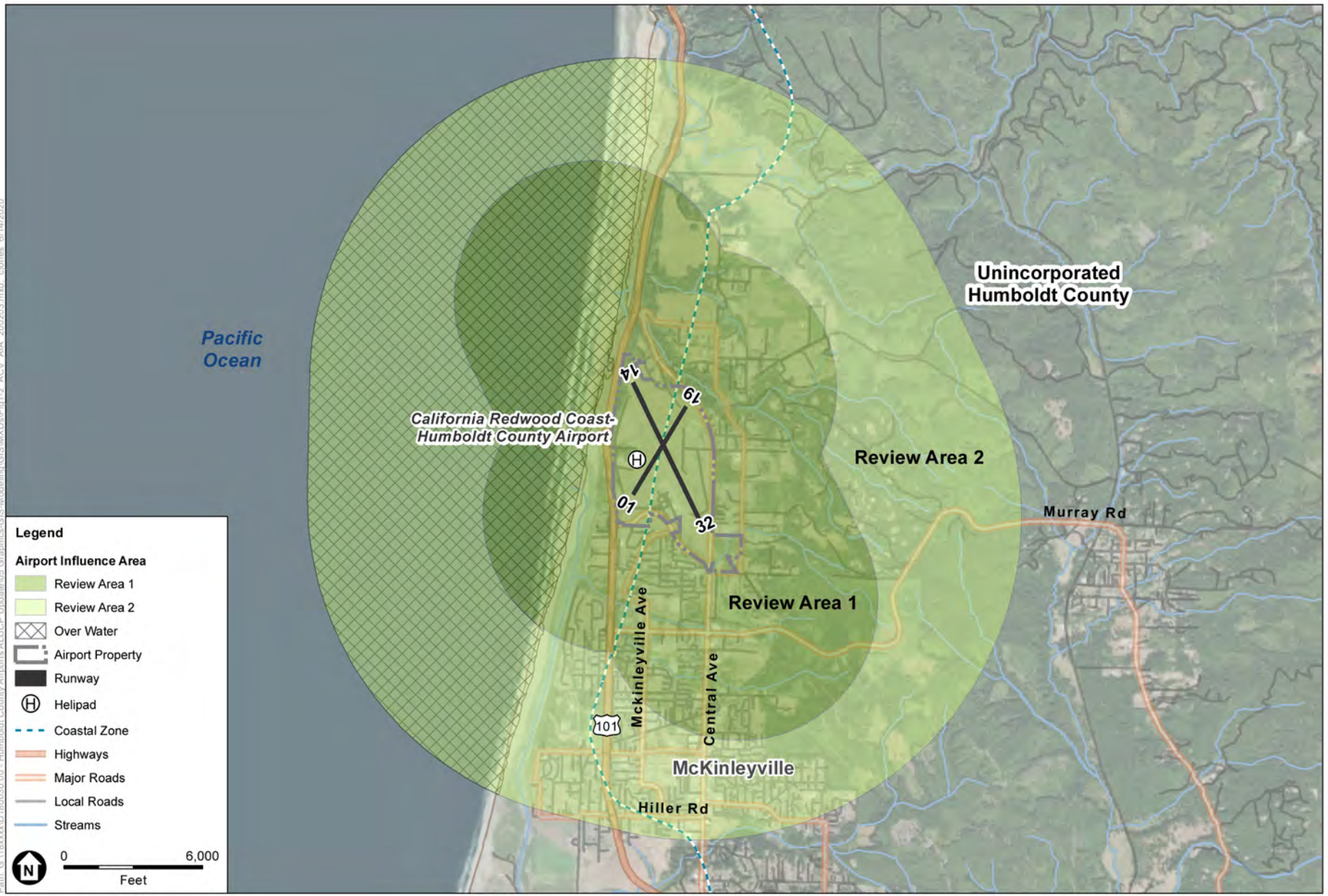


SOURCE: ESA, 2018.

Humboldt County Draft Airport Land Use Compatibility Plan  
**Figure 1-1**  
 Humboldt County Airports



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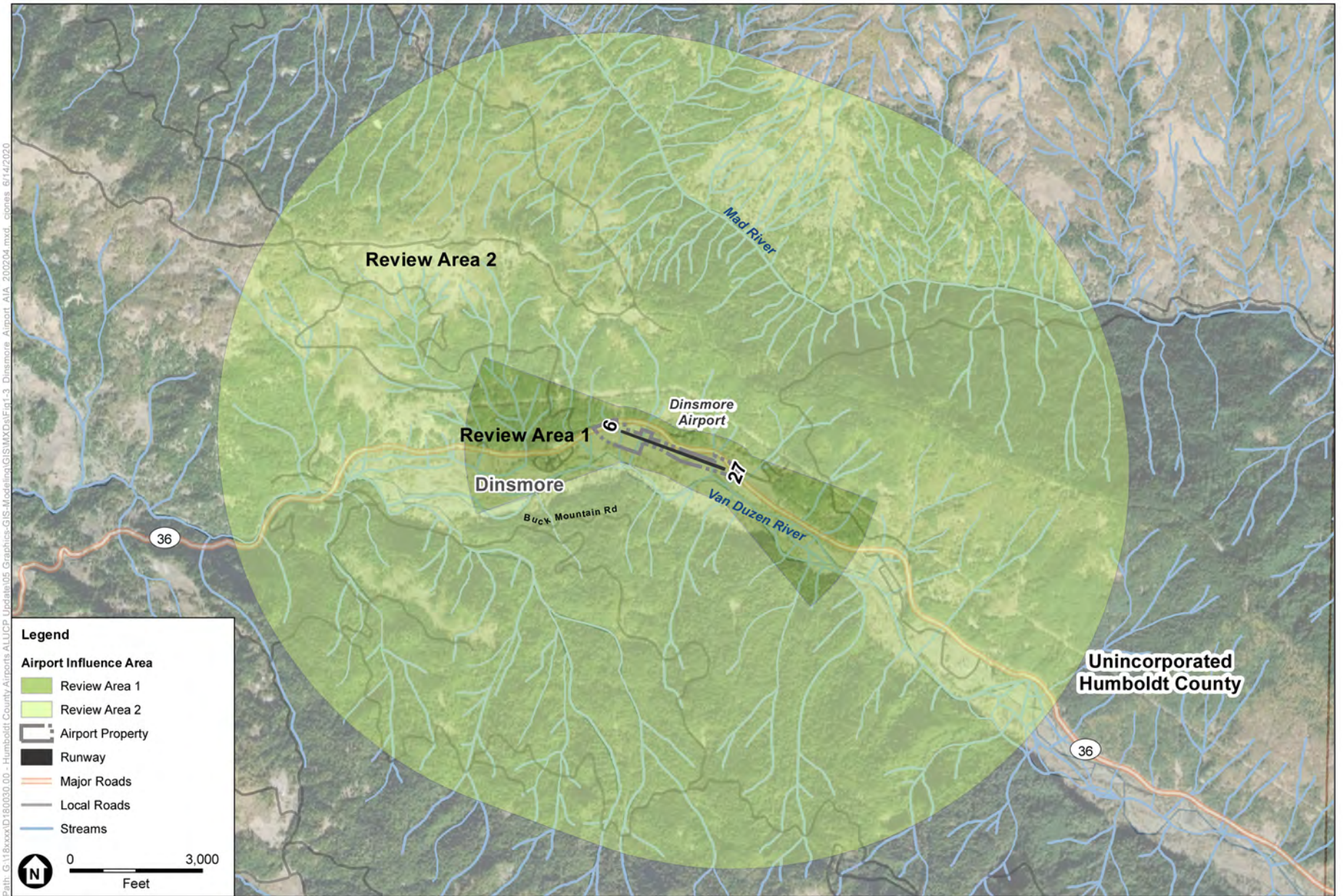
SOURCE: ESA, 2020.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure 1-2**  
Airport Influence Area  
California Redwood Coast-Humboldt County Airport



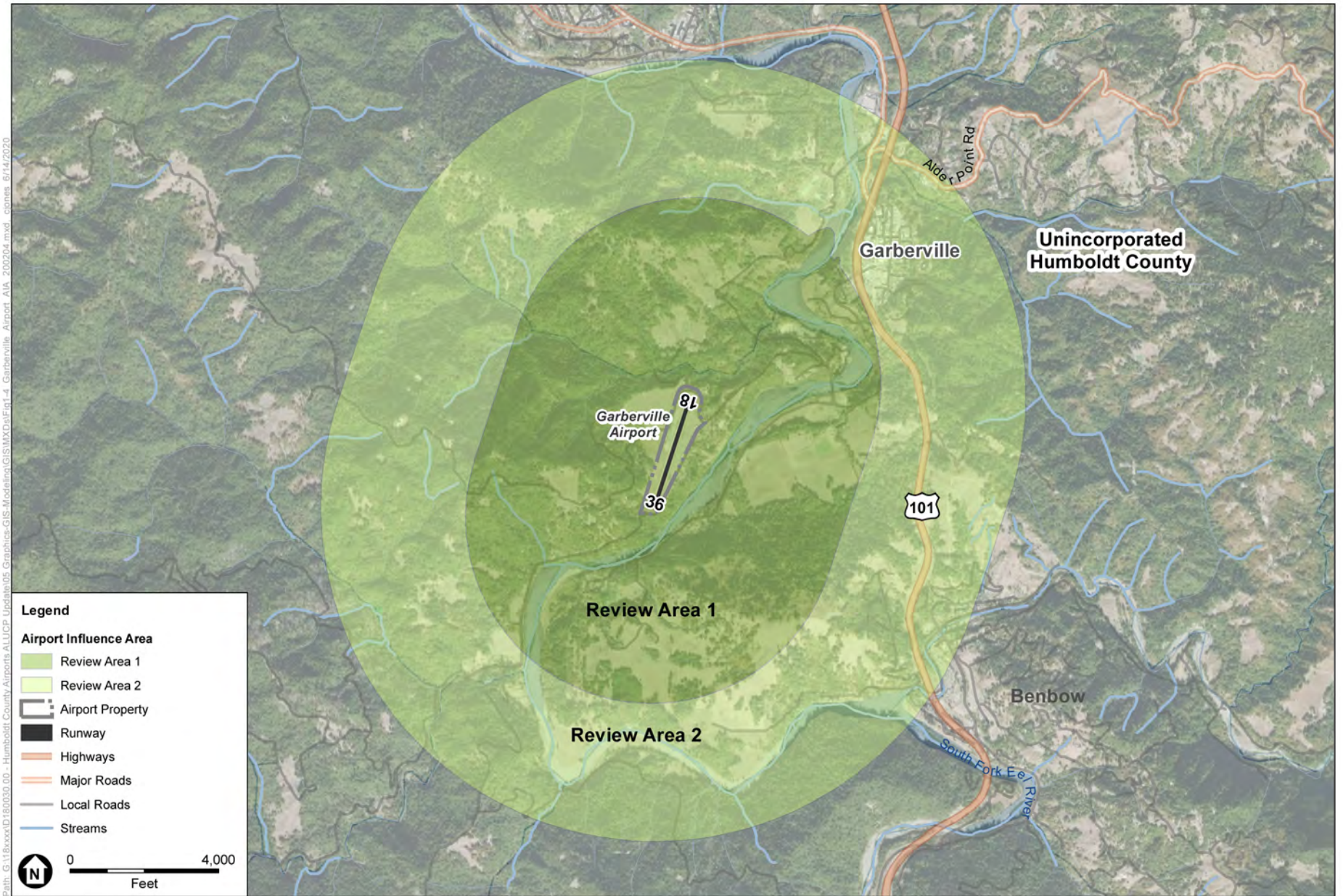




SOURCE: ESA, 2020.

Humboldt County Draft Airport Land Use Compatibility Plan

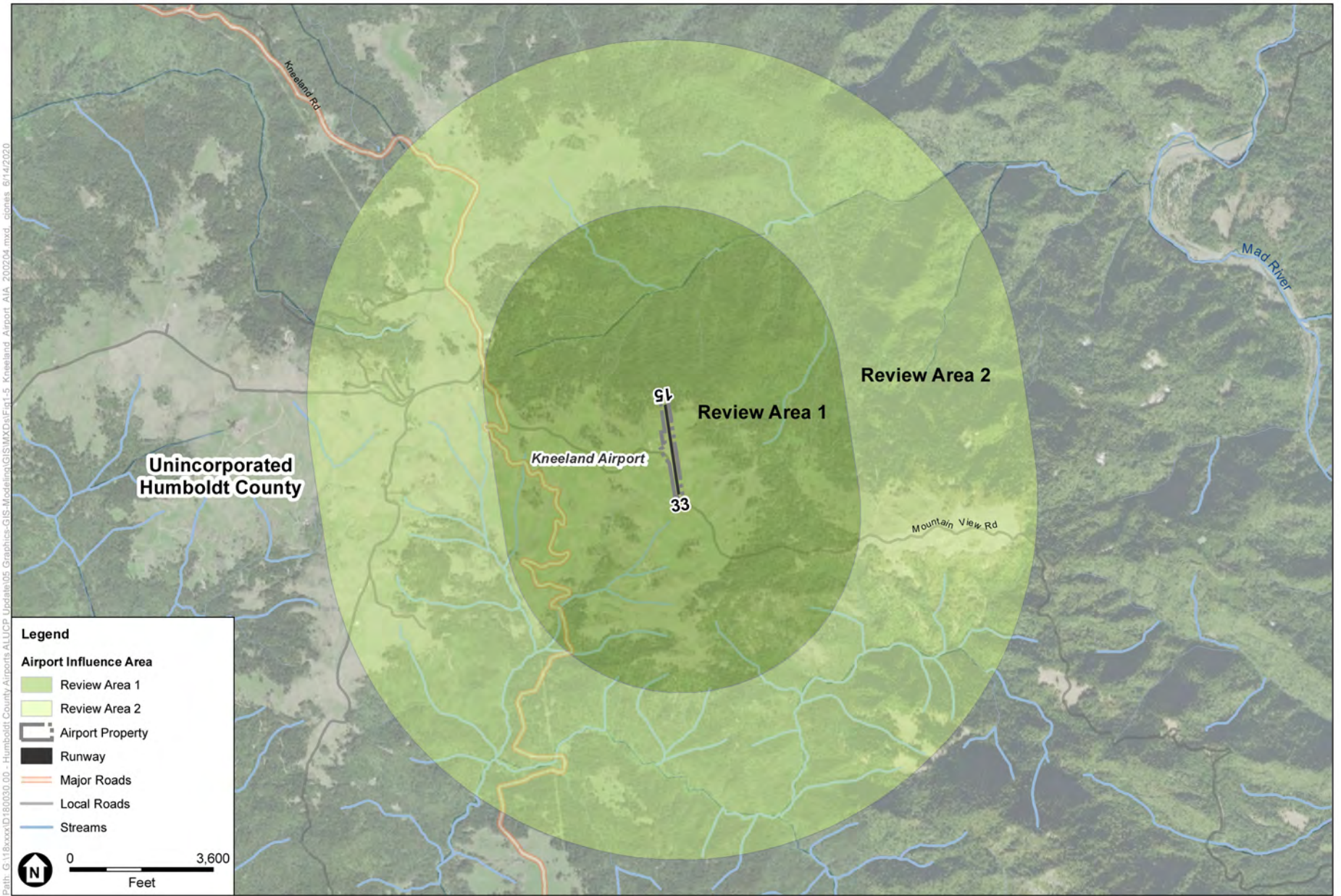
**Figure 1-3**  
 Airport Influence Area  
 Dinsmore Airport



SOURCE: ESA, 2020.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure 1-4**  
 Airport Influence Area  
 Garberville Airport



SOURCE: ESA, 2020.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure 1-5**  
Airport Influence Area  
Kneeland Airport



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SOURCE: ESA, 2020.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure 1-6**  
 Airport Influence Area  
 Murray Field Airport



## 1.4.6 Rohnerville Airport

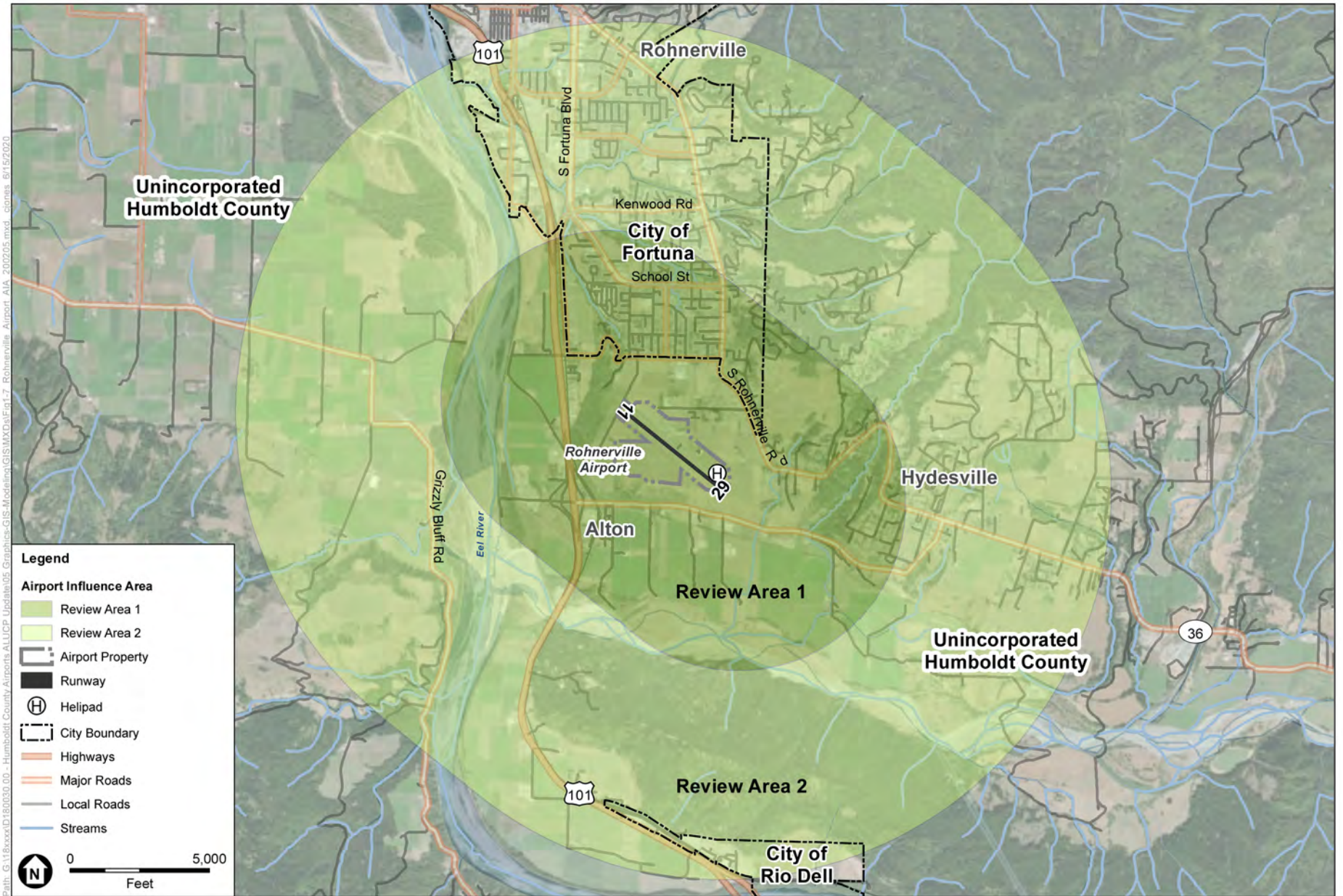
Rohnerville Airport (FOT) is a GA facility, located approximately three miles southeast of the community of Fortuna in unincorporated Humboldt County. **Figure 1-7** depicts the AIA for FOT. The noise, safety zone, airspace protection, and overflight notification area maps for FOT are provided in Chapter 9.

## 1.4.7 Samoa Field Airport

Samoa Field (O33) is a GA facility, located approximately two miles east of the city of Eureka. **Figure 1-8** depicts the AIA for O33. The noise, safety zone, airspace protection, and overflight notification area maps for O33 are provided in Chapter 10.

## 1.4.8 Shelter Cove Airport

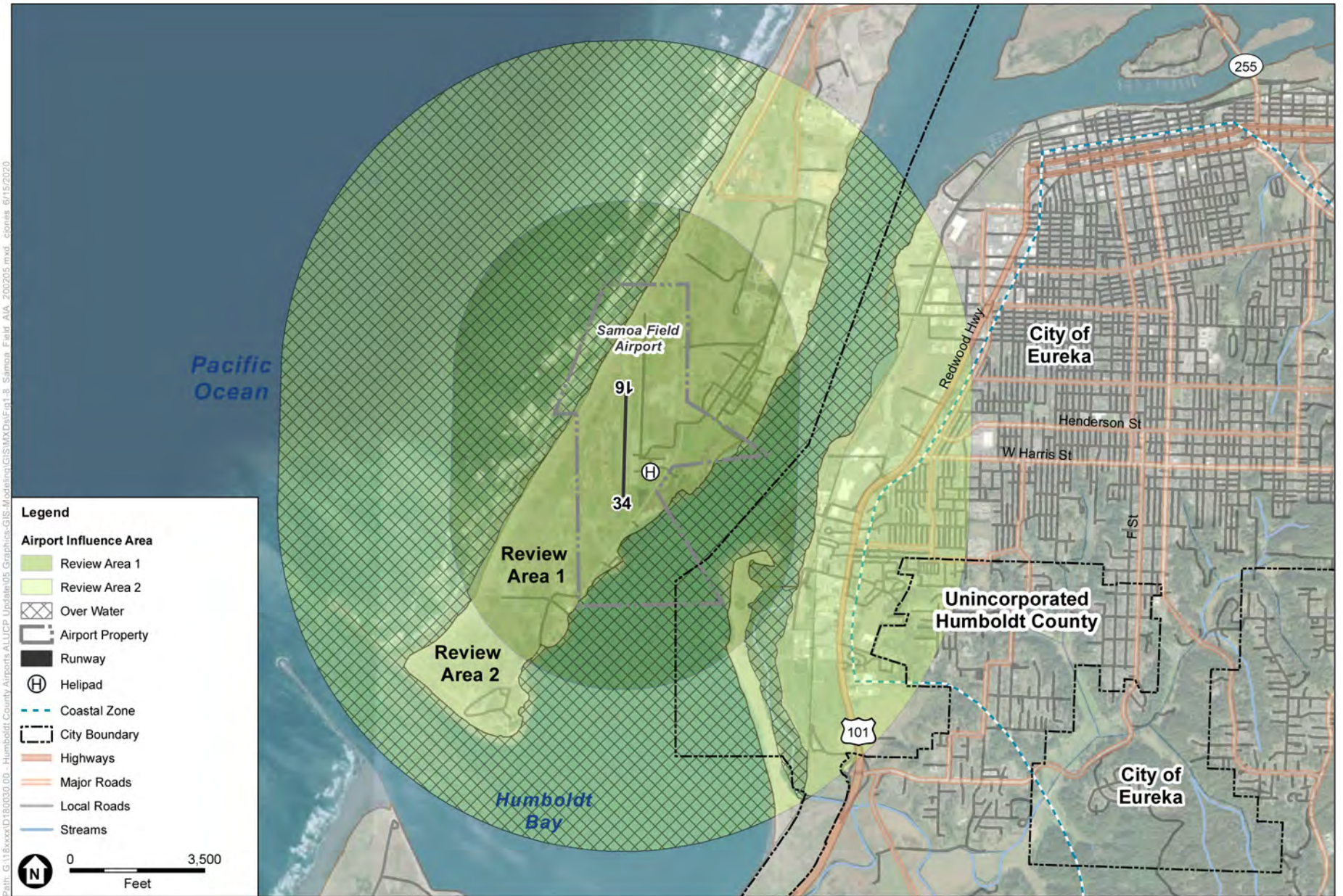
Shelter Cove Airport (OQ5) is a GA facility, located in community of Shelter Cove in southwestern unincorporated Humboldt County. **Figure 1-9** depicts the AIA for OQ5. The noise, safety zone, airspace protection, and overflight notification area maps for OQ5 are provided in Chapter 11.



SOURCE: ESA, 2020.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure 1-7**  
Airport Influence Area  
Rohnerville Airport



SOURCE: ESA, 2020.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure 1-8**  
 Airport Influence Area  
 Samoa Field Airport



SOURCE: ESA, 2020

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure 1-9**  
 Airport Influence Area  
 Shelter Cove Airport





## 1.5 Policy Framework

The policies in Chapters 2 and 3 of this ALUCP, as well as the maps provided in Chapters 4 through 11, are based on the following primary sources:

- California State Aeronautics Act
- California Airport Land Use Planning Handbook (2011)
- Federal Aviation Administration’s (FAA) Terminal Area Forecast (TAF) for all airports (2018)
- California Redwood Coast – Humboldt Airport Master Plan (2005) and discussion with Humboldt County (2018, 2019)
- Dinsmore Airport Master Plan (2007) and discussion with Humboldt County (2018, 2019)
- Garberville Airport Master Plan (2007) and discussion with Humboldt County (2018, 2019)
- Kneeland Airport Master Plan (2005) and discussion with Humboldt County (2018, 2019)
- Murray Field Airport Master Plan (2007) and discussion with Humboldt County (2018, 2019)
- Rohnerville Airport Master Plan (2007) and discussion with Humboldt County (2018, 2019)
- Samoa Field Airport Layout Plan/Diagram (2013) and discussion with and materials provided by the manager of Samoa Field Airport (2018)
- Discussions with and materials provided by the manager of Shelter Cove Airport (2018)

### 1.5.1 State Laws and Guidelines

As indicated throughout this chapter, many of the procedures that govern how ALUCs operate are defined by state law. Statutory provisions in the Public Utilities Code require ALUC adoption of compatibility plans for each public-use and military airport, and establish certain steps to be taken during the plan adoption process (see Pub. Util. Code, § 21675). The law also dictates the requirements for airport land use compatibility reviews by ALUCs and the types of actions that local agencies must submit to ALUCs for consistency reviews (see Pub. Util. Code, §§ 21675.2, 21676, 21676.5).

When preparing compatibility plans for individual airports, ALUCs must be guided by the information in the Caltrans Handbook (Pub. Util. Code, § 21674.7). To be guided by the Caltrans Handbook, ALUCs must have at least examined and duly considered the material contained in it. The burden is on ALUCs to contact Caltrans Division of Aeronautics in writing to explain their reasons for potentially deviating from the guidance in the Caltrans Handbook and to obtain input from Caltrans Division of Aeronautics prior to implementing resulting policies. These requirements notwithstanding, ALUCs have a significant degree of flexibility and discretion to make planning decisions they deem appropriate for the airports within their jurisdiction. Except to the extent that it explicitly refers to State laws, the Caltrans Handbook is not regulatory in that it does not constitute formal State policy. Rather, the Caltrans Handbook provides guidance and is

intended to serve as the starting point for compatibility planning around individual airports. When there are questions regarding the Caltrans Handbook's guidance, ALUCs are encouraged to contact the Caltrans Division of Aeronautics staff. The policies and maps in this Compatibility Plan take into account the guidance provided by the current edition of the Caltrans Handbook, dated October 2011.

An additional function of the Caltrans Handbook is established elsewhere in California State law. The Public Resources Code creates a tie between the Caltrans Handbook and California Environmental Quality Act (CEQA) documents. Section 21096 of the Public Resources Code requires CEQA lead agencies use the Caltrans Handbook as “a technical resource” when assessing the airport-related noise and safety impacts of land use actions located in the vicinity of airports.

## 1.5.2 Relationship to Airport Master Plans

ALUCPs are distinct from airport master plans in function and content. In general, the issues addressed by airport master plans are focused on the airport, whereas the ALUCP is focused on areas off the airport. The purpose of airport master plans is to assess the demand for airport facilities and to guide the development necessary to meet those demands. An airport master plan is prepared for, and adopted by, the agency that owns and/or operates the airport. In contrast, the major purpose of an ALUCP is to ensure that incompatible development does not occur on land surrounding the airports.

This distinction notwithstanding, the relationship between the two types of plans is close. State law requires that ALUCPs be based on a long-range airport master plan or an Airport Layout Plan (ALP), as determined by the Division of Aeronautics, which reflects the anticipated growth of the airport for at least the next 20 years. The relationship between an ALUCP and an airport master plan or ALP, therefore, centers on the current and future airport layout and existing and projected airport activity.

The responsibility for the master plans for Humboldt County airports lies with the airport proprietors. In the absence of a current airport master plan, State law allows an ALUC's compatibility plan to be based on an ALP with the approval of the Division of Aeronautics.

## 1.6 Forecasting Methodology

State law requires that a compatibility plan reflect “the anticipated growth of the airport during at least the next 20 years” (Pub. Util. Code, § 21675(a)). In addition, as discussed above, the compatibility plan is to be based on the airport sponsor's adopted airport master plan, where one exists, or an ALP that has been accepted by the Division of Aeronautics for airport compatibility planning. ALUC planning assumptions regarding future aircraft activity at an airport must be consistent with the role of the airport as identified in an airport master plan or ALP.

Frequently, unless the airport master plan is recent, the forecasts cannot be used directly because they do not cover the requisite 20-year period. This issue is addressed in the Caltrans Handbook (pages 3-46 and 3-47):

A potential shortcoming of [airport master plans] is that the forecasts may not extend far enough into the future to adequately serve the purposes of airport land use compatibility planning.

Since land uses tend to endure for long periods of time, it is appropriate for aviation forecasts to anticipate activity levels at the high end of the range of plausible levels. Forecasts that are somewhat high will help preserve an envelope within which future aviation activities can take place in harmony with nearby land uses.

The caveat to this methodology, as also stated in the Caltrans Handbook, is that the forecasts must remain consistent with the role of the airport as envisioned by the airport proprietor: “Ultimately, state law forces ALUCs to accept plans adopted by airport owners, even if the ALUC considers the plans either unrealistically grandiose or too modest.” (Caltrans Handbook, p. 3-47.)

Policies in this Compatibility Plan are based on projected airport activity levels located in the airport master plan and/or ALP for each of the airports in Humboldt County. The Terminal Area Forecast (TAF) prepared by the FAA was also used in developing forecasts for Humboldt County’s airports, as well as data provided by the County, airport managers, and operational data obtained from third-party sources. Specific factors considered when determining the 20-plus year future activity levels for each of the airports are described in Chapter 3, *Humboldt County Airports Policies*.

## 1.7 Plan Implementation

### 1.7.1 Land Use Plan Consistency

As noted previously, State law requires each local agency having jurisdiction over land uses within an ALUC's planning area to modify its land use plans to be consistent with the compatibility plan. The other option is to overrule all or part of an ALUC's compatibility plan within 180 days of when the ALUC adopts or amends it. If a local agency fails to take either action, the ALUC may require the local agency to submit all land use development actions involving property within the AIA to the ALUC for review (Pub. Util. Code, § 21676.5 (a)).

The local agency may propose to overrule an ALUC's compatibility plan after a hearing by a two-thirds vote of its governing body if it makes specific findings that the local agency's plans are consistent with the intent of State airport land use planning statutes. The local agency must provide both the ALUC and the Division of Aeronautics a copy of the local agency's proposed decision and findings at least 45 days in advance of its decision to overrule the ALUC and must hold a public hearing on the proposed overruling (Pub. Util. Code, § 21676(a) and (b)). If the ALUC and the Division of Aeronautics choose to provide comments to the local agency, they must do so within 30 days of receiving the proposed decision and findings. All comments

received from the ALUC or Division of Aeronautics must be included in the public record of the local agency's final decision to overrule the ALUC (Pub. Util. Code, §§ 21676, 21676.5 and 21677). Similar requirements apply to a local agency's decision to overrule the ALUC's consistency determinations for individual development proposals for which ALUC review is mandatory (Pub. Util. Code, § 21676.5(a)) and airport master plans (Pub. Util. Code, § 21676(c)).

Land use plans do not need to be identical to an ALUC's compatibility plan to be consistent. To meet the consistency test, land use plans must do two things:

- Eliminate direct conflicts with compatibility planning criteria.
- Establish procedures that implement and ensure compliance with compatibility policies.

To do this, land use plans must:

- Delineate the compatibility criteria to be applied to individual development actions.
- Identify the mechanisms to be used to apply relevant criteria to a particular development.
- Indicate the procedures to be followed in review and approval of development actions affecting lands within the AIA.

Section 2.7, *Land Use Plan Consistency with Compatibility Plans*, in Chapter 2 contains additional information, including the methods local agencies can use to make land use plans consistent with an ALUC's compatibility plan.

## 1.7.2 Land Use Action Referrals

The types of land use actions for which referral to the ALUC are mandatory include the adoption and amendment of land use plans if land within an AIA, as defined by the ALUC, is affected. This requirement to refer land use actions to the ALUC for review should be indicated in the land use plans of all affected local agencies.

Additionally, beginning with adoption of the compatibility plan by the ALUC and continuing until each affected local agency has made the necessary modifications to its land use plans or overruled the ALUC's compatibility plan, all subsequent land use actions, regulations and permits within the AIA may be submitted to the ALUC for review. After the local agency has made its land use plans consistent with the compatibility plan or has overruled the ALUC's compatibility plan, submittal of individual actions, regulations, and permits is generally not required. The ALUC and the local agency, however, can agree on continued submittal of certain actions on an informal basis.

Proposed airport master plans (including ALPs), expansion of an existing airport (or heliport – which is a type of airport), and plans for construction of a new airport (or heliport) also must be submitted to the ALUC for review (see Pub. Util. Code, §§, 21676 (c), 21664.5, and 21661.5). This referral requirement is independent of whether the local agency has taken action with regard to the consistency of its general plan. The provisions of the State Aeronautics Act are not applicable to private use airports or heliports. Rather, the legislative intent associated with the

operative statutes is narrowly and expressly extended only to public use airports and heliports. (See, e.g., Pub. Util. Code, §§21670(a)(1). Therefore, proposed expansion of an existing private use airport and plans for construction of a new private use airport (or heliport) is not required to be submitted to the ALUC for review.

## 1.8 Plan Contents

This Compatibility Plan is organized into 11 chapters and includes ten appendices. The intent of this introductory chapter is to set the overall context of airport land use compatibility planning, in general, and for the airports in Humboldt County, in particular.

Chapters 2 and 3 contain the policies by which the ALUC operates and conducts compatibility reviews of proposed land use and airport development actions. The policies in Chapter 2 are written broadly to address overarching compatibility concerns. The compatibility criteria and other policies applicable to the each of the airports in Humboldt County are described in Chapter 3.

Chapters 4 through 11 present background data on each of the airports and documents the data and assumptions on which the compatibility policy maps for each of the airports are based.

The appendices contain copies of supporting information pertaining to the specific airports and airport land use compatibility planning.

## 1.9 Definitions and Acronyms

**Table 1-1** provides definitions for aviation and land use-related terms used throughout this Compatibility Plan. The local agencies may have adopted alternative definitions for some of these terms. However, for purposes of this Compatibility Plan, the terms shall be defined as presented in Table 1-1.

**TABLE 1-1  
AVIATION AND LAND USE RELATED TERMS**

<b>Term</b>	<b>Definition</b>
14 CFR Part 77	Federal regulations (Title 14 of the Code of Federal Regulations [CFR]) that address objects affecting navigable airspace in the vicinity of airports. Part 77 establishes standards for identifying obstructions to navigable airspace, sets forth requirements for notice to the FAA of certain proposed construction or alteration, and provides for aeronautical studies of obstructions to determine their effect on the safe and efficient use of airspace (see Appendix F).
Above Ground Level (AGL)	An elevation datum given in feet above ground level.
Aeronautics Act	Except as indicated otherwise, Article 3.5 of Chapter 4 of Part 1 of Division 9 of the Public Utilities Code.
Aircraft Accident	An occurrence associated with the operation of an aircraft which takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked, and in which any person suffers death or serious injury as a result of being in or upon the aircraft or by direct contact with the aircraft or anything attached thereto, or in which the aircraft receives substantial damage. (NTSB)

**TABLE 1-1  
AVIATION AND LAND USE RELATED TERMS**

<b>Term</b>	<b>Definition</b>
Aircraft Operation	The airborne movement of aircraft in controlled or non-controlled airport terminal areas and about given en route fixes or at other points where counts can be made. There are two types of operations — local and itinerant. An operation is counted for each landing and each departure, such that a touch-and-go flight is counted as two operations. (FAA Stats)
Aircraft Parking Line Limit (APL)	A line established by the airport authorities beyond which no part of a parked aircraft should protrude. (AC 150/5300-13A)
Airports	An area of land or water that is used or intended to be used for the landing and taking off of aircraft, and includes its buildings and facilities, if any. (FAR 1) This ALUCP addresses land use compatibility in the vicinity of the following airports within Humboldt County – California Redwood Coast – Humboldt County Airport, Dinsmore Airport, Garberville Airport, Kneeland Airport, Murray Field Airport, Rohnerville Airport, Samoa Field Airport, and Shelter Cove Airport.
Airport Influence Area (AIA)	The AIA defines the jurisdiction of the ALUC and is the area where airport-related noise, safety, airspace protection, and overflight factors may significantly affect land use compatibility or necessitate restrictions on certain land uses as determined by the ALUC. Land use actions that affect property within the AIA are subject to the compatibility policies and criteria in this Compatibility Plan. If a residential property is located within the AIA, a real estate disclosure must be provided prior to closing of the transaction as a condition of the sale or transfer of the property.
Airport Land Use Commission (ALUC)	A commission established under provisions of California Public Utilities Code, Sections 12670 et seq., in each county within which a public-use airport is located for the purpose of ensuring the orderly expansion of airports and the adoption of land use measures that minimize the public's exposure to excessive airport noise and safety hazards. (Chapter 4, Article 3.5 of State Aeronautics Act)
Airport Layout Plan (ALP)	A scale drawing of existing and proposed airport facilities, their location on an airport, and the pertinent clearance and dimensional information required to demonstrate conformance with applicable standards.
Airport Master Plan	A long-range plan for development of an airport, including descriptions of the data and analyses on which the plan is based, consistent with the requirements of FAA Advisory Circular 150/5070-6B (AC 150/5070-6B Change 2)
Airport Reference Code (ARC)	A coding system used to relate airport design criteria to the operational and physical characteristics of the airplanes intended to operate at the airport. (AC 150/5300-13A)
Airport Traffic Control Tower (ATCT)	A terminal facility that uses air/ground communications, visual signaling, and other devices to provide ATC services to aircraft operating in the vicinity of an airport or on the movement area. (AIM)
Airspace Protection Area	The area beneath the airspace protection surfaces.
Airspace Protection Surfaces	Imaginary surfaces in the airspace surrounding airports, as defined for an individual airport in accordance with criteria set forth in 14 CFR Part 77 and the U.S. Standard for Terminal Instrument Procedures (TERPS). These surfaces establish the maximum height that objects on the ground can reach without potentially creating constraints or hazards to the use of the airspace by aircraft approaching, departing, or maneuvering in the vicinity of an airport. The Humboldt County Code establishes the "Airport Approach Zone Building Height Regulations," reflecting imaginary airspace surfaces as defined under 14 CFR Part 77, to address airspace protection and associated building height regulations around airports in Humboldt County (see Humboldt County Code, Tit. III, Div. 3, Ch. 3).
Ambient Noise Level	Background noise level, the normal or existing level of environmental noise at a given location. It is usually a composite of sounds from many and varied sources near to and far from the receiver.

**TABLE 1-1  
AVIATION AND LAND USE RELATED TERMS**

<b>Term</b>	<b>Definition</b>
Approach Light System (ALS)	An airport lighting system that provides visual guidance enabling a pilot to align the aircraft with the extended runway centerline during a final approach to landing.
Aviation-Related Use	Any facility or activity directly associated with the air transportation of persons or cargo or the operation, storage, or maintenance of aircraft at an airport or heliport. Such uses specifically include runways, taxiways, and their associated protection areas defined by the FAA, together with aircraft aprons, hangars, fixed-base operations facilities, terminal buildings, and related facilities.
Avigation Easement	An easement that transfers certain property right from a property owner to an airport owner. Generally, an avigation easement provides the right of flight in the airspace above the property, allows the generation of noise and other impacts associated with aircraft overflight, restricts the height of structures, trees and other objects, permits access to the property for the removal or aeronautical marking of objects exceeding the established height limit and prohibits electrical interference, glare, and other potential hazards to flight from being created on the property.
Based Aircraft	Aircraft stationed at an airport on a long-term basis.
California Building Code (CBC)	The CBC is located in Title 24, Part 2, of the California Code of Regulations and governs general building construction standards in California.
California Environmental Quality Act (CEQA)	Statutory framework adopted to maintain a quality environment for the people of the State now and in the future. CEQA establishes a process for State and local agency review of land use actions, as defined in the implementing CEQA Guidelines, which may adversely affect the environment (Pub. Res. Code, § 2100 et seq.; 14 Cal. Code Regs., § 15000 et seq.)
Ceiling	Height above the earth's surface to the lowest layer of clouds or obscuring phenomena. (AIM)
Circling Approach/Circle-To-Land Maneuver	A maneuver initiated by the pilot to align the aircraft with a runway for landing when a straight-in landing from an instrument approach is not possible or not desirable. (AIM)
Commercial Operator	A person who, for compensation or hire, engages in the carriage by aircraft in air commerce of persons or property, other than as an air carrier. (FAR 1)
Community Noise Equivalent Level (CNEL)	The noise metric adopted by the State of California for land use planning and describing airport noise impacts. This noise metric compensates for the increase in people's sensitivity to noise during evening and nighttime hours. Community Noise Equivalent Levels are typically depicted on maps by a set of contours, each of which represents a series of points having the same CNEL value.
Commuter Air Carrier	An air taxi operator which performs at least five round trips per week between two or more points and publishes flight schedules which specify the times, days of the week and places between which such flights are performed. (FAA Census)
Controlled Airspace	Any of several types of airspace within which some or all aircraft may be subject to air traffic control. (FAR 1)
Decibel (dB)	A unit measuring the magnitude of a sound, equal to the logarithm of the ratio of the intensity of the sound to the intensity of an arbitrarily chosen standard sound, specifically a sound just barely audible to an unimpaired human ear. For environmental noise from aircraft and other transportation sources, an A-weighted sound level (abbreviated dBA) is normally used. The A-weighting scale adjusts the values of different sound frequencies to approximate the auditory sensitivity of the human ear.
Deed Notice	A deed notice is a formal statement that is added to the legal description of the deed for a property and on any subdivision map that states that the property is subject to aircraft overflights. Deed notices are used as a form of buyer notification as a means of ensuring that those who are particularly sensitive to aircraft overflights can avoid moving to the affected areas. (Please see Overflight Notification.)

**TABLE 1-1  
AVIATION AND LAND USE RELATED TERMS**

Term	Definition
Development Proposal	See Land Use Action.
Displaced Threshold	A landing threshold that is located at a point on the runway other than the designated beginning of the runway allowing for avoidance of obstructions while also preserving adequate landing distance available (LDA).
Division of Aeronautics	The California Department of Transportation, Division of Aeronautics.
Existing Land Use	<p>A land use is considered “existing” when it has been determined that the land use has obtained a “vested right” by one of the following means</p> <ul style="list-style-type: none"> <li>a) A vesting tentative map has been approved pursuant to California Government Code section 66498.1, and has not expired; or</li> <li>b) A development agreement has been executed pursuant to California Government Code section 65866, and remains in effect; or</li> <li>c) A valid building permit has been issued, substantial work has been performed, and substantial liabilities have been incurred in good faith reliance on the permit, pursuant to the California Supreme Court decision in <i>Avco Community Developers, Inc. v. South Coast Regional Com.</i> (1976) 17 Cal.3d 785,791, and its progeny.</li> </ul> <p>Note that a proposed modification to an existing land use that will result in an increase in height, a change of use, or an increase in density or intensity of use that is not in substantial conformance with the land use action entitled by the local agency shall be subject to this Compatibility Plan.</p> <p>Additionally, any proposed re-use or re-initiation of an existing land use, even if the reuse/re-initiation of the existing land use will not modify the previously existing land use, will be subject to this Compatibility Plan if the previously existing land use has been discontinued for more than 24 months.</p>
Federal Aviation Administration (FAA)	The U.S. government agency that is responsible for ensuring the safe and efficient use of the nation's airports and airspace.
Federal Aviation Regulations (FAR)	Regulations formally issued by the FAA to regulate air commerce.
FAR Part 77	Now known as 14 CFR Part 77, part of the Federal Aviation Regulations that address objects affecting navigable airspace.
FAR Part 77 Surfaces	The 14 CFR Part 77 imaginary surfaces established with relation to each runway of an airport. There are five types of surfaces (1) primary; (2) approach; (3) transitional; (4) horizontal; and (5) conical.
Fixed Base Operator (FBO)	A business operating at an airport that provides aircraft services to the general public, including but not limited to sale of fuel and oil; aircraft sales, rental, maintenance, and repair; parking and tiedown or storage of aircraft; flight training; air taxi/charter operations; and specialty services, such as instrument and avionics maintenance, painting, overhaul, aerial application, aerial photography, aerial hoists, or pipeline patrol.
General Aviation (GA)	The portion of civil aviation that encompasses all facets of aviation except air carriers.
General Plan	A statement of policies, including text and diagrams, setting forth objectives, principles, standards, and plan proposals, for the future physical development of a city or county. For purposes of this Compatibility Plan, this term means any adopted general plan, community plan, or specific plan, zoning ordinance, building regulation, land use policy document, or implementing ordinance or any change thereto, and any amendment thereto (see Pub. Util. Code, § 21676). See also <i>Land Use Plan</i> .
Glide Slope	An electronic signal radiated by a component of an ILS to provide descent path guidance to approaching aircraft.



**TABLE 1-1  
AVIATION AND LAND USE RELATED TERMS**

<b>Term</b>	<b>Definition</b>
Global Positioning System (GPS)	A navigational system that utilizes a network of satellites to determine a positional fix almost anywhere on or above the earth. Developed and operated by the U.S. Department of Defense, GPS has been made available to the civilian sector for surface, marine, and aerial navigational use. For aviation purposes, the current form of GPS guidance provides en route aerial navigation and selected types of nonprecision instrument approaches. Eventual application of GPS as the principal system of navigational guidance throughout the world is anticipated.
High Terrain Zone	Areas of land in the vicinity of an airport where the ground lies above a Part 77 surface. In addition, any location where the ground level reaches to within 100 feet of an instrument approach or departure surface defined by U.S. Standard for Terminal Instrument Procedures (TERPS)(FAA Order 8260.3D, United States Standard for Terminal Instrument Procedures (TERPS)) The Humboldt County Code (Humboldt County Code, Tit. III, Ch.3, Airport Approach Zone Building Height Regulations) establishes Airport Approach Zones to address airspace protection and associated building height regulations in areas of high terrain around airports in Humboldt County.
Instrument Approach Procedure	A series of predetermined maneuvers for the orderly transfer of an aircraft under instrument flight conditions from the beginning of the initial approach to a landing or to a point from which a landing may be made visually. It is prescribed and approved for a specific airport by competent authority
Instrument Flight Rules (IFR)	Rules governing the procedures for conducting instrument flight. Generally, IFR applies when meteorological conditions with a ceiling below 1,000 feet and visibility less than 3 miles prevail.
Instrument Landing System (ILS)	A precision instrument approach system that normally consists of the following electronic components and visual aids (1) Localizer; (2) Glide Slope; (3) Outer Market; (4) Middle Marker; (5) Approach Lights.
Instrument Operation	An aircraft operation in accordance with an IFR flight plan or an operation where IFR separation between aircraft is provided by a terminal control facility.
Instrument Runway	A runway equipped with electronic and visual navigation aids for which a precision or nonprecision approach procedure having straight-in-landing minimums has been approved.
Land Use Action	Any land use matter, either publicly or privately sponsored, that is subject to the provisions of this Compatibility Plan. A land use matter is subject to this Compatibility Plan, if it requires any action, regulation, or permit affecting allowable land uses (see Pub. Util. Code, §21676.5).
Land Use Density	A measure of the concentration of land use development in an area. The term is commonly used with respect to residential development and refers to the number of dwelling units per acre.
Land Use Intensity	A measure of the concentration of nonresidential land use development in an area. For the purposes of airport land use planning, the term indicates the number of people per acre occupying the land use.
Land Use Plan	For this Compatibility Plan, this term "Land Use Plan" means any adopted general plan, community plan, or specific plan, zoning ordinance, building regulation, land use policy document, or implementing ordinance or any change thereto, and any amendment thereto (see Pub. Util. Code, § 21676). See also <i>General Plan</i> .
Land Use Project	A land use action relating to an individual development action.
Local Agency	For this Compatibility Plan, the County of Humboldt, the Cities of Eureka, Fortuna, and Rio Dell, and other local governmental entities, such as special districts, school districts, and community college districts, having jurisdiction over land uses within the AIA defined in this ALUCP. These entities are subject to the provisions of this ALUCP; the ALUC does not have authority over land use actions of federal agencies or Indian tribes.

**TABLE 1-1  
AVIATION AND LAND USE RELATED TERMS**

Term	Definition
Local Operation	An arrival or departure performed by an aircraft (1) operating in the traffic pattern, (2) known to be departing or arriving from flight in local practice areas, or (3) executing practice instrument approaches at the airport. (AIM)
Localizer (LOC)	The component of an ILS that provides course guidance to the runway.
Lot Coverage	The ratio between the ground floor area of a building (or buildings) and the area of a lot/parcel.
Mean Sea Level (MSL)	An elevation datum given in feet above mean sea level.
Minimum Descent Altitude (MDA)	The lowest altitude, expressed in feet above mean sea level, to which descent is authorized on final approach or during circle-to-land maneuvering in execution of a standard instrument approach procedure where no electronic glide slope is provided. (FAR 1)
Missed Approach	A maneuver conducted by a pilot when an instrument approach cannot be completed to a landing. (AIM)
Navigational Aid (NAVAID)	Any visual or electronic device airborne or on the surface that provides point-to-point guidance information or position data to aircraft in flight.
Noise Contours	Continuous lines of equal noise level usually drawn around a noise source, such as an airport or highway. The lines are generally drawn in 5-decibel increments so that they resemble elevation contours in topographic maps.
Noise Level Reduction (NLR)	A measure used to describe the reduction in sound level from environmental noise sources occurring between the outside and the inside of a structure.
Noise Sensitive Land Uses	Land uses for which the associated primary activities, whether indoor or outdoor, are susceptible to disruption by loud noise events.
Nonconforming Use	An existing land use or building that does not comply with this Compatibility Plan.
Nonprecision Approach Procedure	A standard instrument approach procedure in which no electronic glide slope is provided.
Nonprecision Instrument Runway	A runway with an approved or planned straight-in instrument approach procedure that has no existing or planned precision instrument approach procedure.
Object-Free Area	An area on the ground measured from a runway, taxiway, or taxi lane centerline, which is provided to safeguard aircraft operations by having the area free of objects, except for objects that are needed for air navigation or aircraft ground maneuvering purposes (see FAA AC 150/5300-13A, <i>Airport Design</i> ).
Obstacle Free Zone (OFZ)	The airspace defined by the runway OFZ and, as appropriate, the inner approach OFZ and the inner-transitional OFZ, which is clear of object penetrations other than frangible NAVAIDs.
Obstruction	Any object of natural growth, terrain, or permanent or temporary construction or alteration, including equipment or materials used therein, the height of which exceeds the standards established in Subpart C of 14 CFR Part 77, <i>Objects Affecting Navigable Airspace</i> .
Overflight	Any distinctly visible or audible passage of an aircraft in flight, not necessarily directly overhead.
Overflight Notification	An overflight notification is a buyer awareness tool, such as a deed notice, designed to ensure that prospective buyers of property near an airport, particularly residential property, are informed about the airport's potential impact on the property. An overflight notification is recorded in the property's chain of title and indicates that the property may be subject to some of the annoyances or inconveniences associated with proximity to an airport and aircraft operations (such as noise, vibration, overflights, or odors). Unlike an aviation easement, an overflight notification does not convey property rights from the property owner to the airport and does not restrict the height of objects. It simply documents the existence of conditions that may affect the property for the purpose of notifying the property owner.

**TABLE 1-1  
AVIATION AND LAND USE RELATED TERMS**

<b>Term</b>	<b>Definition</b>
Overlay Zoning	Establishes development standards in areas of special concern over and above the standards applicable to basic underlying zoning districts.
Part 77	Federal regulations (Title 14 of the Code of Federal Regulations [CFR]) that deals with objects affecting navigable airspace in the vicinity of airports. Part 77 establishes standards for identifying obstructions to navigable airspace, sets forth requirements for notice to the FAA of certain proposed construction or alteration, and provides for aeronautical studies of obstructions to determine their effect on the safe and efficient use of airspace (see Appendix F).
Permit	See <i>Land Use Action</i> .
Precision Approach Path Indicator (PAPI)	An airport landing aid similar to a VASI, but which has light units installed in a single row rather than two rows.
Precision Instrument Runway	A runway with an existing or planned precision instrument approach procedure.
Project	Any land use action other than those subject to ALUC review pursuant to Policy GP-4, <i>Actions that Always Require ALUC Review</i> , not including building permits that relate exclusively to how a structure is built and do not regulate what land uses are allowed.
Public Use Airport	Publicly or privately owned airport that offers the use of its facilities to the public without prior notice or special invitation or clearance, and that has been issued a California Airport Permit by the Division of Aeronautics of the California Department of Transportation. For purposes of the ALUC plan, the State Division of Aeronautics has interpreted "public use" to include special-use airports in which commercial operators offer service to the public.
Real Estate Disclosure	A real estate disclosure is required by State law as a condition of the sale of most residential property, if the property is located in the vicinity of an airport and within its AIA (see Bus. & Prof. Code, § 11010; Civ. Code, §§ 1102.6, 1103.4, 1353). The disclosure notifies the prospective purchaser of potential annoyances or inconveniences associated with airport operations prior to completing the purchase. Unlike the aviation easement and overflight notification (deed notice), the real estate disclosure is not recorded in the chain of title. Real estate disclosures are typically provided by the buyer to the seller at the time the purchase offer has been accepted.
Redevelopment	Development of a new use (not necessarily a new type of use) to replace an existing use at a density or intensity that may vary from the existing use. Redevelopment land use actions are subject to the provisions of this Compatibility Plan to the same extent as other forms of proposed development.
Review Area	The area around an airport defined by the airport influence area.
Runway Edge Lights	Lights used to define the lateral limits of a runway. Specific types include <ul style="list-style-type: none"> <li>• HIRL — High-Intensity Runway Lights.</li> <li>• MIRL — Medium-Intensity Runway Lights.</li> </ul>
Runway End Identifier Lights (REIL)	Two synchronized flashing lights, one on each side of the runway threshold, which provide a pilot with a rapid and positive visual identification of the approach end of a particular runway. (AIM)
Runway Protection Zone (RPZ)	An area immediately off the end of a civilian airport runway. Runway protection zones have the greatest potential for aircraft accidents and should remain undeveloped.
Runway Safety Area (RSA)	A defined surface surrounding the runway prepared or suitable for reducing the risk of damage to airplanes in the event of an undershoot, overshoot, or excursion from the runway. (AC 150/5300-13A)
Safety Zone	For the purpose of airport land use planning, an area near an airport in which land use restrictions are established to protect the safety of the public from potential aircraft accidents.

**TABLE 1-1  
AVIATION AND LAND USE RELATED TERMS**

Term	Definition
Sensitive Land Uses	Land uses for which the associated primary activities, whether indoor or outdoor, are susceptible to disruption by aircraft operations and require special protection from hazards (e.g., potential aircraft accidents) because of, for example, the low effective mobility of occupants or the presence of hazardous materials. The most common types of sensitive land uses include residential neighborhoods, hospitals, nursing facilities, intermediate care facilities, educational facilities, outdoor assembly uses, libraries, museums, places of worship, and child-care facilities.
Single Event Noise	As used herein, the noise from an individual aircraft operation or overflight.
Standard Instrument Departure (SID)	A preplanned IFR air traffic control departure procedure printed for pilot use in graphic and/or textual form. SID's provide transition from the terminal to the appropriate en route structure. (AIM)
Standard Terminal Arrival Route (STAR)	A preplanned IFR air traffic control arrival route published for pilot use in graphic and/or textual form. STARs provide transition from the en route structure to an outer fix or an instrument approach fix/arrival waypoint in the terminal area. (AIM)
Straight-In Instrument Approach	An instrument approach wherein a final approach is begun without first having executed a procedure turn; it is not necessarily completed with a straight-line landing or made to straight-in landing weather minimums.
Taxilane	The portion of the aircraft parking area used for access between taxiways, aircraft parking positions, hangars, storage facilities, etc. (AC 150/5300-13A)
Taxiway	A defined path, from one part of an airport to another, selected or prepared for the taxiing of aircraft. (AC 150/5300-13A)
Terminal Area Forecast	The Terminal Area Forecast (TAF) is the official FAA forecast of aviation activity for U.S. airports. (FAA)
U.S. Standard for Terminal Instrument Procedures (TERPS)	Standardized criteria adopted by the FAA, U.S. military branches, and the U.S. Coast Guard for designing airport area and en route instrument flight procedures. The criteria are predicated on normal aircraft operations for considering obstacle clearance requirements.
Threshold	The beginning of that portion of the runway usable for landing. (AIM) See also <i>Displaced Threshold</i> .
Touch-and-Go	A practice maneuver consisting of a landing and a takeoff performed in one continuous movement. A touch-and-go is defined as two operations.
Traffic Pattern	The traffic flow that is prescribed for aircraft landing at, taxiing on, or taking off from an airport. The components of a typical traffic pattern are upwind leg, crosswind leg, downwind leg, base leg, and final approach. (AIM)
Transient Aircraft	Aircraft not based at the airport.
Visual Approach	An approach where the pilot must use visual reference to the runway for landing under Visual Flight Rules conditions.
Visual Approach Slope Indicator (VASI)	An airport landing aid that provides a pilot with visual descent (approach slope) guidance while on approach to landing. Also see PAPI.
Visual Flight Rules (VFR)	Rules that govern the procedures for conducting flight under visual conditions. VFR applies when meteorological conditions are equal to or greater than the specified minimum -- generally, a 1,000-foot ceiling and 3-mile visibility.
Visual Runway	A runway intended solely for the operation of aircraft using visual approach procedures, with no straight-in instrument approach procedure and no instrument designation indicated on an FAA-approved airport layout plan. (AC 150/5300-13A)

Source: County of Humboldt, Humboldt County Code Title III, Land Use and Development, April 2, 2019; Federal Aviation Administration, Aeronautical Information Manual (AIM), < [https://www.faa.gov/air\\_traffic/publications/atpubs/aim\\_html/index.html](https://www.faa.gov/air_traffic/publications/atpubs/aim_html/index.html)>., accessed August 2019.; Federal Aviation Administration, AC 150/5190-7, *Minimum Standards for Commercial Aeronautical Activities*, Appendix 1 *Definitions*, August 28, 2006 (FAA, 2006); Federal Aviation Administration, AC 150/5300-13A, *Airport Design*, September 28, 2012 (FAA, 2012); Federal Aviation Administration, *Pilot/Controller Glossary*, April 3, 2014 (FAA, 2014); Federal Aviation Administration, AC 150/5070-6B Change 2, *Airport Master Plans*, January 27, 2015 (FAA, 2015); California Department of Transportation (Caltrans), Division of Aeronautics, *California Airport Land Use Planning Handbook*, 2011.

**Table 1-2** presents acronyms used throughout this Compatibility Plan. The local agencies may have adopted alternative definitions for some of the terms presented below. However, for purposes of this Compatibility Plan, the terms shall be defined as presented below.

**TABLE 1-2  
ACRONYMS**

<b>Acronym</b>	<b>Definition</b>
AC	Advisory Circular
AGL	Above Ground Level
AIA	Airport Influence Area
AIM	Aeronautical Information Manual
ALP	Airport Layout Plan
ALUC	Airport Land Use Commission
ALUCP	Airport Land Use Compatibility Plan
ALS	Approach Light System
APL	Aircraft Parking Line Limit
ARC	Airport Reference Code
ATCT	Airport Traffic Control Tower
CBC	California Building Code
CEQA	California Environmental Quality Act
CNEL	Community Noise Equivalent Level
dB	Decibel
FAA	Federal Aviation Administration
FBO	Fixed Base Operator
GA	General Aviation
GPS	Global Positioning System
HIRL	High-Intensity Runway Lights
IFR	Instrument Flight Rules
ILS	Instrument Landing System
LDA	Landing Distance Available
LOC	Localizer
MDA	Minimum Descent Altitude
MIRL	Medium-Intensity Runway Lights
MSL	Mean Sea Level
NAVAID	Navigational Aid
NLR	Noise Level Reduction
NTSB	National Transportation Safety Board
OFZ	Obstacle Free Zone
PAPI	Precision Approach Path Indicator
REIL	Runway End Identifier Lights
RPZ	Runway Protection Zone
RSA	Runway Safety Area

**TABLE 1-2  
ACRONYMS**

<b>Acronym</b>	<b>Definition</b>
SID	Standard Instrument Departure
STAR	Standard Terminal Arrival Route
TAF	Terminal Area Forecast
TERPS	Terminal Instrument Procedures
VASI	Visual Approach Slope Indicator
VFR	Visual Flight Rules

Source: California Department of Transportation, Division of Aeronautics, California Airport Land Use Planning Handbook, Appendix L, Glossary of Terms, October 2011; U.S. Department of Transportation, Federal Aviation Administration, 14 CFR 1, Definitions and Abbreviations (FAR 1); Federal Aviation Administration, AC 150/5300-13A, *Airport Design*, September 28, 2012.

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# CHAPTER 2

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## General Policies and Plan Implementation

### 2.1 Understanding Land Use Compatibility Planning in Humboldt County

This ALUCP contains both general and airport specific policies to guide its implementation. The general policies discussed in this chapter are to be used along with the airport specific policies, procedures, standards, and compatibility criteria, presented in Chapter 3, by the ALUC, affected local agencies, and others, to implement the relevant provisions of this ALUCP. Official policy language is labeled with policy numbers (e.g., GP-1, which means General Policy number 1).

The policies in this chapter address ALUC review procedures and overarching compatibility considerations. Compatibility criteria and other policies applicable to the airports are set forth in Chapter 3. Maps depicting the four compatibility factors applicable to areas around each airport (i.e., noise contours, safety zones, Part 77 airspace surfaces, and overflight notification areas) are provided in Chapters 4 through 11. For purposes of this Compatibility Plan, as listed in Section 2.2 below, adherence to the policies in both Chapters 2 and 3 is required.

### 2.2 Purpose

The policies set forth in this chapter and Chapter 3, *Humboldt County Airports Policies*, serve two functions:

- 1) To describe the procedures to be used by the Humboldt County ALUC, and affected local agencies to fulfill the airport land use compatibility review requirements set forth in the State Aeronautics Act (Pub. Util. Code, § 21670 *et seq.*). Specifically, these procedures define:
  - a) The steps to be taken by local agencies, specifically, the County of Humboldt and the Cities of Eureka, Fortuna, and Rio Dell, the Shelter Cove Resort Improvement District No. 1, other special districts, school districts, and community college districts located in the AIAs for the County's airports, in submitting certain land use actions to the ALUC for review in accordance with Policies GP-7, *Timing of Land Use Action Submittal*, and GP-8, *Land Use Action Submittal Information*, of this Compatibility Plan.
  - b) The steps to be taken by Humboldt County, the City of Eureka, and the Shelter Cove Resort Improvement District No. 1 as operators of the airports, in submitting airport master plans and other certain airport-related plans to the ALUC for review in accordance with Policies GP-7, *Timing of Land Use Action Submittal*, of this Compatibility Plan.

- c) The process, as stated in the policies included in Sections 2.5 through 2.10 of this Compatibility Plan, to be used by the ALUC in reviewing the above actions for compliance with the compatibility criteria set forth in this Compatibility Plan.
- 2) To identify compatibility criteria to be used by:
    - a) The ALUC in review of land use actions within the airports' AIA and airport master plans, ALPs, and other development plans for the airports.
    - b) Local agencies in modifying their respective general plans for consistency with this Compatibility Plan.

## 2.3 General Policies

### GP-1 Effective Date of the Plan

The policies in this Compatibility Plan shall become effective on the date that the ALUC adopts this Compatibility Plan.

- 1) The current Humboldt County Airport Land Use Compatibility Plan (prepared in 1993 and adopted, as amended, for Shelter Cove Airport in 1997 and adopted, as amended, for Redwood Coast-Humboldt County Airport in 1998) shall remain in effect for these airports until this Compatibility Plan has been adopted by the ALUC. In the event the entirety of this Compatibility Plan should be rendered invalid by court action, the 1993 Humboldt County Airport Land Use Compatibility Plan, as adopted, as well as the airport land use related policies in the General Plans of the County of Humboldt and the Cities of Eureka, Fortuna, and Rio Dell in effect at the time this Compatibility Plan was adopted shall again become effective.
- 2) If any portion of this Compatibility Plan should be rendered invalid by court action, those portions of this Compatibility Plan that are not invalidated by the court action shall continue to remain in effect.

### GP-2 Geographic Scope

The geographic scope of this Compatibility Plan is established through AIAs delineated as follows:

- 1) The AIA for each airport is the area in which current and projected future airport-related noise, safety, airspace protection, or overflight notification area compatibility factors/layers may significantly affect land use or necessitate restrictions on land use. The AIAs are presented for each airport in Section 1.4 of this Compatibility Plan.
- 2) The AIA for each airport is divided into two subareas, Review Area 1 and Review Area 2. Review Area 1 consists of the combined area of the safety zones and noise contours for each airport. Review Area 2 consists of the overflight and airspace protection layer for each airport. The outer most boundary of the combined area of the four compatibility factors is the AIA for an airport.



## GP-3 Applicability to Land Use Actions Not Yet Completed

The compatibility policies, if any, that will be used to perform a consistency review for a proposed land use action, and any subsequent implementing action(s) associated with that land use action, shall be determined in accordance with Paragraphs (1) through (6) below. In no instance, shall the ALUC apply any Compatibility Plan rules, regulations, and policies to any land use action, or to any subsequent discretionary or ministerial implementing permit or action for that land use action, that are inconsistent with the provisions of 14 CFR Part 77 and the California Airport Noise Regulations (21 Cal. Code Reg., § 5000 *et seq.*) The text of 14 CR Part 77 is provided in **Appendix B**.

- 1) **Airport Plans:** Notwithstanding any provision of this Section, the ALUC shall apply the Compatibility Plan's rules, regulations, and policies to any land use action, and any subsequent discretionary or ministerial implementing permit or action for that land use action, that have been approved based upon:
  - a) An airport master plan, or amendments or modifications to an airport master plan (Pub. Util. Code, § 21676(c)); or
  - b) Any airport expansion that requires amendment of the Airport Permit issued by the Caltrans Division of Aeronautics, including the construction of a new runway, the extension or realignment of an existing runway, the acquisition of land within runway protection zones, or the acquisition of any interest in land for the purpose of any airport expansion land use action (Pub. Util. Code, § 21664.5), that has been submitted to the ALUC for review by the Airport operator.
  
- 2) **General Plan Consistent with Prior ALUCP:** A project located within an AIA delineated in this Compatibility Plan (and any subsequent implementing action(s) for that project), that is located within an area in which the local agency has modified its General Plan to be consistent with a previously prepared compatibility plan prior to approval of this Compatibility Plan, shall NOT be subject to ALUC review under this Compatibility Plan, provided that the local agency:
  - a) Has deemed the project application to be complete prior to the effective date of this Compatibility Plan;
  - b) The project is consistent with the local agency's General Plan; and
  - c) The project and any subsequent implementing project(s) have not changed in a substantive manner that would potentially invalidate any original approval of the project by the local agency and require a subsequent review, as determined by the local agency and the ALUC based on the criteria provided in Policy GP-21, *Subsequent Review – Other Land Use Actions*.
  
- 3) **General Plan Not Consistent with Prior ALUCP:** A project located within an AIA delineated in this Compatibility Plan (and any subsequent implementing action(s) related to that project), that is located within an area in which a local agency has NOT modified its General Plan to be consistent with the previously prepared compatibility plan, shall NOT be subject to ALUC review under this Compatibility Plan, provided that:

- a) The local agency has deemed the project application complete prior to the effective date of this Compatibility Plan;
  - b) The project is consistent with the compatibility plan where adopted and in effect at the time the application is deemed complete by the local agency; and
  - c) The project and any subsequent implementing land use action(s) have not changed in a substantive manner that would potentially invalidate any original approval of the land use action by the local agency and require a subsequent review, as determined by the local agency and the ALUC based on the criteria provided in Policy GP-21, *Subsequent Review – Other Land Use Actions*.
- 4) **Voluntary Request for Review:** Local agencies may voluntarily request that the ALUC review and comment upon a project under these circumstances; however, because the ALUC review is discretionary and advisory under these circumstances, local agencies are not required to adhere to the overrule process.
- 5) **Subsequent Review of Land Use Action(s) Found Consistent:** A land use action previously reviewed by the ALUC and found to be consistent with the compatibility plan in effect at that time shall not be subject to further review under this Compatibility Plan unless the land use action changes in a substantive manner as determined by the local agency or by the ALUC when it concludes that further review is warranted based on criteria provided in Policy GP-21, *Subsequent Review – Other Land Use Actions*,) that would potentially invalidate the original ALUC consistency findings. The following conditions will apply to subsequent reviews:
- a) Any land use action requiring subsequent ALUC review will be evaluated using the compatibility plan in effect at the time the resubmittal application is deemed complete by the ALUC.
  - b) Any land use action requiring subsequent ALUC review need not be resubmitted for ALUC review if, prior to resubmittal, the General Plan of the local agency in which the land use action is situated has been reviewed by the ALUC and found to be consistent with this Compatibility Plan and the revised land use action is consistent with that ALUC-approved General Plan.
- 6) **ALUC Review Not Required:** A land use action application that was deemed complete by the local agency prior to the effective date of this Compatibility Plan, and which did not require ALUC review because it was located beyond the boundary of the AIA defined by the compatibility plan in place at the time the application was considered complete, shall not require subsequent ALUC review under this Compatibility Plan unless the land use action changes in a substantive manner (see Policy GP-21, *Subsequent Review – Other Land Use Actions*).

## 2.4 Actions Subject to ALUC Review

### GP-4 Actions that Always Require ALUC Review

As required by State law, even if a local agency's land use plan is consistent with the current compatibility plan, the following types of land use actions shall be referred to the ALUC for a determination of consistency with this Compatibility Plan prior to their approval by the local agency:

- 1) The adoption, approval, or amendment of any land use plan (Pub. Util. Code, § 21676(b)) that affects allowable land uses within an AIA delineated in this Compatibility Plan.
- 2) Adoption or modification of an airport master plan for any one of the County's airports (Pub. Util. Code, § 21676(c)).
- 3) Any proposal for expansion of any one of the County's airports, if such expansion will require an amended Airport Permit from the State of California (Pub. Util. Code, § 21664.5).
- 4) Any proposal for construction of a new airport or heliport (Pub. Util. Code, § 21661.5).
- 5) Any land use action determined by the FAA to present a hazard or obstruction within navigable airspace.
- 6) Any land use action with attributes which may result in hazards to air navigation such as hazardous wildlife attractants, sources of glare, light displays which could disorient pilots, and sources of electromagnetic interference.
- 7) Any proposed expansion of a city's sphere of influence within an AIA.
- 8) Any proposed residential planned unit development consisting of five or more dwelling units within an AIA.
- 9) Any request for variance from a local agency's height limitation ordinance within an AIA.
- 10) Any proposal for construction or alteration of a structure (including antennas) taller than 150 feet above the ground anywhere within the County.
- 11) Any major capital improvements (e.g., water, sewer, or roads) that would promote urban development within an AIA.
- 12) Proposed land acquisition by a government entity (especially, acquisition of a school site) within an AIA.
- 13) Building permit applications for projects having a valuation greater than \$1,000,000.00 within an AIA.

For purposes of this plan, "Local Agency" refers to the County of Humboldt and the Cities of Eureka, Fortuna, and Rio Dell, the Shelter Cove Resort Improvement District, other special districts, school districts, and community college districts located within the AIA for any of the County's Airports.

## GP-5 Other Land Use Actions Subject to ALUC Review

Other types of land use actions or projects are subject to review under these circumstances:

- 1) Until such time as the ALUC finds that a local agency's land use plans are consistent with this Compatibility Plan, or the local agency has overruled the ALUC's determination of inconsistency, local agencies may be required to submit projects involving land use within an AIA to the ALUC for review at the ALUC's discretion (Pub. Util. Code, § 21676.5(a)).
- 2) On Airport property, local agencies must submit proposed non-aviation related development to the ALUC for review.
- 3) After a local agency has revised its land use plans to be consistent with the Compatibility Plan or has overruled the ALUC's Compatibility Plan, some land use actions still require mandatory review (e.g., General Plan adoption or amendment; see Policy GP-4, *Actions that Always Require ALUC Review*, above). Moreover, the local agency can continue to voluntarily request that the ALUC review and comment upon individual projects and the ALUC can agree to review and comment upon individual projects consistent with a local agency's request (Pub. Util. Code, § 21676.5(b)). Because the ALUC reviews are only advisory under these circumstances, local agencies are not required to adhere to the overruling process, if they elect to approve a project without incorporating design changes or conditions recommended by the ALUC.

## GP-6 ALUC Staff Review

ALUC staff may review projects for consistency with the ALUCP and then issue a report to the ALUC on the project's consistency with the Compatibility Plan; however, all determinations of consistency with the Compatibility Plan must be made by the ALUC. Reports and recommendations will be made in writing and shall provide details supporting the recommendation.

## 2.5 General Review Process for Land Use Actions

### GP-7 Timing of Land Use Action Submittal

The precise timing of ALUC review of a proposed land use action may vary depending upon the nature of the land use action.

- 1) Land use plans and land use actions subject to ALUC review, as described in Section 2.4, *Actions Subject to ALUC Review*, should be referred to the ALUC at the earliest reasonable time so that the ALUC's review can be duly considered by the local agency before formalizing its actions. Depending upon the type of land use plan or land use action and the normal scheduling of meetings, ALUC review can be completed before, after, or concurrently with the review by the local planning commission and other advisory bodies, but must be accomplished before final action by the local agency.
- 2) Although the most appropriate time for a proposed land use action to be referred to the ALUC for review is once an application is considered complete by the local agency, the completion of an application is not required for a local agency to refer a proposed land use

action to the ALUC for preliminary review. Rather, the local agency may refer a proposed land use action with potential policy significance to the ALUC for a preliminary review, so long as the local agency is able to provide the ALUC with the submittal information for the proposed land use action, as specified in Policy GP-8, *Land Use Action Submittal Information*. The ALUC's review under these circumstances is preliminary and, if completed, is not binding on subsequent ALUC determinations.

- 3) If the land use action changes in a substantive way during the local agency's review/approval process, the land use action must be resubmitted for a consistency determination.

## GP-8 Land Use Action Submittal Information

A proposed land use action submitted to the ALUC for review that requires a new or amended land use plan in accordance with Policy GP-4, *Actions that Always Require ALUC Review*, or other land use actions submitted to the ALUC in accordance with Policy GP-5, *Other Land Use Actions Subject to ALUC Review*, shall include the following information:

- 1) Property location data (assessor's parcel number, street address [if available]).
- 2) An accurately scaled map showing the relationship (distance and direction) of the project site to the airport boundary and runways. When available, a digital version of the exhibit should be submitted electronically along with a paper copy. The map should not exceed 22 x 34 inches. Submitted maps should identify the following:
  - a) Any features that would increase the attraction of birds or cause other wildlife hazards to aircraft operations on the Airport or in its environs (see Policies AP-6, *Other Flight Hazards* and AP-7, *Wildlife Hazards*).
  - b) Any features or characteristics that could create electrical interference, confusing or bright lights, glare, smoke, or other electrical, visual, or thermal hazards to aircraft flight (See Policy AP-6, *Other Flight Hazards*).
  - c) If applicable, as determined by the ALUC, a detailed site plan showing ground elevations, the location of structures, open spaces, and water bodies, and the heights of structures and trees above mean sea level and above ground level. All elevations indicated should be based on the same vertical datum as that referenced in the applicable ALP (see Appendix G). A profile view of proposed features and all relevant information provided in connection with a Part 77 submittal. When available, a digital version of the drawings will be provided electronically along with the paper version.
- 3) A description of the existing use(s) of the land in question, including current land use plan and zoning designations, height of structures, maximum intensity limits, and other applicable information.
- 4) A description of the proposed use(s) and the type of land use action being sought from the local agency (e.g., zoning change, building permit).
- 5) For residential uses, the proposed number of dwelling units per acre (excluding any secondary units on a parcel); or, for nonresidential uses, the number of people potentially

occupying the total site or portions of it at any one time, and the proposed lot coverage of the land use action.

- 6) Any draft or final environmental document (initial study, negative declaration, mitigated negative declaration, environmental assessment, environmental impact statement, or environmental impact report) that has been prepared for the land use action.
- 7) Any staff reports regarding the land use action that may have been presented to local agency decision makers.
- 8) Any land use action submittal information and final airspace determination that has been obtained from the FAA in accordance with 14 CFR Part 77 as well as a completed County of Humboldt airspace certification form.
- 9) Other relevant information that the ALUC determines to be necessary to enable a comprehensive review of the land use action.
- 10) The land use action submittal information also shall include applicable review fees, as established by the ALUC (Pub. Util. Code, § 21671.5(f)).
- 11) The documents submitted to the ALUC should not exceed 22 x 34 inches.

Local agencies and project applicants should contact ALUC staff prior to consistency review submittal to determine precisely which of the above items are appropriate for submission.

## GP-9 Public Input

Where applicable, the ALUC shall provide public notice and obtain public input in accordance with section 21675.2(d) of the Public Utilities Code before acting on any proposed land use action under consideration.

## 2.6 Review Process for General Plans, Specific Plans, Zoning Ordinances, and Building Regulations

### GP-10 Initial ALUC Review of General Plan Consistency

Along with the adoption or amendment of this Compatibility Plan, the ALUC shall review the land use plans of affected local agencies to determine their consistency with the Compatibility Plan as follows:

- 1) Within 180 days of the ALUC's adoption or amendment of this Compatibility Plan, each local agency affected by the plan must amend its land use plans to be consistent with the ALUC's Compatibility Plan or, alternatively, provide required notice, adopt findings, and overrule the ALUC's Compatibility Plan by two-thirds vote of the local agency's governing body in accordance with sections 21675.1(d), 21676(b), and 21676.5(a) of the Public Utilities Code (Gov. Code, § 65302.3). If a local agency fails to take either action, then it is required to submit all land use actions involving property located within the AIA to the ALUC for review (Pub. Util. Code, § 21676.5(a)). The ALUC will formally engage with local agencies having jurisdiction within the AIA during preparation of the ALUCP and any local plan amendments

necessitated by the updated ALUCP. The ALUC will notify local agencies of approval of any required plan amendments within five days.

- 2) Before taking action on a proposed general plan amendment, the local agency must submit the draft of the land use plan to the ALUC for review and a consistency determination. In order to assist in expediting the land use plan amendment process to meet the 180-day time limit, local agencies may elect to submit affected plans for preliminary ALUC review before formal adoption of an ALUCP update. This could allow the ALUC to identify any specific areas of inconsistency prior to the start of the 180-day period.

## GP-11 Subsequent Review - Related Land Use Actions

Whenever an amendment is proposed to a land use plan, local agencies must submit the proposed land use plan to the ALUC for review and a consistency determination. Per Policy GP-4, *Actions that Always Require ALUC Review*, proposed land use plans and amendments affecting property located within an AIA defined in this Compatibility Plan should be submitted to the ALUC before taking action on the land use plan adoption or amendment.

Once the land use plan has been made consistent with this Compatibility Plan, subsequent land use actions that are consistent with the land use plan are subject to ALUC review only under the conditions indicated in Policy GP-5, *Other Land Use Actions Subject to ALUC Review*, and Policy GP-21, *Subsequent Review – Other Land Use Actions*. When subsequent review is required:

- 1) Copies of the complete text and maps of the proposed land use plan and any supporting materials documenting that the land use action is consistent with the Compatibility Plan must be submitted.
- 2) If the amendment is required as part of a proposed land use action, the applicable information listed in Policy GP-8, *Land Use Action Submittal Information*, shall also be included.

## GP-12 ALUC Action Choices

When reviewing a land use plan for consistency with the Compatibility Plan, the ALUC has three choices:

- 1) Find the land use plan consistent with the Compatibility Plan. The conditions identified in Section 2.7, *General Plan Consistency with Compatibility Plan*, must be met.
- 2) Find the land use plan consistent with the Compatibility Plan, subject to conditions and modifications that the ALUC may require. Any such conditions should be limited in scope, consistent with the provisions of this Compatibility Plan, and described in a manner that allows compliance to be clearly assessed.
- 3) Find the land use plan inconsistent with the Compatibility Plan. In making a finding of inconsistency, the ALUC shall note the specific conflicts or shortcomings upon which its determination of inconsistency is based.

## GP-13 Response Time - General Plans, Specific Plans, Zoning Ordinances, and Building Regulations

The ALUC must respond to a local agency's request for a consistency determination on a general plan or specific plan, or the adoption or approval of a zoning ordinance or building regulation within the AIA and to an airport operator's request for a consistency determination on modifications to its airport master plan within 60 days from the date of submittal (Pub. Util. Code, § 21676(d)). However, this response period does not begin until the ALUC staff has determined that all information necessary for accomplishment of the land use action review has been submitted to the ALUC (see Caltrans Handbook at page 4-12; Pub. Util. Code, § 21675.2 (a) and § 21676 (d)).

- 1) The 60-day review period may be extended if the submitting local agency agrees in writing or so states at an ALUC public hearing on the action.
- 2) The date of submittal is deemed to be the date on which all applicable land use action information is received by ALUC and the ALUC determines that the application for a consistency determination is complete (see Policy GP-8, *Land Use Action Submittal Information*).
- 3) If the ALUC fails to make a determination within the time required or agreed upon, the proposed action shall be deemed consistent with the Compatibility Plan (Pub. Util. Code, § 21676(d)).
- 4) Regardless of any action or failure to act on the part of the ALUC, the proposed action still must comply with other applicable local, state, and federal laws and regulations.
- 5) The submitting local agency shall be notified of the ALUC's determination in writing.

## GP-14 ALUC Response to Notification of Proposed Overruling

If a local agency proposes to overrule an ALUC, it must provide a copy of the proposed decision and findings to both the ALUC and the Division of Aeronautics at least 45 days prior to taking action. The ALUC and Caltrans Division of Aeronautics have 30 days in which to provide the local agency with their comments (Pub. Util. Code, § 21676(a)-(b)). The ALUC may authorize the ALUC staff to respond to any notification of proposed overruling. The comments of the Division of Aeronautics and the ALUC are advisory, but must be made part of the record of final decision to overrule the ALUC (Pub. Util. Code, §§ 21676, 21676.5).

## 2.7 Land Use Plan Consistency with Compatibility Plan

This section discusses the requirements that need to be met for a land use plan to be considered consistent with this Compatibility Plan. Appendix A provides additional guidance in the form of a Land Use Plan Consistency Checklist.



## GP-15 Elimination of Conflicts

No direct conflicts can exist between the two plans.

- 1) Direct conflicts primarily involve land use plan land use designations that are not consistent with the residential density (allowed number of residential dwelling units per acre) and/or intensity (number of people per acre for nonresidential uses) criteria specified in Chapter 3, *Humboldt County Airports Policies*, of this Compatibility Plan. In addition, conflicts with regard to other policies—height limitations in particular—may exist.
- 2) A land use plan cannot be found inconsistent with the Compatibility Plan because of land use designations that reflect existing uses even if those designations conflict with the compatibility criteria included in this Compatibility Plan. Land use plan land use designations that reflect existing uses are exempt from requirements for land use plan consistency with the Compatibility Plan. This exemption derives from state law that proscribes ALUC authority over existing uses. However, proposed redevelopment or other changes to existing uses are not exempt from compatibility policies and are subject to ALUC review in accordance with Policy GP-3, *Applicability to Land Use Actions Not Yet Completed*. Land use plans must include policies setting limitations on the expansion and reconstruction of nonconforming uses located within an AIA to prevent an increase in the number of nonconforming uses.
- 3) To be consistent with the Compatibility Plan, a land use plan also must include provisions ensuring long-term compliance with the compatibility criteria. Therefore, an implementation process must be defined in the land use plan. Compatibility planning can be reflected in a land use plan in several ways:
  - a) **Incorporate Policies into Existing General Plan Elements.** One approach for achieving the necessary planning consistency is to modify existing general plan elements. For example, airport land use noise policies could be inserted into the noise element, safety policies could be provided in the safety element, and the primary compatibility criteria and associated maps, in addition to the procedural policies, might fit into the land use element. With this approach, direct conflicts would be eliminated and most of the mechanisms and procedures to ensure compliance with, and implementation of, the compatibility criteria could be fully incorporated into the local agency's general plan.
  - b) **Adopt a General Plan Airport Element.** Another approach is to prepare a separate airport element as part of the general plan. Such a format may be advantageous when the local agency's general plan also needs to address on-airport development and operational issues. Modification of other plan elements to provide cross-referencing and eliminate conflicts would still be necessary.
  - c) **Adopt a Compatibility Plan as Stand-Alone Document.** Local agencies could also adopt, as a local policy document, the relevant portions of this Compatibility Plan, specifically, the policies in Chapters 2 and 3 and the maps in Chapters 4 through 11. Changes to the local agency's existing land use plan would be minimal. Policy reference to the Compatibility Plan would need to be added and direct land use or other conflicts with compatibility planning criteria would have to be removed. Limited discussion of compatibility planning issues could be included in the land use plan, but the substance of most compatibility policies would appear only in the stand-alone document.

- d) **Adopt Airport Combining District or Overlay Zoning Ordinance.** This approach is similar to the stand-alone document except that the local agency would not explicitly adopt the Compatibility Plan as policy. Instead, the compatibility policies would be restructured as an airport combining district or overlay zoning ordinance. A combining district or overlay zoning ordinance serves as an overlay to standard community-wide land use zones and modifies or limits the uses permitted by the underlying zone. Flood hazard combining zoning is a common example. An airport combining district or overlay zoning ordinance can be a convenient means of bringing various airport compatibility criteria into one place. The airport-related height-limit zoning that many local agencies have adopted for protecting airport airspace is a form of combining district zoning. Noise and safety compatibility criteria, together with procedural policies, would need to be added to create a complete airport compatibility zoning ordinance.
- 4) Other than where direct conflicts need to be eliminated from the land use plan, implementation of the compatibility policies would be accomplished solely through the combining district or overlay zoning ordinance. To be consistent with the Compatibility Plan, the land use plan can simply state it supports the ALUC by implementing its policies through the combining district or overlay zoning ordinance. An outline of topics that could be addressed in a combining district or overlay zoning ordinance is included in Appendix A.

## GP-16 Identification of Mechanisms for Compliance

Local agencies must define the mechanisms by which applicable compatibility criteria will be tied to an individual development and continue to be enforced.

## GP-17 Establishment of Review and Approval Process

Local agencies must define the process they will follow when reviewing and approving land use actions within an AIA to ensure that the development will be consistent with the policies in this Compatibility Plan. Possible methods to be used by local agencies in ensuring compatibility criteria are accurately assessed include establishing a standard checklist of review procedures or implementation of a GIS platform tracking all parcels within the applicable AIA(s).

- 1) The process established must ensure that the proposed development is consistent with the land use or zoning designation indicated in the local agency's general plan that the ALUC has previously found consistent with this Compatibility Plan and that the development's subsequent use or reuse will remain consistent over time. Consistency with other applicable compatibility criteria (e.g., maximum intensity limits, height limitations, sound attenuation, avigation easement dedication, and overflight notification) must be assessed.
- 2) This review process may be described either within land use plans themselves or in implementing ordinances. Local agencies satisfy the review process requirement through choosing one or more of these means:
  - a) Sufficient detail can be included in the general plan to enable the local agency to assess whether a proposed development fully meets the compatibility criteria specified in the applicable compatibility plan. These details should identify the compatibility criteria and describe land use action review and approval procedures.

- b) The ALUC's Compatibility Plan can be adopted by reference. In this case, the general plan must describe the land use action review and approval procedures in a separate policy document or memorandum of understanding that is presented to the ALUC for its approval.

## 2.8 Review Process for Other Land Use Actions

### GP-18 ALUC Consistency Determinations

When reviewing land use actions other than general plans, the ALUC is required to make one of the following determinations:

- 1) Find the land use action consistent with this Compatibility Plan.
- 2) Find the land use action consistent with this Compatibility Plan, subject to compliance with conditions and/or modifications that the ALUC may require. Any such conditions should be consistent with the policy provisions of this Compatibility Plan, and described in a manner that allows compliance to be clearly assessed.
- 3) Find the land use action inconsistent with the Compatibility Plan. In making a finding of inconsistency, the ALUC shall note the specific conflicts on which it based its determination of inconsistency.

### GP-19 Response Time – Other Land Use Actions

In responding to land use actions other than land use plans submitted for review, the policy of the ALUC is that:

- 1) Reviews of land use actions forwarded to the ALUC for a consistency determination shall be completed within 60 days of the date of “land use action submittal,” as defined in Paragraph (2) below. This response period does not begin until all information necessary for accomplishment of the land use action review has been submitted to the ALUC (Pub. Util. Code, § 21675.2(a) and 21676(d)).
- 2) The date of “land use action submittal” shall be the date on which all applicable land use action submittal information is received by the ALUC staff and the ALUC staff has determined the application to be complete (also see Policy GP-3, *Applicability to Land Use Actions Not Yet Completed*).
- 3) If the ALUC fails to make a determination within 60 days after ALUC staff has determined the application to be complete, the proposed land use action shall be deemed consistent with the Compatibility Plan unless the local agency agrees in writing to an extension beyond 60 days or so states at an ALUC public hearing on the action.
- 4) Regardless of any action or failure to act on the part of the ALUC, the proposed land use action still must comply with other applicable local, state, and federal laws and regulations.
- 5) The submitting agency shall be notified of the ALUC's determination in writing.

## GP-20 ALUC Response to Notification of Proposed Overruling

If a local agency proposes to overrule an ALUC decision regarding a land use project for which ALUC review is mandatory under this section, then the local agency must provide a copy of the proposed decision and findings to both the ALUC and the Division of Aeronautics at least 45 days prior to taking action. The ALUC and Division of Aeronautics have 30 days to provide the local agency with their comments (Pub. Util. Code, § 21676(a)-(b)). The ALUC may authorize the ALUC staff to respond to any notification of proposed overruling. The comments of the Division of Aeronautics and the ALUC are advisory, but must be made part of the record of final decision to overrule the ALUC (Pub. Util. Code, §§ 21676, 21676.5).

## GP-21 Subsequent Review – Other Land Use Actions

Even after a land use action has been found consistent or conditionally consistent with this Compatibility Plan, it may still need to be submitted for review in later stages of the planning process if any of the following are true:

- 1) At the time of the original ALUC review, the land use action information available was only sufficient to determine consistency with compatibility criteria at a planning level of detail, not at the design level. For example, the proposed land use designation indicated in a general plan may have been found consistent, but information on site layout, maximum density and intensity limits, building heights, and other such factors may not have yet been known that affect the consistency determination for a land use action.
- 2) The design of the land use action subsequently changes in a manner that affects previously considered compatibility issues and could raise questions as to the validity of the earlier finding of consistency. Proposed changes warranting a new review may include, but are not limited to, the following:
  - a) An increase in the density of use (number of dwelling units), intensity of use (more people on the site), or lot coverage;
  - b) An increase in the height of structures or modification of other design features; or
  - c) Major site design changes (such as incorporation of clustering or modifications to the configuration of open land areas proposed for the site).
- 3) The local agency concludes that further review is warranted.
- 4) At the time of the original ALUC review, conditions are placed on the land use action that require subsequent ALUC review.

## 2.9 Special Compatibility Considerations

### GP-22 Existing Nonconforming Uses

A nonconforming use describes a lawful use existing before the effective date of a new land use restriction that has since continued without conformation. Existing uses (including a parcel or

building) not in conformance with this Compatibility Plan are subject to the nonconforming use restrictions contained in state law and each local agency's respective land use regulations and zoning. The standards set forth by such state law and local agencies' land use regulations and zoning are incorporated by reference, and shall be utilized by the ALUC to determine when it has jurisdiction to review a nonconforming use. (See, e.g., Gov't Code, §§ 65852.150, 65852, allowing for secondary dwelling units.)

## GP-23 Development by Right

Except as specifically provided below, all policies provided in this Compatibility Plan shall apply to development by right. Nothing in these policies prohibits:

- 1) Other than in Safety Zone 1 (the runway protection zone), construction of a single-family home, including a second unit as defined by state law, on a legal lot of record as of the date of adoption of this ALUCP, if such use is permitted by local land use regulations.
- 2) Construction of other types of uses, if local agency approvals qualify the development as an existing land use.
- 3) Lot line adjustments, provided that new developable parcels would not be created and the resulting intensity of the affected property would not exceed the applicable criteria provided in Tables 3-1 and 3-2 of Chapter 3, *Humboldt County Airports Policies*.
- 4) The applicable sound attenuation, avigation easement dedication, overflight notification, and height requirements in the policies provided in Chapter 3, *Humboldt County Airports Policies*, and Policy GP-24, *Avigation Easement Dedication*, shall apply to development by right permitted under this policy.

## GP-24 Avigation Easement Dedication

As a condition for approval of the types of land use actions listed in Paragraph (1) below, the property owner shall be required to dedicate an avigation easement to the entity owning the airport.

- 1) An avigation easement is required for any land use action:
  - a) Where proposed structures, trees, or other objects would constitute an obstruction as determined by an FAA aeronautical study conducted subsequent to submittal of a Form 7460-1, *Notice of Proposed Construction or Alteration*;
  - b) Located on a site where the ground level penetrates or is within 35 feet of a Part 77 imaginary airspace surface or airspace surface as defined in the Humboldt County Code (Humboldt County Code, Tit. III, Div. 3, Ch.3, Chapter 3, *Airport Approach Zone Building Height Regulations*); or,
  - c) Situated on property lying within the projected 65 dB CNEL or greater contour (urban setting) or 60 dB CNEL or greater contour (rural setting) that has been designated as a conditional land use in Tables 3-1 and 3-2.
- 2) The avigation easement shall:

- a) Provide the right of flight in the airspace above the property;
  - b) Allow the generation of noise and other impacts associated with aircraft overflight;
  - c) Restrict the height of structures, trees, and other objects;
  - d) Permit access to the property for the removal or aeronautical marking of objects exceeding the established height limit; and
  - e) Prohibit electrical interference, glare, and other potential hazards to flight from being created on the property.
- 3) An example of an aviation easement is in **Appendix C**, *Sample Implementation Documents*.

## 2.10 Review of Airport Master Plans and Development Plans

### GP-25 Actions for which ALUC Review is Required

State law requires that, prior to modifying an airport master plan, the public agency owning the airport must submit the proposed modification to the ALUC for review (Pub. Util. Code, § 21676(c)). Additionally, for any airport expansion that entails modification or amendment of the Airport Permit issued by the Caltrans Division of Aeronautics, the public agency owning the airport must also submit the proposal to the ALUC (Pub. Util. Code, § 21664.5). Airport expansion is defined to include the construction of a new runway, the extension or realignment of an existing runway, and the acquisition of land within runway protection zones or the acquisition of any interest in land for the purposes identified above. Finally, any construction plans for a new airport must be submitted to the ALUC (Pub. Util. Code, § 21661.5).

- 1) Beyond these mandatory reviews, the ALUC has no authority over airport operations and other types of aviation-related development on airport property (see Section 1.9, *Definitions and Acronyms*, for a definition of aviation-related use).
- 2) Non-aviation development of airport property, however, is subject to ALUC review either on an individual land use action basis or, in a manner comparable to ALUC review of land use plans, as part of an airport master plan (See Policy GP-5, *Other Land Use Actions Subject to ALUC Review*).

### GP-26 Land Use Action Submittal Information

Any proposed new or amended airport master plan, airport expansion plan, or development plan for the airports submitted to the ALUC for review shall contain sufficient information to enable the ALUC to assess the noise, safety, airspace protection, and overflight impacts of airport activity upon surrounding land uses.

- 1) At a minimum, information to be submitted shall include:
  - a) A layout plan drawing of the proposed facility showing these locations:

- i) Property boundaries
  - ii) Runways or helicopter takeoff and landing areas
  - iii) Runway or helipad protection zones
  - iv) Aircraft or helicopter approach/departure flight routes.
- b) A map of the proposed airspace surfaces as defined by 14 CFR Part 77, if the proposal would result in changes to these surfaces.
  - c) Activity forecasts, including the number of operations by each type of aircraft proposed to use the facility, the percentage of day versus night operations, and the distribution of takeoffs and landings for each runway direction.
  - d) Existing and proposed flight track locations, current and projected noise contours, and other supplementary noise impact data that may be relevant.
  - e) A map showing existing and planned land uses in the areas affected by aircraft activity associated with implementation of the proposed master plan or development plan.
  - f) Any environmental document (initial study, negative declaration, mitigated negative declaration, environmental assessment, draft environmental impact report, draft environmental impact statement, etc.) that may have been prepared for the land use action.
  - g) Identification and proposed mitigation of impacts on surrounding land uses.
- 2) Applicable review fees, as established by the ALUC.

## GP-27 ALUC Action Choices

When reviewing airport master plans or expansion plans for the Airport, the ALUC's basic choices are to determine whether the proposal is consistent or inconsistent with this Compatibility Plan. However, there are also associated actions the ALUC may wish to take in connection with this determination.

- 1) When an inconsistency exists between an airport master plan and this Compatibility Plan, the ALUC has the option of first modifying this Compatibility Plan to reflect the assumptions and proposals in the airport master plan.
- 2) Plans for expansion of a runway system at an airport will normally be based on a long-range airport master plan previously reviewed by the ALUC. Therefore, the consistency review would only involve a comparison of the proposed expansion with the airport master plan.

## GP-28 Response Time

The ALUC must respond to submittal of an airport master plan, airport expansion plan/development plan, or plan for a new airport/heliport within 60 days from the date of land use action submittal (Pub. Util. Code, § 21676(d)).

- 1) The 60-day review period may be extended if the submitting agency agrees in writing or so states at an ALUC public hearing on the action.
- 2) The date of submittal is deemed to be the date on which all applicable land use action information is received by the ALUC and the ALUC determines that the application for a consistency determination is complete (see Policy GP-13, *Response Time - General Plans, Specific Plans, Zoning Ordinances, and Building Regulations*).
- 3) If the ALUC fails to make a determination within the time required or agreed upon, the proposed action shall be deemed consistent with this Compatibility Plan (Pub. Util. Code, § 21676(d)).
- 4) Regardless of action or failure to act on the part of the ALUC, the proposed action must comply with other applicable local, State, and federal regulations and laws.
- 5) The submitting agency shall be notified of the ALUC's action in writing.

## GP-29 ALUC Response to Notification of Proposed Overruling

If the agency owning the Airport proposes to overrule an ALUC action regarding the airport master plan or airport expansion/development plan, it must provide a copy of the proposed decision and findings to both the ALUC and the Division of Aeronautics at least 45 days prior to taking action. The ALUC and the Division of Aeronautics then have 30 days to respond to the agency with their comments (Pub. Util. Code, § 21676(c)). The ALUC may authorize the ALUC staff to respond to any notification of proposed overruling. The comments of the Division of Aeronautics and the ALUC are advisory, but must be made part of the record of final decision to overrule the ALUC.

## GP-30 Substance of Review

When reviewing airport master plans or airport expansion/development plans for airports, the ALUC shall determine whether activity forecasts or proposed facility development identified in the plans differ from the forecasts and development assumed for that airport in this Compatibility Plan. Attention should specifically focus on:

- 1) Activity forecasts that are:
  - a) Significantly higher or lower than those in this Compatibility Plan; or
  - b) Include a higher or smaller proportion of larger or noisier aircraft.
- 2) Proposals to:
  - a) Construct a new runway or helicopter takeoff and landing area;
  - b) Change the length, width, or landing threshold location of an existing runway; or
  - c) Establish an instrument approach procedure.
  - d) Elimination of airfield features (i.e., closure of a runway or helipad).



## 2.11 Types of Airport Impacts

### GP-31 Principal Compatibility Concerns

As established by state law (Pub. Util. Code, § 21670), the ALUC has the responsibility “to provide for the orderly development of airports” and “to prevent the creation of new noise and safety problems.” ALUC policies thus have the dual objectives of: (1) protecting against constraints on airport expansion and operations that can result from encroachment of incompatible land uses, and (2) minimizing the public's exposure to excessive noise and safety hazards.

- 1) To meet these objectives, this Compatibility Plan addresses potential airport compatibility impacts related to four specific airport-related factors/layers;
  - a) Noise - Exposure to aircraft noise.
  - b) Safety - Land use that affects safety for people on the ground and in aircraft.
  - c) Airspace Protection - Protection of airport airspace.
  - d) Overflight - Annoyance and other general concerns related to aircraft overflights.
- 2) Compatibility policies concerning each of these factors/layers are enumerated in Chapter 3, *Humboldt County Airports Policies*. Each factor/layer is addressed separately. Proposed land use actions must comply with the compatibility policies and maps for each compatibility factor/layer, as well as all other policies in this Compatibility Plan.

### GP-32 Policy Objectives

For each compatibility factor/layer, specific policy objectives are as follows:

- 1) **Noise:** The purpose of noise compatibility policies is to avoid the establishment of new incompatible land uses and exposure of the users of those land uses to aircraft noise levels that can disrupt their intended activities. The characteristics of the airport and the surrounding community are taken into account in determining the level of noise deemed acceptable for each type of land use.
- 2) **Safety:** The purpose of safety compatibility policies is to minimize the risks of an off-airport aircraft accident or emergency landing. Risks to people and property on the ground in the vicinity of an airport and to people on board aircraft are considered.
- 3) **Airspace Protection:** The purpose of airspace protection compatibility policies is to ensure that structures and other land uses do not cause hazards to aircraft in flight within the vicinity of an airport. Hazards to flight include, but are not limited to:
  - a) Physical obstructions to the navigable airspace (i.e., trees, structures, or other site features penetrating established airspace surfaces)
  - b) Hazardous wildlife attractants, including but not limited to:
    - i) Sanitary landfills and sewer systems, wetlands, stormwater management facilities, agricultural areas, parks, golf courses, landscaping natural resources, and natural areas all have the potential to create wildlife hazard attractants on or near airports.

- c) Land use characteristics that create visual, electronic, or thermal interference with aircraft navigation or communication (i.e., highly reflective building surfaces, antenna arrays, and upward directed industrial exhaust vents).
  
- 4) **Overflight:** Given that sensitivity to aircraft overflight varies from one person to another, the purpose of overflight compatibility policies is to help notify people about the presence of overflights near airports, so that they can make better-informed decisions regarding purchase or lease of property in the affected areas. Noise from aircraft overflights, especially by comparatively loud aircraft, can be intrusive and annoying in locations beyond the limits of the mapped CNEL contours.

# CHAPTER 3

## Humboldt County Airports Policies

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### 3.1 Chapter Overview

The policies provided in this chapter of the Compatibility Plan function together with the general policies presented in Chapter 2, *General Policies and Plan Implementation*. While the policies in Chapter 2 establish the procedures by which the ALUC conducts compatibility reviews for certain proposed land use actions and airport-related actions within the AIA for each Airport, the policies in this chapter identify the substantive compatibility criteria and policies used during the compatibility reviews. Maps identifying the boundaries of each Airport's AIA, as well as the boundaries of each compatibility factor (i.e., noise, safety, airspace protection, and overflight notification) are provided in Chapters 4 through 11. The Chapter 2 and 3 policies, when applied in conjunction with the maps in Chapters 4 through 11, as applicable, will form the basis from which the ALUC evaluates proposed land use actions.

### 3.2 Noise Compatibility Policies

Aircraft noise is typically the most recognizable issue for people living and working in the vicinity of an airport. Depending on the size of the airport and the type of aircraft operating there, aircraft noise can be experienced over large areas. Accordingly, aircraft noise is one of the primary motivators for land use compatibility planning.

The aircraft noise analyses prepared for this Draft ALUCP used the FAA-approved Aviation Environmental Design Tool (AEDT), Version 2d. AEDT 2d is the FAA's required tool for modeling noise, fuel burn, and emissions generated by FAA actions. This version of AEDT was released in September 2017 and represents the state of the art in noise modeling for airport and airspace actions. The model is recognized by the State of California as the appropriate tool for aircraft noise assessments.

For purposes of this draft ALUCP, noise is described using the Community Noise Equivalent Level (CNEL) metric. CNEL is the standard noise metric used for aircraft noise analyses in the State of California. The metric is used to describe noise exposure cumulatively for an annual-average day of aircraft operations. The annual-average day represents all aircraft operations for every day in a year divided by 365, the number of days in a year. This is intended to represent a typical day of operations within a study year. The CNEL for this annual-average day is calculated by mathematically combining the number of single noise events that occur during this period (24 hours) with how loud the events were and what time of day they occurred. The CNEL metric addresses the fact that noise events occurring after 7:00 p.m. and before 7:00 a.m. are considered

more intrusive by adding noise penalties. The penalized time period is further subdivided into evening (7:00 p.m. through 9:59 p.m.) and nighttime (10:00 p.m. to 6:59 a.m.). CNEL treats every evening operation as though it were three operations and every nighttime operations as though it were ten operations. This “weighting” adds a 4.77 dB penalty during the evening hours and a 10 dB penalty during the nighttime hours. The noise contours presented in this draft ALUCP depict noise exposure in terms of CNEL.

The noise model results are displayed as noise exposure contours. Contours representing areas exposed to aircraft noise levels of CNEL 50, 55, 60, 65, 70, and 75 and higher dB were calculated and used to prepare the policy maps presented in Chapters 4 through 11. Each contour represents areas exposed to equivalent noise within a 5-dB CNEL band (e.g., CNEL 50-55 dB).

The assumptions used to model the CNEL contours for the County’s Airports are provided in **Appendix H**, *Noise Modeling Assumptions*.

## NP-1 Noise Impact Area

The CNEL contours depicted in Chapters 4 through 11 define the noise impact area for each airport. The threshold for evaluation is the projected CNEL 50 dB contour. All land uses located outside the CNEL contours for the County’s airports as provided in this ALUCP are considered consistent with the noise compatibility policies.

## NP-2 Evaluating Acceptable Noise Levels for New Development

The noise compatibility of proposed land use actions within the AIA of each airport shall be evaluated in accordance with the policies set forth in this section, using the criteria listed in Table 3-1 and the CNEL contours depicted in Chapters 4 through 11. The land uses shown in Table 3-1 are generalized. A crosswalk, identifying permissible land uses as provided in the zoning ordinances of the Cities of Eureka and Fortuna and Humboldt County that fall within the generalized land uses in Table 3-1 is provided in **Appendix D**, *Land Use Crosswalk*.

## NP-3 Measures of Noise Compatibility

The criteria presented in Table 3-1 indicate the maximum acceptable airport-related noise levels, measured in terms of CNEL, for residential and a range of nonresidential land uses.

Factors considered in setting the noise compatibility criteria include the following:

- 1) Established federal and state regulations and guidelines. (See, e.g., Caltrans Handbook, pp. 3-2 to 3-5.)
- 2) The ambient noise levels in the community. Ambient noise levels influence the potential intrusiveness of aircraft noise upon a particular land use and vary greatly between rural and urban communities.

- 3) The extent to which noise would intrude upon and interrupt the activity associated with a particular use.
- 4) The extent to which the activity itself generates noise.
- 5) The extent of outdoor activity associated with a particular land use.
- 6) The extent to which indoor uses associated with a particular land use may be made compatible with application of sound attenuation in accordance with Policy NP-6, *Interior Noise Levels*.

## NP-4 Acceptable Noise Levels for Specific Types of Land Use Actions

- 1) The maximum airport-related noise level considered compatible for new residential development is 60 dB CNEL. (See, e.g., Caltrans Handbook, pp. xi, 4-4 to 4-12.)
- 2) The compatibility of new non-residential development with Airport-related noise levels is indicated in Table 3-1.
  - a) Land uses not specifically listed shall be evaluated using compatibility criteria for similarly listed uses, as determined by the ALUC.
- 3) Dedication of an aviation easement in accordance with Policy GP-24, *Aviation Easement Dedication*, presented in Chapter 2, *General Policies and Plan Implementation*, is a requirement for conditionally compatible land uses within the 60 dB CNEL contour (see Table 3-1.)

## NP-5 Application of Noise Contours to Individual Project Sites to Determine Compatibility

Projected noise contours are inherently imprecise, especially at GA airports, because flight paths and other factors that influence noise emissions are variable and activity forecasts are always uncertain. Given this imprecision, CNEL contours shall be used in assessing the compatibility of a proposed use at a specific development site, as follows:

- 1) In general, the highest CNEL to which 10 percent or more of a project site is anticipated to be exposed to shall be used in evaluating the compatibility of development over the entire site.
- 2) An exception to this policy is where no part of the buildings or residential unit(s) proposed on the site fall within the higher CNEL range; the compatibility criteria for the CNEL range where the buildings are located shall apply.

## NP-6 Interior Noise Levels

Land uses for which indoor activities may be easily disrupted by noise shall be required to comply with the interior noise level compatibility criteria, as provided in Table 3-1.

- 1) The CNEL contours depicted in Chapters 4 through 11 shall be used in calculating compliance with these criteria. The calculations should assume that windows are closed. When structures are part of a proposed land use action submitted to the ALUC for review, evidence that proposed structures will be designed to comply with the sound attenuation requirements specified in Table 3-1 must be provided, when applicable.
- 2) When a proposed building lies within two or more CNEL contours, the most restrictive noise compatibility criteria shall apply for purposes of determining sound attenuation requirements.
- 3) Exceptions to the sound attenuation requirements specified in Table 3-1 may be allowed, as determined by the ALUC, where evidence is provided that the indoor noise generated by the use itself exceeds the indoor noise level criteria.

**TABLE 3-1  
NOISE COMPATIBILITY CRITERIA**

Land Use Category	Exterior Noise Exposure (dB CNEL)					
	50-55	55-60	60-65 <sup>1</sup>	65-70 <sup>1</sup>	70-75 <sup>1</sup>	75-80 <sup>1</sup>
<b>Agriculture</b>						
Agriculture (except residences and livestock)	C	C	C	C	C	C
Livestock/Animal Husbandry	C	C	C	C	C	C
<b>Assembly - Public, Fraternal, Other</b>						
Assembly Facilities - Indoor	C	C	CC 50	CC 50	I	I
Assembly Facilities - Outdoor	C	C	CC	CC	I	I
<b>Commercial - Lodging/Retail/Office</b>						
Eating/Drinking Establishments	C	C	C	CC 50	CC 50	I
Lodging	C	C	CC 45	CC 45	I	I
Professional Office	C	C	C	CC 50	CC 50	I
Retail/Sales – Indoor Oriented	C	C	C	CC 50	CC 50	I
Retail/Sales – Outdoor Oriented	C	C	CC	CC	CC	I
<b>Institutional</b>						
Cemeteries/Mortuaries	C	C	CC 45	CC 45	CC 45	I
Children’s Schools/Daycare Centers	C	C	CC 45	I	I	I
College/University/Trade Schools	C	C	CC 45	I	I	I
Hospitals/Nursing Homes	C	C	CC 45	I	I	I
Library/Museum/Gallery	C	C	CC 45	I	I	I
Public Buildings	C	C	CC 45	I	I	I
<b>Manufacturing/Processing</b>						
Manufacturing/Processing	C	C	C	C	C	CC
<b>Warehousing/Storage</b>						
Materials Storage	C	C	C	C	C	CC

**TABLE 3-1  
NOISE COMPATIBILITY CRITERIA**

Land Use Category	Exterior Noise Exposure (dB CNEL)					
	50-55	55-60	60-65 <sup>1</sup>	65-70 <sup>1</sup>	70-75 <sup>1</sup>	75-80 <sup>1</sup>
<b>Recreation/Parks/Open Space</b>						
Open Space	C	C	CC	CC	CC	I
Parks	C	C	CC	CC	CC	I
Recreation	C	C	C	CC	CC	I
<b>Residential</b>						
Single Family Residential	C	CC 45	CC 45	I	I	I
Multifamily Residential	C	C	CC 45	I	I	I
Manufactured Home Parks	C	C	CC 45	I	I	I
Group Quarters	C	C	CC 45	I	I	I
<b>Services - Commercial/Public</b>						
Service Uses	C	C	C	C	CC 50	I
<b>Transportation/Utilities</b>						
Critical Community Infrastructure						
Transportation (right-of-way, parking, transit lines)						
Transportation (passenger and freight terminals and stations)	C	C	C	C	C	CC
Utilities (communication, power, and water transmission facilities and infrastructure)						

**Legend**

Land Use Acceptability	Interpretation/Comments
C	<p>Compatible</p> <p><i>Indoor Uses:</i> Standard construction methods will sufficiently attenuate exterior noise to an acceptable indoor community noise equivalent level (CNEL)</p> <p><i>Outdoor Uses:</i> Activities associated with the land use may be carried out with essentially no interference from aircraft noise</p>
CC ## CC	<p>Conditionally Compatible</p> <p><i>Indoor Uses:</i> Building structure must be capable of attenuating exterior noise to the indoor CNEL indicated by the number; standard construction methods will normally suffice</p> <p><i>Outdoor Uses:</i> CNEL is acceptable for outdoor activities, although some noise interference may occur; caution should be exercised with regard to noise-sensitive uses</p>
I	<p>Incompatible</p> <p><i>Indoor Uses:</i> Unacceptable noise interference if window are open; at exposures above 65 dB CNEL, extensive mitigation techniques required to make the indoor environment acceptable for performance of activities</p> <p><i>Outdoor Uses:</i> Severe noise interference makes outdoor activities unacceptable</p>

NOTES:

1. An avigation easement is required for properties within the 60 dB CNEL or greater contour (consistent with Policy GP-24, *Avigation Easement Dedication*).

### 3.3 Safety Compatibility Policies

Compared to noise, safety can be a more difficult concern to address with compatibility policies. While noise policies deal with known, predictable events that occur with every aircraft operation, safety policies address uncertain events that may (or may not) occur with an occasional aircraft operation. Because aircraft accidents happen infrequently and the time, place, and consequences of their occurrence cannot be predicted, the concept of risk is central to the assessment of safety compatibility. From the standpoint of land use planning, two variables determine the degree of risk posed by potential aircraft accidents:

- Accident Frequency: Where and when aircraft accidents occur in the vicinity of an airport; and
- Accident Consequences: Land uses and land use characteristics that affect the severity of an accident when one occurs.

In an attempt to define the geography of risk around an airport, the Caltrans Handbook includes an analysis of more than ten years of aircraft accident data; identifying general accident patterns around airports. While precedent is not predictive of future events (i.e., because accidents occur in certain locations does not guarantee that it will happen again in the exact same places), this information provides a reasonable basis for defining broad areas within which a significant number of aircraft accidents have occurred in the past. Based on this data, the Caltrans Handbook identifies a series of six safety zones, which are defined as follows:

- Safety Zone 1 (Runway Protection Zone)
- Safety Zone 2 (Inner Approach/Departure Zone)
- Safety Zone 3 (Inner Turning Zone)
- Safety Zone 4 (Outer Approach/Departure Zone)
- Safety Zone 5 (Sideline Zone) and
- Safety Zone 6 (Airport Traffic Pattern Zone)

Because there is likely to be less activity in the traffic pattern zone, Safety Zone 6 is not typically included in safety zones for large air carrier airports with minimal GA activity and small GA airports with few operations (fewer than 2,000 takeoffs and landings per year at an individual runway end).

#### SP-1 Evaluating Safety Compatibility for New Development

The safety compatibility of proposed land use actions within the airport safety zones shall be evaluated in accordance with the policies set forth in this section and the compatibility criteria provided in Table 3-2. The land uses shown in Table 3-2 are generalized. A crosswalk, identifying permissible land uses as provided in the zoning ordinances of the Cities of Eureka and Fortuna and Humboldt County that fall within the generalized land uses in Table 3-1 is provided in Appendix D. The safety zones for each Airport are presented in Chapters 4 through 11.



- 1) The safety zones illustrated in Chapters 4 through 11 are based on the safety zone guidance provided in the Caltrans Handbook. (See Caltrans Handbook, pp. 3-15 to 3-28) and adjusted to reflect operating conditions at each of the County’s Airports.

## SP-2 Measures of Safety Compatibility

To minimize risks to people and property on the ground and to people onboard aircraft, the safety compatibility criteria set limits on:

- 1) The density of residential dwelling units in areas most susceptible to aircraft accidents.
- 2) The intensity of nonresidential development in areas most susceptible to aircraft accidents.
- 3) The development or expansion of certain uses that represent special safety concerns regardless of the number of people present.
- 4) The extent to which development covers the project site and thus limits the options of where an aircraft in distress can attempt an emergency landing.

## SP-3 Factors Considered in Setting Safety Compatibility Criteria

The principal factors considered in setting criteria applicable within each safety zone are:

- 1) The proximity to an airport within which aircraft accidents typically occur. The most stringent land use controls shall be applied to the areas with the greatest potential risks. The risk information utilized is the GA accident data and analyses contained in the Caltrans Handbook.
- 2) The runway length, runway instrumentation, and volume and type of aircraft operations, are the primary factors used in adjusting the sizes of the safety zones, rather than the criteria applicable within each zone.

## SP-4 Residential Development Criteria

Criteria applicable to proposed residential development in the vicinity of the airports are provided in Table 3-2.

- 1) Residential building sites may need to be clustered in a manner that maximizes the “open land” on which an aircraft could execute an emergency landing.
  - a) Clustering is mandatory for land use actions of 10 or more acres, with one “open land” area to be dedicated per every 10 acres of the site.
  - b) For land use actions of less than 10 acres, compliance with the clustering conditions is desirable, but not required as a condition for land use action approval.

## SP-5 Nonresidential Development Criteria

- 1) For the purposes of this Compatibility Plan, the fundamental measure of risk exposure for people on the ground in the event of an aircraft accident is the number of people per acre concentrated in areas most susceptible to aircraft accidents. This measure is the chief determinant of whether particular types of nonresidential development are designated as “incompatible,” “conditionally compatible,” or “compatible.”
  - a) The maximum acceptable intensity is calculated as people per acre on a site-wide average. **Appendix F, *Methods for Calculating Intensity***, provides methodologies for determining concentrations of people.
  - b) Land use types listed as “compatible” are presumed to meet the above usage intensity criteria without constraints on the development.
  - c) Maximum intensity calculations shall include all people (e.g., employees, customers, visitors) who may be on the property at any single point in time, whether indoors or outdoors.
  - d) Local agencies may make exceptions for rare special events (e.g., an air show at an airport) for which a facility is not designed and normally not used, and for which extra safety precautions can be taken as appropriate.
- 2) Evaluation of the compatibility of a proposed nonresidential land use action shall be made using the land use types listed in Table 3-2.
  - a) Proposed development for which no land use type is listed shall be evaluated by ALUC staff using a comparable land use identified in the table. The appropriate evaluation criteria for any proposed land use shall be determined by ALUC staff.

## SP-6 Mixed-Use Development

Where a combination of residential and nonresidential land use types is proposed for a single land use action, the following policies apply:

- 1) Development in which residential uses are proposed to be located along with nonresidential uses on the same site must meet both the residential and nonresidential criteria of the applicable safety zone(s). Additionally, the occupancy of the residential portion shall be added to that of the nonresidential portion and the total occupancy shall be evaluated with respect to the nonresidential usage intensity criteria.<sup>2</sup>
  - a) Except as limited by Paragraph (2) below, this mixed-use development policy is intended for dense, urban-type developments where the overall usage intensity and ambient noise levels are relatively high. The policy is not intended to apply to land use actions in which the residential component is isolated from the nonresidential uses of the site.

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<sup>2</sup> Total occupancy of residential portions of mixed-use developments should be calculated by multiplying the number of residential units by the median household size for the applicable census block for the most recent decennial census.

- b) Mixed-use development shall not be allowed where the residential component would be exposed to noise levels above the limits set in Policy NP-4, *Acceptable Noise Levels for Specific Types of Land Use Actions*.
- 2) Where proposed development will contain a mixture of separately listed nonresidential uses, each component use must comply with the applicable criteria.

## SP-8 Maximum Lot Coverage

All “conditionally compatible” development in Safety Zones 2, 3, 4, and 5 shall adhere to the maximum lot coverage limitations indicated in Table 3-2. No structures are permitted in Safety Zone 1 and there are no limits on lot coverage in Safety Zone 6. All structures, including parking structures and support buildings, shall be counted when determining maximum lot coverage. In addition:

- 1) On land use action sites of 10 acres or more, structures and other large objects shall be arranged so as to meet the “open land” criteria at the rate of one “open land” area per every 10 acres of the site.
- 2) On land use action sites of less than 10 acres, provision of “open land” areas are desirable, but not required.

## SP-9 “Open Land”

In the event that a light aircraft is forced to land away from an airport, the risks to the people on board can best be minimized by providing as much “open land” area as possible within the airport vicinity. This concept is based upon the fact that the majority of light aircraft accidents and incidents occurring away from an airport runway are controlled emergency landings in which the pilot has reasonable opportunity to select the landing site. For business jets and other large or fast aircraft, including most military aircraft, the provision of “open land” for emergency landing purposes has minimal benefit unless the areas are very large and flat.

- 1) “Open land” criteria are applicable to all GA airport runways in that even the runways frequently used by business jets are mostly used by light aircraft.
- 2) To qualify as “open land” an area must:
  - a) Have minimum dimensions of approximately 75 feet by 300 feet (0.5 acres).
  - b) Consist of level (maximum 5% slope) ground with no major surface irregularities.
  - c) Be free of most structures and other major obstacles, such as walls, large trees or poles (greater than 4 inches in diameter, measured 4 feet above the ground), and overhead wires.
  - d) Not have buildings or other large obstacles more than 15 feet in height situated within 100 feet beyond the ends of the “open land” area. Shorter objects and ground surface irregularities are allowed. This clear airspace is intended to enhance the potential for aircraft to descend to an “open land” area.

- 3) “Open land” areas should be oriented with the typical direction of aircraft flight over the location involved.
- 4) Roads and automobile parking lots are acceptable as “open land” areas if they meet the above criteria.
- 5) “Open land” criteria for each safety zone are most appropriately applied with respect to the entire zone. Individual parcels may be too small to accommodate the minimum size open area requirement. Consequently, the identification of “open land” areas must initially be accomplished at the general plan level or as part of large (10 acres or more) land use actions.
- 6) Clustering of development, subject to the limitations noted in Policy SP-10, *Limits on Clustering of Nonresidential Development*, below, and providing contiguous landscaped and parking areas is encouraged as a means of increasing the size of “open land” areas.
- 7) Building envelopes and the airport compatibility zones should be indicated on all development plans and tentative maps for land use actions located within each AIA covered by this Compatibility Plan. Portraying this information is intended to ensure that individual land use actions provide the “open land” areas identified in the applicable general plan. \

## SP-10 Limits on Clustering of Nonresidential Development

As used in this Compatibility Plan, “clustering” refers to the concentration of development (measured in terms of people per acre) into a portion of the site, leaving other portions of the site relatively less developed or as “open land.” To a degree, clustering of development is desirable from an airport land use safety compatibility perspective in that more places where an aircraft can attempt an emergency landing would then potentially remain. However, clustering poses the risk that an out-of-control aircraft could strike the location where the development is clustered. To guard against this risk, limitations on the maximum concentrations of people in a small area of a large project site are appropriate.

## SP-11 Land Use Action Sites Lying within Two or More Safety Zones

For the purpose of evaluating consistency with the compatibility criteria, any parcel that is split by compatibility zone boundaries shall be considered as if it were multiple parcels divided at the boundary line.

- 1) Where no part of the building(s) proposed on the parcel/site fall within the more restrictive safety zone, the criteria for the safety zone where the proposed building(s) are located shall apply for the purposes of evaluating the compatibility of the proposed uses and determining other conditions to be placed upon the proposed land use action.
- 2) Where the building(s) proposed on the parcel/site fall within multiple safety zones, the criteria for the most restrictive safety zone where the building(s) proposed are located shall apply for purposes of evaluating the compatibility of the proposed use and for determining other conditions to be placed upon the proposed land use action.

## SP-12 Special Provisions for Safety Zone 1

In accordance with FAA Advisory Circular 150/5300-13A, *Airport Design*, the basic compatibility criteria for Safety Zone 1 (the runway protection zone) preclude most uses, including any new structures and uses having an assemblage of people.

- 1) The presumption is that the airport owner owns or intends to acquire property interests—fee title or easements—sufficient to effectuate this policy. The ALUC policy is to encourage airport owner acquisition of these property interests in all of Safety Zone 1 with funding assistance from the FAA.
- 2) In instances where the affected property is privately owned and the airport owner does not intend to acquire property interests, the following uses and only these uses shall be considered acceptable:
  - a) Farming that meets airport design standards (see AC 150/5300-13A, *Airport Design*).
  - b) Irrigation channels that meet the requirements of AC 150/5200-33B and FAA/USDA manual, *Wildlife Hazard Management at Airports*.
  - c) Airport service roads, as long as they are not public roads and are directly controlled by the airport operator.
  - d) Underground facilities, as long as they meet other design criteria, such as RSA requirements, as applicable.
  - e) Unstaffed airport navigational aids (NAVAIDs) and facilities, such as equipment for airport facilities that are considered fixed-by-function in regard to the RPZ.
- 3) The acceptability of uses not listed shall be consistent with FAA Advisory Circular 150/5300-13, *Airport Design*, and the ALUC determination shall be made in consultation with the FAA and the airport owner.

**TABLE 3-2  
SAFETY COMPATIBILITY CRITERIA**

Land Use Category Note: Multiple categories may apply to a land use action.	Safety Zone							Criteria for Conditionally Compatible Uses (Yellow Colored Cells) (The numbers below refer to safety zones in which additional conditions beyond the Maximum Residential Density, Maximum Nonresidential Intensity, and Maximum and Lot Coverage limits (provided to the left) are applicable)
	1	2	3	3*	4	5	6	
<b>Maximum Residential Density</b> (Dwelling Units/Acre)	0	0.10	0.50	4 <sup>a</sup>	0.50	1	no limit <sup>1</sup>	
<b>Maximum Nonresidential Intensity</b> (Average Number of People/Acre)	0	40	70	70	100	70	300	
<b>Maximum Single Acre</b>	0	80	210	210	300	210	600	
<b>Maximum Lot Coverage</b> (Building Footprint)	0%	50%	60%	60%	70%	70%	100%	
<b>Agriculture</b>								
Agriculture (except residences and livestock)	CC	C	C	C	C	C	C	1: Outdoor crop production and aquaculture only. No orchards, timber production, or new structures (e.g., greenhouses) are allowed.
Livestock/Animal Husbandry	CC	C	C	C	C	C	C	1: Grazing activity only. No new structures (e.g., barns, stables, feed lots) are allowed.
Timber Production	I	CC	CC	CC	CC	CC	C	2, 3, 4, and 5: Allowed if compliant with Noise and Airspace Protection Compatibility Policies.
<b>Assembly - Public, Fraternal, Other</b>								
Small Assembly Facilities - Indoor	I	I	I	I	CC	I	C	4. See applicable Maximum Nonresidential Intensity and Lot Coverage limits above.
Large Assembly Facilities - Indoor	I	I	I	I	I	I	C	
Major Assembly Facilities – Indoor	I	I	I	I	I	I	C	
Small Assembly Facilities - Outdoor	I	I	I	I	CC	I	C	4. See applicable Maximum Nonresidential Intensity and Lot Coverage limits above.
Large Assembly Facilities - Outdoor	I	I	I	I	I	I	C	
Major Assembly Facilities – Outdoor	I	I	I	I	I	I	CC	6. If possible, outdoor stadiums and similar high intensity uses should be avoided. If parcel is partially located in Safety Zone 6, the facility should be situated outside the safety zones unless an alternative location is unavailable. Limited to maximum nonresidential intensity for Safety Zone 6.
<b>Commercial - Lodging/Retail/Office</b>								
Eating/Drinking Establishments	I	CC	CC	CC	C	CC	C	2, 3, and 5: Limited to businesses selling food and/or beverages primarily for off-premise consumption (e.g., fast-food or carryout restaurants, coffee shops, juice/smoothie bars.).
Lodging	I	CC	CC	CC	C	CC	C	2: Limited to single-story buildings. 3: Limited to buildings less than three-stories. 5: Hotels allowed if compliant with Noise and Airspace Protection Compatibility Policies.
Professional Office	I	CC	CC	CC	C	CC	C	2, 5: Limited to single-story buildings. 3, 4: Limited to buildings less than three-stories.

**TABLE 3-2  
SAFETY COMPATIBILITY CRITERIA**

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	1	2	3	3*	4	5	6	
<b>Maximum Residential Density</b> (Dwelling Units/Acre)	0	0.10	0.50	4 <sup>a</sup>	0.50	1	no limit <sup>1</sup>	
<b>Maximum Nonresidential Intensity</b> (Average Number of People/Acre)	0	40	70	70	100	70	300	
<b>Maximum Single Acre</b>	0	80	210	210	300	210	600	
<b>Maximum Lot Coverage</b> (Building Footprint)	0%	50%	60%	60%	70%	70%	100%	
Retail/Sales – Outdoor Oriented	I	CC	CC	CC	CC	I	C	2, 3, 4: See applicable Maximum Nonresidential Intensity and Lot Coverage limits above.
Retail/Sales - Service Uses	I	CC	CC	CC	CC	I	C	2, 3, 4: See applicable Maximum Nonresidential Intensity and Lot Coverage limits above.
Retail/Sales – Stand Alone Retail	I	CC	CC	CC	C	I	C	2, 3: See applicable Maximum Nonresidential Intensity and Lot Coverage limits above.
Retail/Sales - Larger Format (≥20,000 sq. ft. - <50,000 sq. ft.)	I	I	I	I	CC	I	C	4: See applicable Maximum Nonresidential Intensity and Lot Coverage limits above.
Retail/Sales - Big-Box/Shopping Centers (≥50,000 sq. ft.)	I	I	I	I	CC	I	C	4: See applicable Maximum Nonresidential Intensity and Lot Coverage limits above.
<b>Institutional</b>								
Cemeteries/Mortuaries	I	CC	CC	CC	CC	CC	C	2, 3, 4, and-5: No places of assembly.
Children's' Schools/Daycare Centers	I	I	I	I	I	I	C	
College/University/Trade Schools	I	I	CC	CC	CC	I	C	3: See applicable Maximum Nonresidential Intensity and Lot Coverage limits above.
Hospitals/Nursing Homes	I	I	I	I	I	I	C	
Library/Museum	I	I	CC	CC	CC	I	C	3: Caution should be exercised regarding potential noise interference.
Public Buildings	I	I	CC	CC	CC	CC	C	3, 4: Limited to buildings less than three-stories. 5: Airport-related business only.
<b>Manufacturing/Processing</b>								
Manufacturing/Processing - Hazardous	I	I	I	I	I	I	CC	6: Allowed only if site outside zone would not serve intended function.
Manufacturing/Processing - Low Hazard	I	CC	C	C	C	C	C	2: Allowed only if site outside zone would not serve intended function.
<b>Warehousing/Storage</b>								
Materials Storage - Hazardous	I	I	I	I	I	I	CC	6: Allowed only if site outside zone would not serve intended function.
Materials Storage - Low Hazard	I	C	C	C	C	C	C	1: No new structures are allowed. No objects or structures are allowed in the Object Free Area or Object Free Zone.
<b>Recreation/Parks/Open Space</b>								
Open Space	CC	C	C	C	C	C	C	1: No new structures are allowed.
Parks	I	CC	CC	CC	C	I	C	2, 3: No group recreational activities allowed.
Recreation	I	CC	CC	CC	C	I	C	2, 3: No group recreational activities allowed.

**TABLE 3-2  
SAFETY COMPATIBILITY CRITERIA**

Land Use Category Note: Multiple categories may apply to a land use action.	Safety Zone							Criteria for Conditionally Compatible Uses (Yellow Colored Cells) (The numbers below refer to safety zones in which additional conditions beyond the Maximum Residential Density, Maximum Nonresidential Intensity, and Maximum and Lot Coverage limits (provided to the left) are applicable)
	1	2	3	3*	4	5	6	
<b>Maximum Residential Density</b> (Dwelling Units/Acre)	0	0.10	0.50	4 <sup>a</sup>	0.50	1	no limit <sup>1</sup>	
<b>Maximum Nonresidential Intensity</b> (Average Number of People/Acre)	0	40	70	70	100	70	300	
<b>Maximum Single Acre</b>	0	80	210	210	300	210	600	
<b>Maximum Lot Coverage</b> (Building Footprint)	0%	50%	60%	60%	70%	70%	100%	
<b>Residential</b>								
Single Family Residential	I	CC	CC	CC	CC	CC	C	2: Limited to infill in areas developed with similar land uses. 3, 4: See applicable Maximum Residential Densities and Lot Coverage limits above. 5: Yards and accessory buildings can be sited in Safety Zone 5, but dwelling units must be sited outside safety zone.
Multifamily Residential	I	CC	CC	CC	CC	I	C	2: Limited to infill in areas developed with similar land uses. 3, 4: See applicable Maximum Residential Density and Lot Coverage limits above.
Manufactured Homes	I	CC	CC	CC	CC	CC	C	2: Limited to infill in areas developed with similar land uses. 3, 4: See applicable Maximum Residential Density and Lot Coverage limits above. 5: Yards and accessory buildings can be sited in Safety Zone 5, but dwelling units must be sited outside safety zone.
Group Quarters	I	I	I	I	CC	I	C	4: Allowed only if site outside zone would not serve intended function.
<b>Transportation/Utilities</b>								
Critical Community Infrastructure	I	CC	CC	CC	CC	I	C	2, 3, and 4: Emergency and infrastructure services only services only. No day-care centers, schools, parks, or playgrounds allowed.
Transportation (right-of-way, parking, transit lines)	I	C	C	C	C	C	C	
Transportation (passenger and freight terminals and stations)	I	C	C	C	C	C	C	
Utilities (communication, power, and water transmission facilities and infrastructure)	I	CC	CC	CC	CC	CC	C	2, 3, 4, and 5: Allowed if compliant with Noise and Airspace Protection Compatibility Policies.



**TABLE 3-2  
SAFETY COMPATIBILITY CRITERIA**

Land Use Category Note: Multiple categories may apply to a land use action.	Safety Zone							Criteria for Conditionally Compatible Uses (Yellow Colored Cells) (The numbers below refer to safety zones in which additional conditions beyond the Maximum Residential Density, Maximum Nonresidential Intensity, and Maximum and Lot Coverage limits (provided to the left) are applicable)
	1	2	3	3*	4	5	6	
<b>Maximum Residential Density</b> (Dwelling Units/Acre)	0	0.10	0.50	4 <sup>a</sup>	0.50	1	no limit <sup>1</sup>	
<b>Maximum Nonresidential Intensity</b> (Average Number of People/Acre)	0	40	70	70	100	70	300	
<b>Maximum Single Acre</b>	0	80	210	210	300	210	600	
<b>Maximum Lot Coverage</b> (Building Footprint)	0%	50%	60%	60%	70%	70%	100%	

**Legend**

Land Use Acceptability	Interpretation/Comments
<b>C</b>	Compatible Use is acceptable without safety-related conditions (noise, airspace protection, and/or overflight limitations may apply)
<b>CC</b>	Conditionally Compatible Use is acceptable if indicated conditions are met
<b>I</b>	Incompatible Use should not be permitted under any circumstances

NOTES:

d.u. dwelling units

sf. square feet

a The rationale for the increased residential density in Safety Zone 3\* is provided in Appendix K, *Safety Zone 3 Residential Densities - California Redwood Coast – Humboldt County Airport*.

1 Noise and Overflight issues should be considered in future development.

† Incidental uses such as conference facilities and restaurants to be evaluated independently.

‡ Per the Humboldt County Zoning Code: includes any industrial activity which involves the handling of toxic, highly flammable, explosive or radioactive materials in such quantities that would, if released or ignited, constitute a significant risk to adjacent human populations or development.

\*\* **Runway Safety Area (RSA), Object Free Area (OFA):** Dimensions are as established by FAA airport design standards for the runway.

## 3.4 Airspace Protection Compatibility Policies

Tall structures, trees, other objects, or high terrain on or near airports, may constitute hazards to aircraft in flight. Federal regulations establish the criteria for evaluating potential obstructions. These regulations require that the FAA be notified of proposals related to the construction of potentially hazardous structures. Upon receiving notice, the FAA conducts “aeronautical studies” of proposed projects to determine whether they would pose risks to aircraft. However, the FAA has no regulatory authority over local land use and does not have the authority to prevent project development. The purpose of the ALUCP airspace protection policies, together with regulations established by local land use jurisdictions and the state government, is to avoid the creation of hazards to navigable airspace. These policies operate as a nexus between federal regulations governing the nation’s airspace and local land use management.

Similar to the safety policies, airspace protection policies and criteria are intended to reduce the risk of harm to people and property that might arise from an aircraft accident. This is accomplished by the establishment of compatibility policies that seek to prevent the creation of land use features that can be hazards to aircraft in flight and have the potential to cause an aircraft accident to occur. Such hazards may be physical, visual, or electronic.

### AP-1 Evaluating Airspace Protection Compatibility for New Development

The airspace protection compatibility of proposed land uses within the AIA of each airport shall be evaluated in accordance with the policies in this section, including the 14 CFR Part 77 surfaces depicted in Chapters 4 through 11, as applicable.

### AP-2 Measures of Airspace Protection Compatibility

In establishing airspace protection policies, the ALUC primarily relies upon regulations enacted by the FAA, the State of California, and Humboldt County. The ALUC policies are intended to help implement the federal, state, and county regulations. Specific regulations are referenced in subsequent policies of this section.

- a) The FAA has well-defined standards by which potential hazards to flight can be assessed. However, the agency has no authority to prevent creation of such hazards. That authority rests with state and local governments.
- b) State airspace protection standards for the most part mirror those of the FAA. A key difference, though, is that state law gives Caltrans Division of Aeronautics and local agencies the authority to enforce the standards.
- c) The Humboldt County Code (Tit. III, Div. 3, Ch.3, *Airport Approach Zone Building Height Regulations*) establishes height limitations that restrict structures and trees from penetrating County defined airspace surfaces.
  - 1) Humboldt County is encouraged to make its Airport Approach Zone Building Height Regulations consistent with the requirements and standards of 14 CFR Part 77.

- d) The federal airspace protection standards established in 14 CFR Part 77 represent the minimum requirement for defining imaginary airspace surfaces and establishing height limitations in areas around airports. Local regulations can be more restrictive, but must meet the minimum requirements and standards established in 14 CFR Part 77.
- e) Potential hazards to aircraft in flight such as uses creating electrical interference, confusing lights, glare, or other disturbances are also restricted from areas beneath the airspace protection surfaces.

### AP-3 Requirements for FAA Notification of Proposed Construction

Proponents of a land use action containing structures or other objects that may exceed the height standards defined in 14 CFR Part 77 as applied to each airport must submit notification of the proposal to the FAA where required by the provisions of 14 CFR Part 77 and by Sections 21658 and 21659 of the California Public Utilities Code. (See Appendix B of this Compatibility Plan for the complete text of 14 CFR Part 77.) Notification is provided through submittal of Form 7460-1 to the FAA.<sup>3</sup> The boundaries of the area in which notification to the FAA is required for each Airport are shown in Chapters 4 through 11. The FAA will conduct an “aeronautical study” of the object(s) and determine whether the object(s) would be of a height that would constitute a hazard to air navigation. These requirements apply to all objects including structures, antennas, trees, mobile objects, and temporary objects, such as construction cranes.

- 1) Local agencies shall inform land use action proponents of the FAA notification requirements.
- 2) Any proposed land use action that includes construction of a structure or other object and that is required to be submitted to the ALUC for a consistency review shall include a copy of the completed 14 CFR Part 77 notification form (Form 7460-1) to the FAA, if applicable, and a copy of the final FAA findings from its aeronautical study (i.e., notice of determination letter).
- 3) The requirement for notification to the FAA shall not trigger an airport compatibility review of an individual land use action by the ALUC unless the General Plan of the local agency in which the land use action is to be located has not been deemed consistent with this Compatibility Plan.
- 4) Land use action proponents are requested to advise the ALUC of any submittal of Form 7460-1 to the FAA and to provide the results of completed aeronautical studies to the ALUC for their records.

### AP-4 ALUC Airspace Obstruction Criteria

The ALUC criteria for determining the acceptability of a land use action with respect to height shall be based upon: the standards set forth in 14 CFR Part 77; the TERPS; Humboldt County Code (Tit. III, Div. 3, Ch.3, *Airport Approach Zone Building Height Regulations*), and applicable airport design standards published by the FAA. Additionally, the ALUC shall, where an FAA

<sup>3</sup> See Obstruction Evaluation / Airport Airspace Analysis (OE/AAA) <<https://oeaaa.faa.gov/oeaaa/external/portal.jsp>>.

aeronautical study of a proposed object has been required, take into account the results of that study. Specific guidance is provided below:

- 1) Except as provided in Paragraphs (2) and (3) of this policy, no object, including a mobile object such as a vehicle or temporary object such as construction crane, shall have a height that would result in penetration of the airspace protection surfaces depicted for each airport in Chapters 4 through 11. Any object that penetrates one of these surfaces is, by FAA definition, deemed an obstruction.
- 2) Objects shall be limited in height consistent with airspace protection surfaces defined by 14 CFR Part 77 and the TERPS within portions of the airspace protection area (within the primary surface and beneath the approach and transitional surfaces).
- 3) A proposed object having a height that exceeds an airport's airspace protection surfaces is compatible with airspace protection only if all of the following apply:
  - a) As the result of an aeronautical study prepared following submittal of Form 7460-1 to the FAA, the FAA determines that the object would not be a hazard to air navigation; and
  - b) FAA or other expert analysis conducted under the auspices of the ALUC or the airport operator concludes that, despite being an airspace obstruction (not necessarily a hazard), the object would not cause any of the following:
    - i) An increase in the ceiling or visibility minimums of the airport for an existing or planned instrument procedure (a planned procedure is one that is formally on file with the FAA or that is consistent with the FAA-approved ALP);
    - ii) A diminution of the established operational efficiency and capacity of the Airport, such as by causing the usable length of the runway to be reduced; or
    - iii) Conflicts with the visual flight rules (VFR) airspace used for the airport traffic pattern or en route navigation to and from the airport;
  - c) Marking and lighting of the object will be installed as directed by the FAA aeronautical study or the Division of Aeronautics and in a manner consistent with FAA standards in effect at the time the construction is proposed (Advisory Circular 70/7460-1L, *Obstruction Marking and Lighting*, or any later guidance).
  - d) An aviation easement as described in Policy GP-24, *Aviation Easement Dedication*, is dedicated to the agency owning the Airport.
  - e) The land use action complies with all policies of this Compatibility Plan.

## AP-5 ALUC Discretion

A “Determination of No Hazard to Air Navigation” by the FAA does not automatically equate to a consistency determination by the ALUC. The FAA may also conclude in its aeronautical study prepared in response to filing a 14 CFR Part 77 notification form (Form 7460-1) that a project is an obstruction but not a hazard to air navigation. The ALUC may find a project inconsistent based on an aeronautical study. The ALUC may utilize criteria for protecting aircraft traffic

patterns at individual airports, which may differ from those contained in 14 CFR Part 77, should evidence of health, welfare, or air safety issues arise that are sufficient to justify such an action.

## AP-6 Other Flight Hazards

Land uses that may cause visual, electronic, or wildlife hazards, particularly bird strike hazards, to aircraft in flight or taking off or landing at each airport shall be allowed within the AIA only if the uses are consistent with FAA rules and regulations.

- 1) Specific characteristics to be avoided include:
  - a) Sources of glare (such as from mirrored or other highly reflective buildings or building features) or bright lights (including search lights and laser light displays);
  - b) Distracting lights that could be mistaken for airport lights;
  - c) Sources of dust, steam, or smoke that may impair pilot visibility;
  - d) Sources of electrical interference with aircraft communications or navigation; and
  - e) Any proposed use that creates an increased attraction for wildlife and that is inconsistent with FAA rules and regulations including, but not limited to, AC 150/5200-33B, *Hazardous Wildlife Attractants On or Near Airports* (see Policy AP-7, *Wildlife Hazards*).
- 2) To resolve any uncertainties with regard to the significance of the above types of flight hazards and to determine what design techniques would best mitigate hazardous wildlife attractants, local agencies should consult with FAA officials and airport operators.

## AP-7 Wildlife Hazards

The federal government has established regulations and policies addressing land uses with potential to attract hazardous wildlife on and near airports. The ALUC's role and policy with regard to regulating wildlife hazards in areas around the Airport is limited to new development as well as general plans, specific plans, master plans, and zoning ordinances that set standards for new development. As discussed in Section 1.3.1, *Airport Land Use Commissions*, the ALUC has no authority to regulate existing land uses, including land uses such as agriculture that include characteristics that attract hazardous wildlife.

- 1) Any proposed land use project that could attract wildlife to an AIA is a potential concern. Federal regulations and guidelines identify specific land uses that the federal government deems incompatible near airports. Examples of land uses with the potential to attract wildlife activity and movement include:
  - a) Waste disposal operations, which include municipal solid waste landfills;
  - b) Water management facilities, which include drinking water intake and treatment facilities, stormwater and wastewater treatment facilities, associated retention and settling ponds, ponds built for recreational use, and ponds that result from mining activities;

- c) Wetlands (natural or artificial);
  - d) Open water areas;
  - e) Sediment ponds, retention basins, and other stagnant water bodies;
  - f) Detention basins holding water more than 48 hours;
  - g) Dredge spoil containment areas (also known as confined disposal facilities);
  - h) Agricultural activities (such as irrigation and crop production); and
  - i) Golf courses, landscaping, and other land uses that could attract wildlife activity and/or movement.
- 2) Of particular concern are landfills and certain recreational or agricultural uses that attract large flocks of birds, which pose bird strike hazards to aircraft in flight. AC 150/5200-33B, *Hazardous Wildlife Attractants On or Near Airports* (FAA Orders addressing wildlife hazards are provided in **Appendix J**), provides guidance on maintaining adequate distances between airports and wildlife hazard attractants.<sup>4</sup> Criteria based on these distances include:
- a) Within 10,000 feet of an airport operations area, a proponent for a project that (1) requires discretionary review by a land use agency, (2) includes any new or expanded uses that *have the potential to attract wildlife and cause bird strikes*, and (3) requires environmental analysis under CEQA, is encouraged to coordinate project planning with the Airport operator (Humboldt County Airports Department, City of Eureka, or the Shelter Cove Resort Improvement District) to identify whether their project has the potential to attract wildlife that may constitute a safety hazard. The project proponent shall document consideration of current FAA or other federal regulations and guidelines pertaining to hazardous wildlife attractants, as typically required for projects subject to environmental review under CEQA (See Question IX.e in Appendix G to the CEQA Guidelines).
  - b) Beyond 10,000 feet of the airport operations area but within 5-miles, a proponent for a project that (1) requires discretionary review by a land use agency, (2) includes any new or expanded use that *has the potential to cause the movement of wildlife from one location to another within the 5-mile radius of the airport operations area*, and (3) requires environmental analysis under CEQA, is encouraged to coordinate project planning with the Airport operator (Humboldt County Airports Department, City of Eureka, or the Shelter Cove Resort Improvement District) to identify whether their project has the potential to attract wildlife that may constitute a safety hazard. The project proponent shall document consideration of current FAA or other federal regulations and guidelines pertaining to hazardous wildlife attractants, as typically required for projects subject to environmental review under CEQA (See Question IX.e in Appendix G to the CEQA Guidelines).
- 3) To resolve any uncertainties with regard to the significance of the above types of flight hazards and to determine what design techniques would best mitigate hazardous wildlife

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<sup>4</sup> It is important to note that FAA policies place the onus for mitigating wildlife hazards on airport operators, not local land owners.

attractants, local agencies should consult with FAA officials and airport operators. The FAA encourages local agencies, airport operators, or project proponents to notify the appropriate FAA Regional Airports Division Office (ADO) (the San Francisco ADO is the office responsible for Humboldt County airports) of projects including land uses that may attract wildlife hazards. Notice of proposals to construct any of the above features can be provided by submitting a Form 7460-1 to the FAA (see Section 4.3 of AC 150/5200-33B).

## 3.5 Overflight Notification Policies

As reaction to noise is a subjective experience, noise-related concerns do not stop at the edge of the airport's outermost CNEL contour. Many people are sensitive to the frequent presence of aircraft overhead even at low noise levels. These reactions are typically expressed in the form of annoyance. At many airports, particularly busy GA airports, aircraft noise complaints often come from places located well beyond the airport CNEL contours.

As these types of complaints may be of real concern to a community, the question of importance then becomes what steps can be taken to mitigate the effects. Commonly, communities focus on the modification of flight routes to address noise complaints. However, airport land use commissions have no influence over how an airport operates and have no say in flight route changes or modifications to where, when, and how aircraft are operated. In addition, ALUCP policies do not apply to existing land uses. These limitations notwithstanding, there are steps that airport land use commissions can and should take to help minimize overflight issues.

### 3.5.1 Overflight Notification Areas

The boundaries of overflight notification areas are typically established using a variety of data inputs, including CNEL contours and flight tracks. Given the geographic extent at which annoyance from aircraft overflights can occur, the boundary within which overflight policies are applicable generally is larger than the CNEL contours themselves. Because areas farther from airports may have lower ambient noise levels than more urbanized areas in their immediate vicinity, annoyance associated with aircraft overflight can be perceived and compounded well beyond the extent of modeled CNEL contours.

The overflight notification areas depicted in Chapters 4 through 11 are based on the flight tracks used to develop the CNEL contours. These flight tracks represent the traffic patterns for each of the airports. General corridors centered on the traffic pattern flight tracks were created to account for normal dispersion in aircraft operations.

### 3.5.2 Overflight Policies

The overflight compatibility of proposed land uses within the AIA of an airport shall be evaluated in accordance with the policies set forth in this section together with the overflight notification areas depicted in Chapters 4 through 11, as applicable. The policies apply to an entire AIA and are presented below.

## OP-1 State Law Requirements Regarding Real Estate Disclosure

Effective January 1, 2004, California statutes (Bus. and Prof. Code, § 11010 and Civil Code, §§ 1102.6, 1103.4, and 1353) require that, as part of many residential real estate transactions, information be disclosed regarding whether the property is situated within an AIA.

- 1) These state requirements apply to the sale or lease of newly subdivided lands and condominium conversions and to the sale of certain existing residential property.
- 2) The statutes define an AIA as “the area in which current or future airport-related noise, overflight, safety, or airspace protection factors may significantly affect land uses or necessitate restrictions on those uses as determined by an airport land use commission.”
  - a) The AIA for each airport is shown in Chapters 4 through 11, as applicable.
  - b) For the purposes of compliance with the state statutes, the ALUC policy is that the disclosure requirements shall apply within the entire AIA.
- 3) Where disclosure is required, the state statutes dictate that the following statement shall be provided:

NOTICE OF AIRPORT IN VICINITY: This property is presently located in the vicinity of an airport, within what is known as an airport influence area. For that reason, the property may be subject to some of the annoyances or inconveniences associated with proximity to airport operations (e.g., noise, vibration, or odors). Individual sensitivities to those annoyances can vary from person to person. You may wish to consider what airport annoyances, if any, are associated with the property before you complete your purchase and determine whether they are acceptable to you.

- 4) For the purposes of this Compatibility Plan, the disclosure provisions of state law are deemed mandatory for new development and shall continue in effect as ALUC policy even if the state law is revised or rescinded. In addition, ALUC policy requires that signs providing the above notice be prominently posted in the real estate sales office and/or other key locations at any new land use action within the entire AIA.

## OP-2 Overflight Notification

In addition to the preceding real estate disclosure requirements, an overflight notification document shall be recorded in official records of the Humboldt County Clerk-Recorder for any local agency approval of residential land use development within the overflight notification area.

- 1) The overflight notification document shall include a statement similar to the one provided in Policy OP-1, *State Law Requirements Regarding Real Estate Disclosure*.
- 2) A separate overflight notification document is not necessary where an aviation easement is required.



- 3) Recordation of an overflight notification document is not required for nonresidential development.
- 4) Nothing in this policy is intended to prevent a local agency from adopting and implementing an expanded form of overflight notification.
- 5) Examples of overflight notification documents are provided in Appendix C.

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## CHAPTER 4

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# California Redwood Coast-Humboldt Airport Maps

### 4.1 Chapter Overview

This chapter includes maps delineating noise, safety, airspace, and overflight compatibility factors for California Redwood Coast-Humboldt Airport (ACV or the Airport). These maps are to be used to identify areas around the Airport in which the ALUCP policies presented in Chapter 3, *Humboldt County Airports Policies*, are applicable.

The following sections provide a summary of the physical and operational characteristics that were identified and used to develop the maps presented in this chapter. A more detailed discussion of this data, as well as further information on ACV and the surrounding area, is presented in **Appendix G**, *Airport Background Data and Maps*.

### 4.2 Compatibility Factor Delineation

Compatibility factors for the Airport were developed based on information provided in the 2005 Airport Master Plan, the 2018 ALP, and interviews with County staff. The following sections discuss the data obtained from these sources in greater detail.

#### 4.2.1 Airport Master Plan and Airport Layout Plan

The latest ALP for the Airport was approved by the FAA in April 2018. The ALP reflects planned improvements to the Airport included in the latest Airport Master Plan, completed in September 2005. The Airport Master Plan provides a forecast of Airport activity through 2025. The Airport operates as a commercial service airport, as well as providing GA service to the community. Its role in this capacity is not expected to significantly change in the future. In addition, with the U.S. Coast Guard Search and Rescue Base located at the airport, ACV has an essential role in providing emergency services to the community and outlying rural areas. It is anticipated that the Airport will experience moderate growth over the long run and will continue to accommodate scheduled passenger airline and dedicated cargo aircraft service, business/corporate and personal GA aircraft operations, as well as Coast Guard helicopter operations.

The Airport Master Plan indicates that the future role of ACV will be defined by changes to current aviation uses, changes in the volume of aircraft activity, and changes to the types of

aircraft (i.e., fleet mix) in operation. The recommended facility improvements depicted on the ALP and included in the Airport Master Plan are focused on satisfying this role. A copy of the ALP drawing is included in Appendix G.

## 4.2.2 Airport Configuration

ACV has two runways, Runway 14-32 and Runway 1-19. Runway 14-32 is currently 6,046 feet long and has a northwest-southeast orientation. Runway 1-19 is 4,501 feet long and has a northeast-southwest orientation. Both runways are 150 feet wide each.

ACV is served by five instrument approach procedures: ILS OR LOC RWY 32, RNAV (GPS) RWY 01, RNAV (GPS) RWY 14, RNAV (GPS) RWY 32, and VOR RWY 14. The Airport is also served by one departure procedure, HOCUT FIVE. More information on the airport configuration is provided in Appendix G.

## 4.2.3 Airport Activity Forecast

For purposes of this ALUCP, information from the 2005 Airport Master Plan as well as information provided by the County was used to characterize future airport activity (year 2039). Based on this information, the Airport estimates approximately 42,312 annual operations or 116 average annual daily operations for 2039. Information on the airport activity forecast is provided in Appendix H.

## 4.2.4 Compatibility Factor Policy Maps

The following sections discuss the four compatibility factors prepared for ACV.

### Noise Compatibility Policy Map

Under California state law, the CNEL contours provided in the ALUCP must reflect the anticipated growth in operations at the Airport during at least the next 20 years. (Pub. Util. Code, § 21675(a).) As discussed in Section 4.2.3, the activity forecast prepared for the Airport and reflected in the CNEL contours represents 2039 conditions. **Figure 4-1** depicts the CNEL contours for the Airport. More information on the aircraft operational data used to produce the CNEL contours is provided in Appendix H.

### Safety Zone Compatibility Policy Map

**Figure 4-2** depicts the safety zones for the Airport. The safety zones were developed based on guidance provided in the Caltrans Handbook, which includes dimensions for “generic” safety zones. These generic safety zones are geometric shapes representing areas of progressive degree of risk for an aircraft accident based on statistical analysis of accident locations. Typically, the closer to the runway end, the higher the risk for an accident.

Safety zones for ACV were developed by selecting the appropriate set of generic safety zones from the examples provided in the Caltrans Handbook and then overlaying them on the runways.

The safety zones for Runway 14-32 were based on *Example 3: Long General Aviation Runway*, as provided in the Caltrans Handbook. Example 3 corresponds to runways 6,000 feet or greater in length.

The safety zones for Runway 1-19 were based on *Example 2: Medium General Aviation Runway* included in the Caltrans Handbook. Example 2 assumes a runway length of between 4,000 and 5,999 feet, approach visibility minimums greater than or equal to  $\frac{3}{4}$  a mile but less than a mile, and RPZs of 1,000 feet by 1,510 feet by 1,700 feet. The safety zones are discussed in greater detail in Appendix G.

## Airspace Compatibility Policy Map

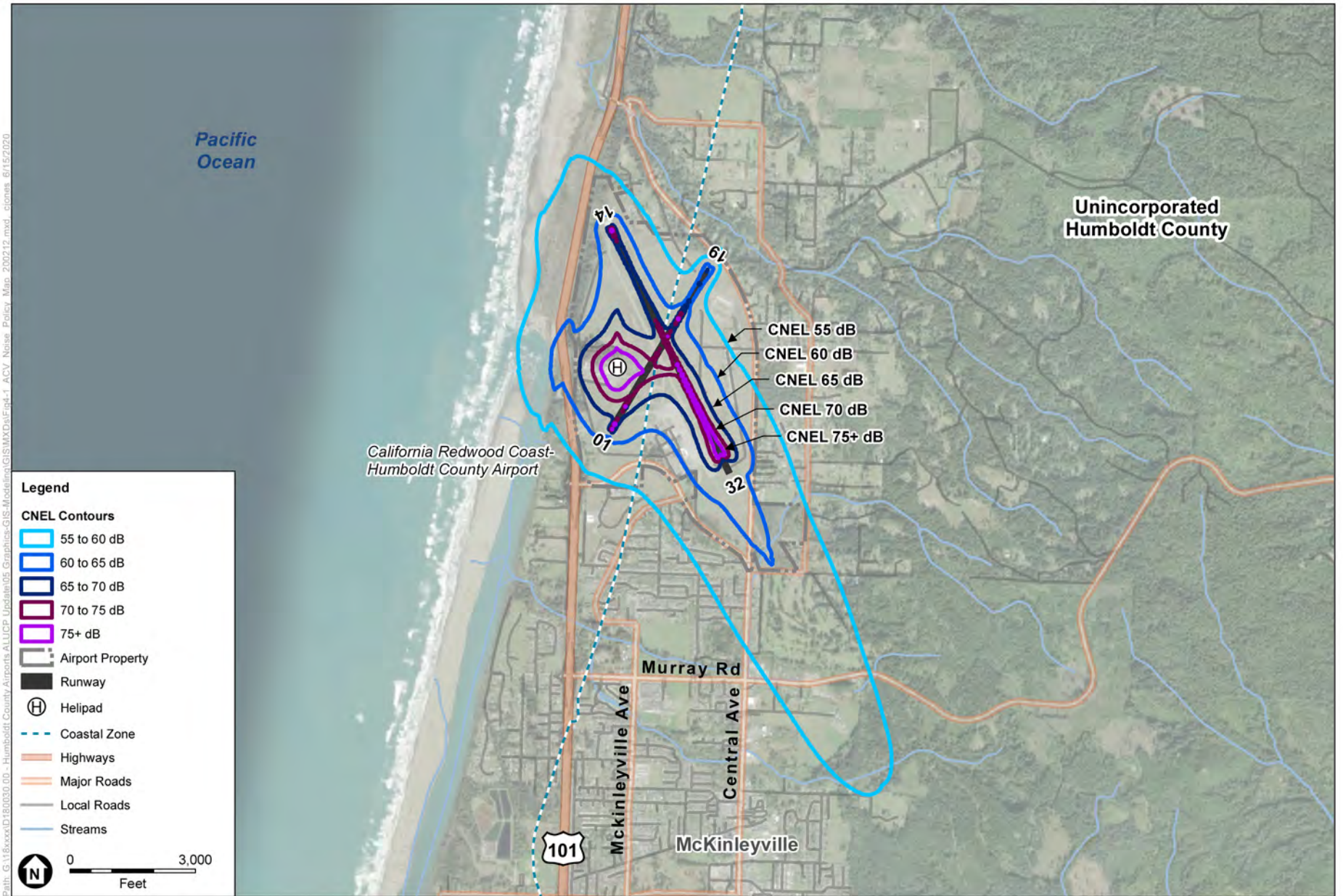
**Figure 4-3** depicts the 14 CFR Part 77 airspace surfaces for the Airport. Part 77 airspace surfaces reflect areas around airports to be protected from obstructions that may serve as hazards to safe air navigation. Humboldt County has promulgated height regulations similar to Part 77 airspace surfaces (Humboldt County Code, Tit. III, Div. 3, Ch.3, Chapter3). As shown in Figure 4-3, terrain penetrates the horizontal surface and conical surfaces to the east and southeast of the Airport, as well as the transitional surface to the east of the Runway 32 end. Copies of 14 CFR Part 77 as well as Humboldt County’s Approach Zone Building Height Regulations are provided in Appendix B.

## Overflight Compatibility Policy Map

**Figure 4-4** shows the overflight notification area for ACV. The overflight notification area includes all areas covered by the Airport’s Safety Zones as well as flight corridors based on the flight tracks used to model the CNEL contours depicted on Figure 4-1. The flight tracks were used to delineate generalized flight corridors in which aircraft arrive to and depart the Airport. As shown in Figure 4-4, the generalized flight corridors extend to the outer boundary of the Airport’s conical surface as defined by 14 CFR Part 77.

## Airport Influence Area

Figure 1-2 shows the AIA for ACV. The AIA is “the area in which current or future airport-related noise, overflight, safety, or airspace protection factors may significantly affect land uses or necessitate restrictions on those uses.” (Bus. and Prof. Code, § 11010(b)(13)(b).) The AIA is divided into two areas. Review Area 1 and Review Area 2. Review Area 1 consists of a combination of the CNEL contours and six safety zones for the Airport, and represents areas where noise and/or safety concerns may require limitations on the type of land uses that may be developed in the future. The policies included in Sections 3.2 and 3.3 are applicable in Review Area 1. Review Area 2, consists of areas within the combined airspace surfaces and overflight notification area. The policies included in Sections 3.4 and 3.5 are applicable in Review Area 2.

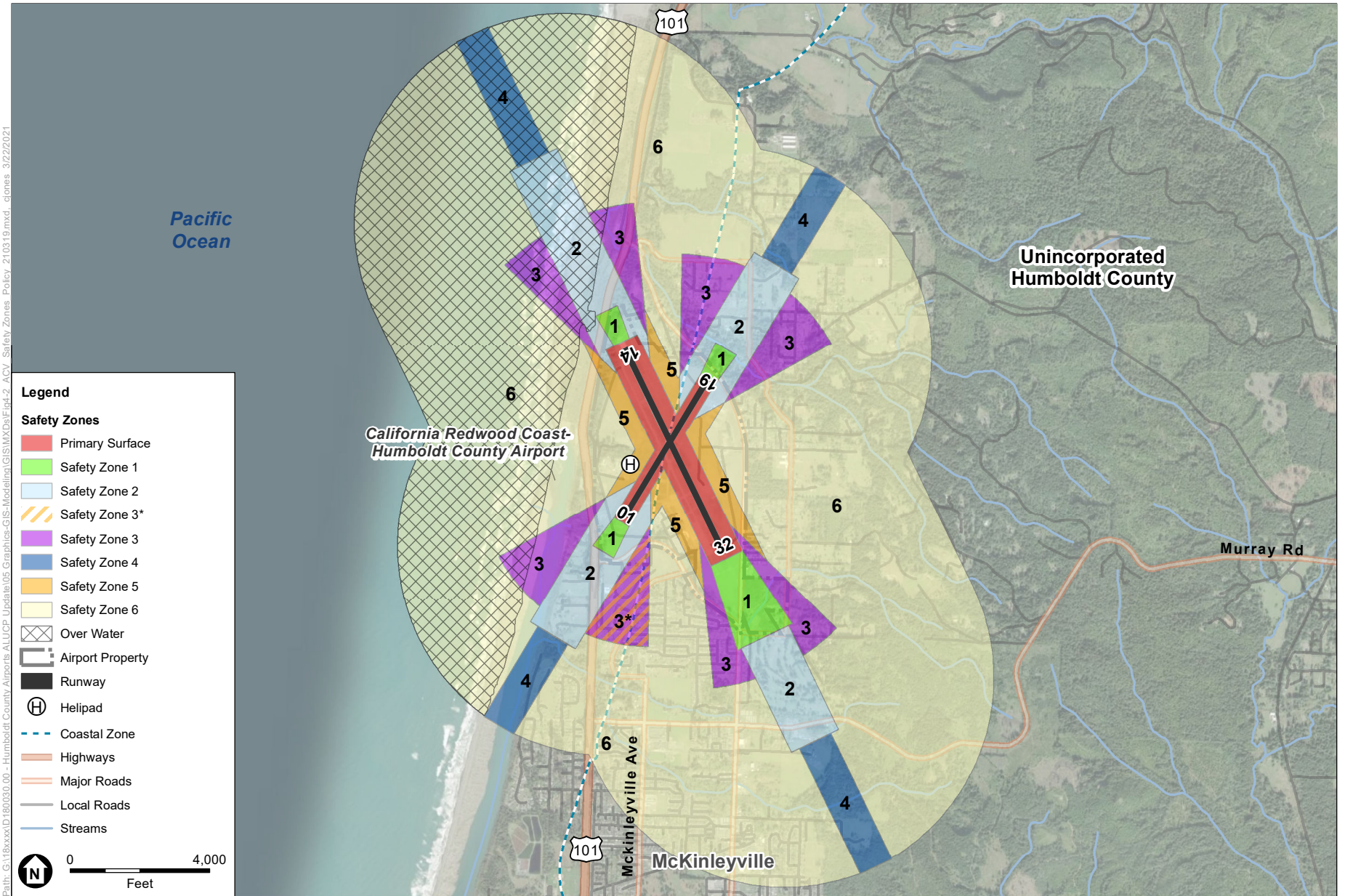


SOURCE: AEDT 2d; ESA, 2018; DigitalGlobe, October 2017; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure 4-1**

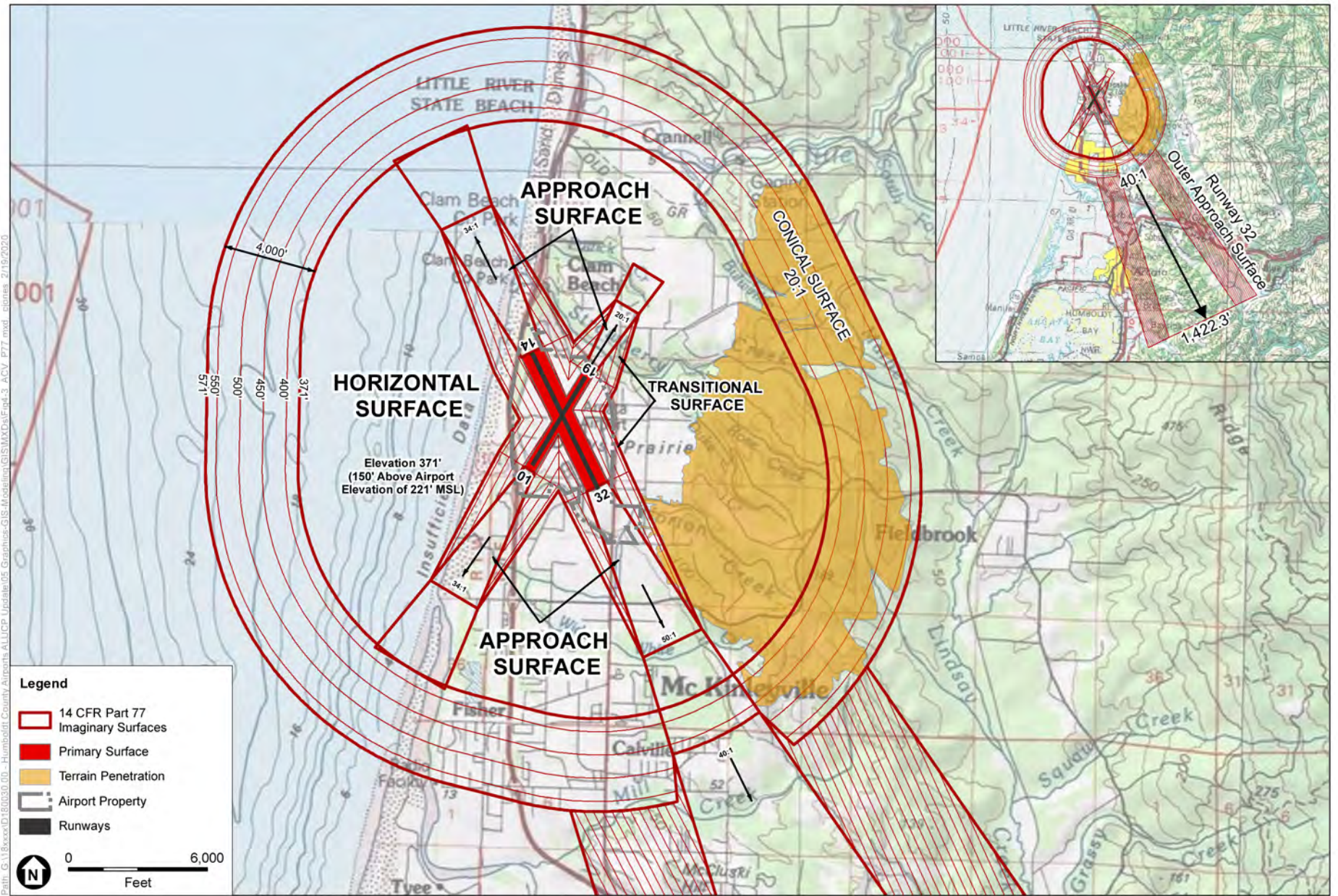
Noise Compatibility Policy Map  
California Redwood Coast-Humboldt County Airport



SOURCE: ESA, 2018; DigitalGlobe, October 2017; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure 4-2**  
 Safety Compatibility Policy Map  
 California Redwood Coast-Humboldt County Airport



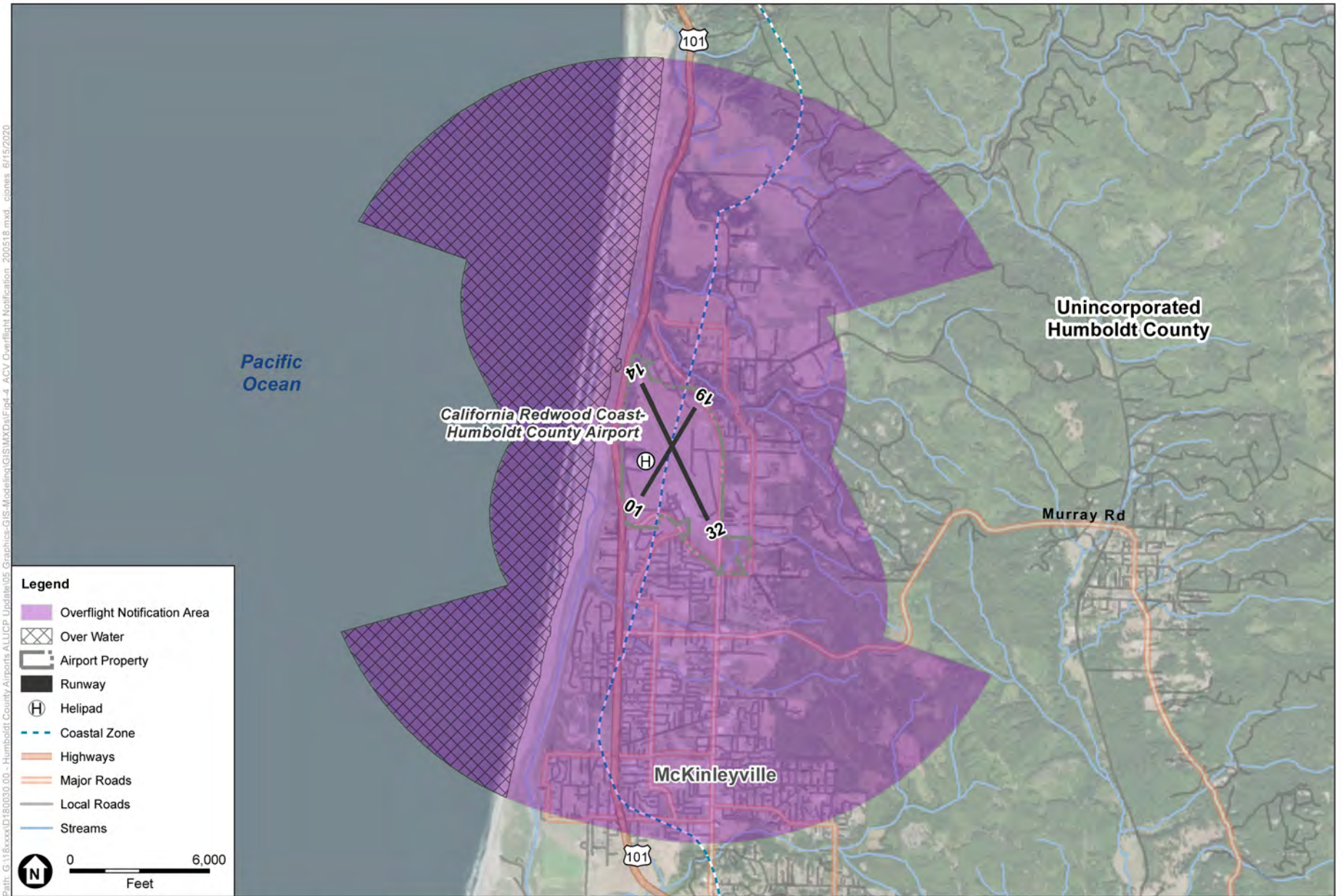
SOURCE: USDOT. FAA 14 CFR Part 77, Safe, Efficient Use and Preservation of Navigable Airspace, July 21, 2010; ESA, 2018

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure 4-3**

14 CFR Part 77 Airspace Protection Surfaces  
California Redwood Coast - Humboldt County Airport





SOURCE: ESA, 2018; DigitalGlobe, October 2017; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure 4-4**  
Overflight Compatibility Policy Map  
California Redwood Coast-Humboldt County Airport

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# CHAPTER 5

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## Dinsmore Airport Maps

### 5.1 Chapter Overview

This chapter includes maps delineating the noise, safety, airspace, and overflight compatibility factors for Dinsmore Airport (D63 or the Airport). These maps are to be used to identify areas around the Airport in which the ALUCP policies presented in Chapter 3, *Humboldt County Airports Policies*, are applicable.

The following sections provide a summary of the physical and operational characteristics of Dinsmore Airport. A more detailed discussion of this data as well as further information on the Airport and the surrounding area is presented in Appendix G.

### 5.2 Compatibility Factor Delineation

Compatibility factors for the Airport were developed based on information provided in the 2009 ALP, as well as interviews with County staff. The following sections discuss this information in greater detail.

#### 5.2.1 Airport Configuration and Activity

Dinsmore Airport has one east-west oriented asphalt runway, Runway 9-27. Runway 9-27 is 2,504 feet long by 50 feet wide. The Airport does not have an Airport Traffic Control Tower (ATCT). Pilots determine the direction of operation based on the visual aids at the Airport, which include a Segmented Circle and Wind Indicator. The Airport may never have lighted runways because of nearby terrain obstructions, which are not visible at night.

#### 5.2.2 Airport Activity Forecast

For purposes of this ALUCP, the 2009 Airport Layout Plan (ALP), information from the FAA's Terminal Area Forecast (TAF), as well as input from County staff was used to characterize future airport activity (year 2039). Approximately 1,600 annual operations or four average annual daily operations are forecasted for 2039. More information on the airport activity forecast is provided in Appendix H.

#### 5.2.3 Compatibility Factor Policy Maps

The following sections discuss the four compatibility factors prepared for Dinsmore Airport.

## Noise Compatibility Policy Map

Under California state law, the CNEL contours provided in the ALUCP must reflect the anticipated growth in operations at the Airport during at least the next 20 years. (Public Util. Code, § 21675(a).) As discussed in Section 5.2.3, the activity forecast prepared for the Airport and reflected in the CNEL contours represents 2039 conditions. **Figure 5-1** depicts the CNEL contours prepared for the Airport. More information on the aircraft operational data used to produce the CNEL contours is provided in Appendix H.

## Safety Zone Compatibility Policy Map

**Figure 5-2** shows the safety zones for Dinsmore Airport. The safety zones were developed based on guidance provided in the Caltrans Handbook, which includes dimensions for “generic” safety zones for GA airports. These generic safety zones are geometric shapes representing areas of progressive degree of risk for aircraft accidents based on statistical analysis of accident locations. Typically, the closer to the runway end, the higher the risk for an accident. While the number of safety zones at an airport may vary based on the airport’s unique operating conditions, the Caltrans Handbook provides guidance for up to six safety zones.

Safety zones for Runway 9-27 were based on *Example 5: Low Activity General Aviation Runway*, included in the Caltrans Handbook. *Example 5* includes five safety zones, assumes less than 2,000 takeoffs and landings per year, and a runway length of less than 4,000 feet. As the Airport is forecasted to have 1,600 operations in 2039 and the runway length is less than 4,000 feet in length, *Example 5* was the appropriate choice for generic safety zones. Due to terrain to the north of the airport and beyond both runway ends, aircraft use non-standard arrivals and departures at both runway ends. The traffic pattern is to the south of the runway, and aircraft arriving to and departing from the both runway ends follow the path of the Van Duzen River which runs to the south of the Airport. Safety Zones 3 and 4 off both runway ends were adjusted to reflect how aircraft operate at the Airport.

## Airspace Compatibility Policy Map

**Figure 5-3** depicts the 14 CFR Part 77 airspace surfaces for the Airport as shown in the 2007 Master Plan and reflected on the ALP. Part 77 airspace surfaces reflect areas around airports to be protected from obstructions that may serve as hazards to safe air navigation. Humboldt County has promulgated height regulations similar to Part 77 airspace surfaces (Humboldt County Code, Tit. III, Div. 3, Ch.3). Copies of 14 CFR Part 77 as well as Humboldt County’s Approach Zone Building Height Regulations are provided in Appendix B.

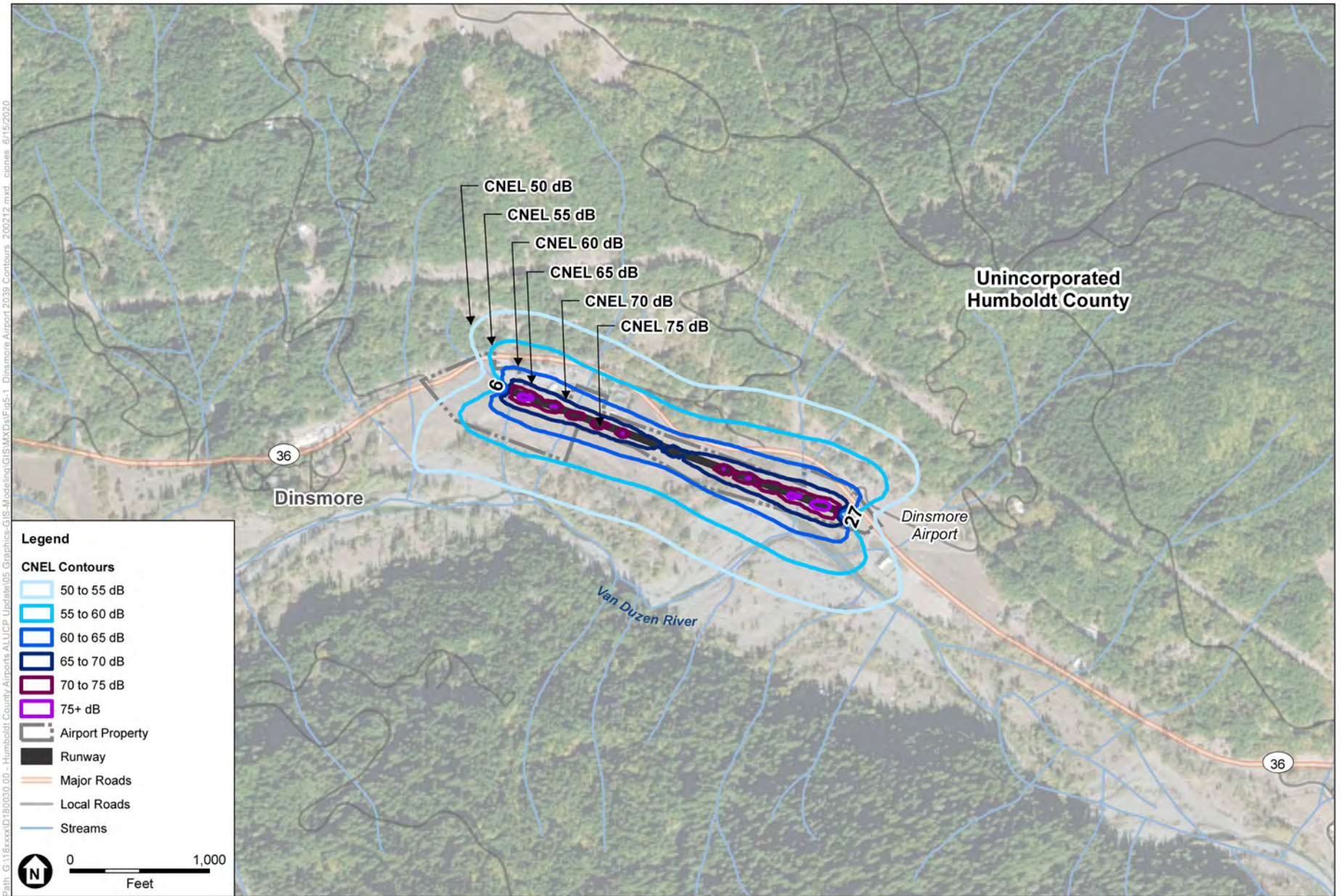
## Overflight Compatibility Policy Map

**Figure 5-4** shows the overflight notification area for the Airport. The overflight notification area includes all areas covered by the Airport’s Safety Zones as well as flight corridors based on the flight tracks used to model the CNEL contours depicted on Figure 5-1. The flight tracks were used to delineate generalized flight corridors in which aircraft arrive to and depart the Airport. As

shown in Figure 5-4, the generalized flight corridors extend to the outer boundary of the Airport's conical surface as defined by 14 CFR Part 77.

## **Airport Influence Area**

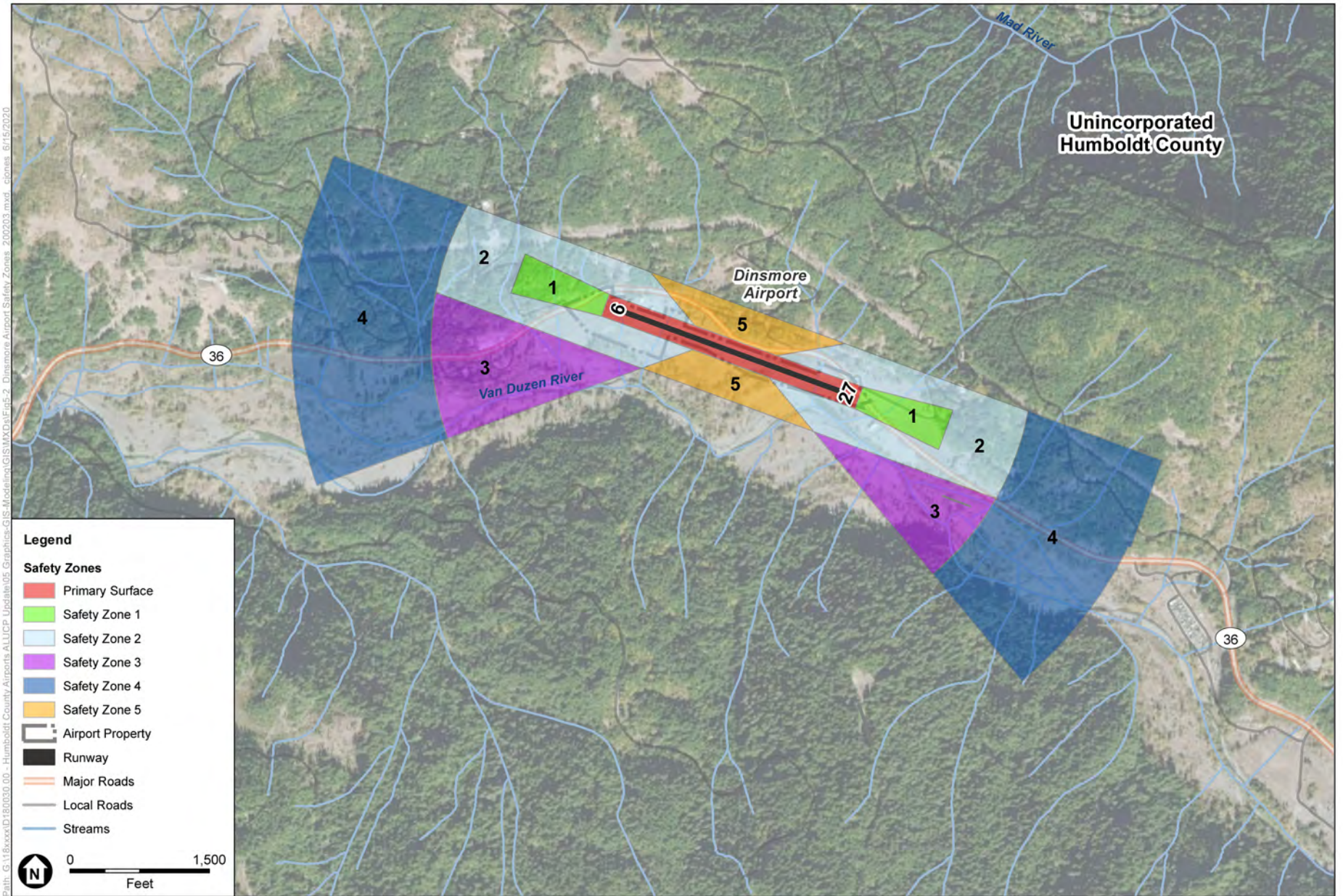
Figure 1-3 shows the AIA for Dinsmore Airport. The AIA is “the area in which current or future airport-related noise, overflight, safety, or airspace protection factors may significantly affect land uses or necessitate restrictions on those uses.” (Bus. and Prof. Code, § 11010(b)(13)(b).) The AIA is divided into two areas. Review Area 1 and Review Area 2. Review Area 1 consists of a combination of the CNEL contours and six safety zones for the Airport, and represents areas where noise and/or safety concerns may require limitations on the type of land uses that may be developed in the future. The policies included in Sections 3.2 and 3.3 are applicable in Review Area 1. Review Area 2, consists of areas within the combined airspace surfaces and overflight notification area. The policies included in Sections 3.4 and 3.5 are applicable in Review Area 2.



SOURCE: AEDT 2d; ESA, 2018; DigitalGlobe June 2016; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure 5-1**  
Noise Compatibility Policy Map  
Dinsmore Airport



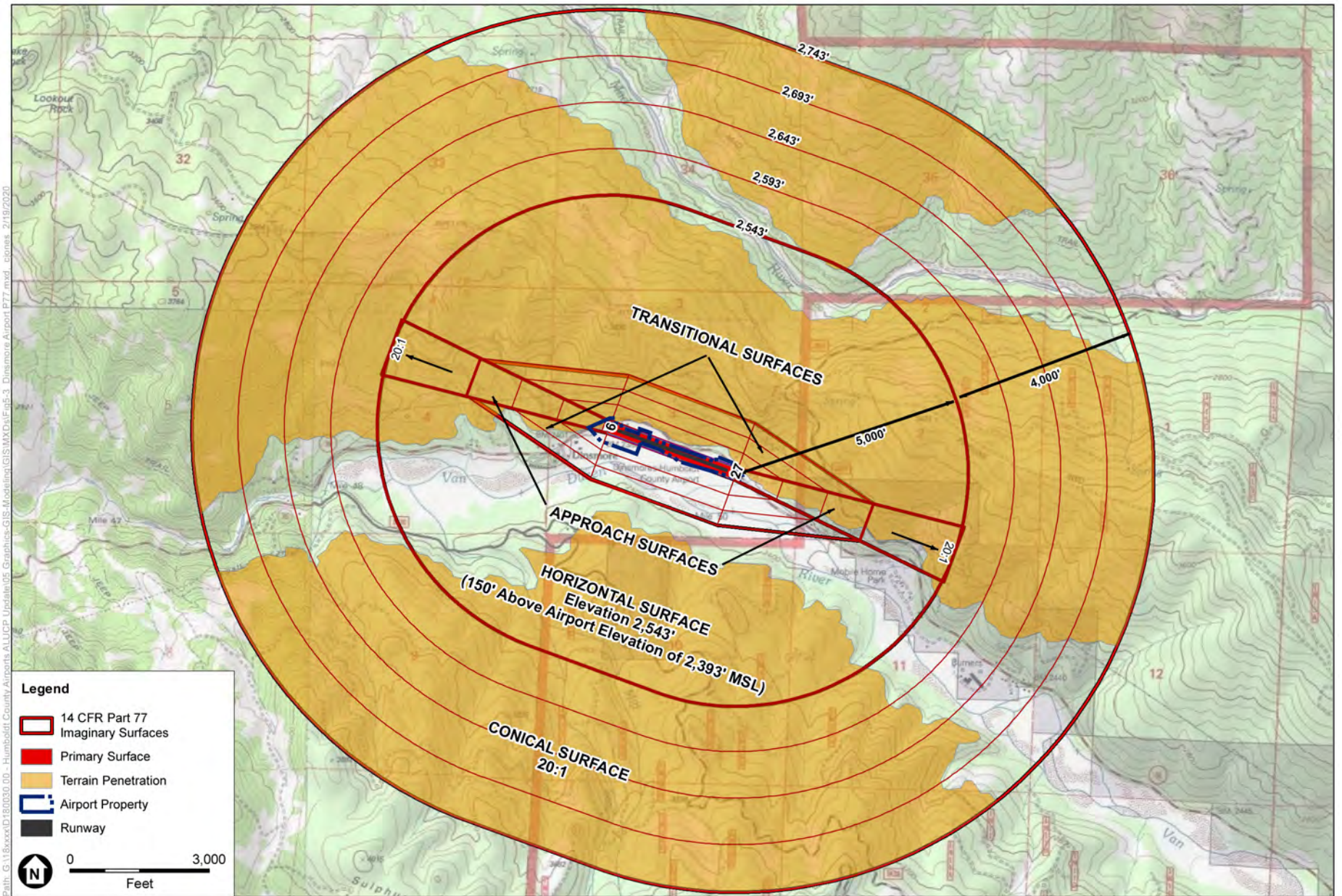
Path: G:\18\xxxx\18030.00 - Humboldt County Airports\A\UCP\_Update\05\_Graphics\GIS\MXD\Fig-2\_Dinsmore Airport Safety Zones\_202203.mxd - c:\jones 6/15/2020

SOURCE: ESA, 2018; DigitalGlobe, June 2016; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure 5-2**  
 Safety Compatibility Policy Map  
 Dinsmore Airport



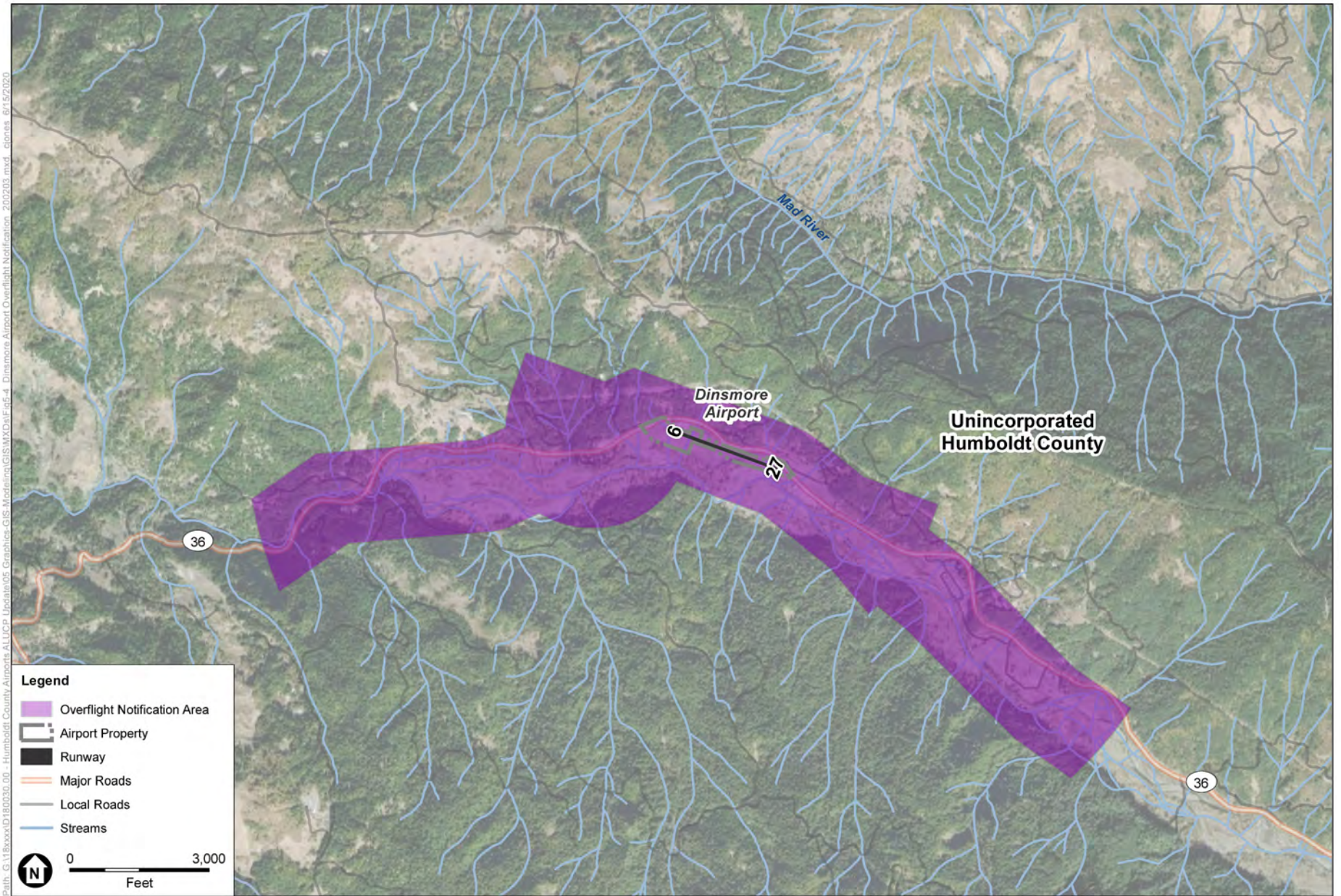


SOURCE: USDOT. FAA 14 CFR Part 77, Safe, Efficient Use and Preservation of Navigable Airspace, July 21, 2010; ESA, 2018

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure 5-3**  
14 CFR Part 77 Airspace Protection Surfaces  
Dinsmore Airport





SOURCE: ESA, 2018; DigitalGlobe, June 2016; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure 5-4**  
Overflight Compatibility Policy Map  
Dinsmore Airport

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# CHAPTER 6

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## Garberville Airport Maps

### 6.1 Chapter Overview

This chapter includes maps delineating noise, safety, airspace, and overflight compatibility factors for Garberville Airport (O16 or the Airport). These maps are to be used in combination with the policies presented in Chapter 3, *Humboldt County Airports Policies*, to identify areas around the Airport in which the ALUCP policies are applicable.

The following sections provide a summary of the physical and operational characteristics that were identified and used to develop the maps presented in this chapter. A more detailed discussion of this data as well as further information on Garberville Airport and the surrounding area is presented in Appendix G.

### 6.2 Compatibility Factor Delineation

Compatibility factors for the Airport were developed based on information included in the FAA's TAF, the current ALP, and the Airport's 2007 Master Plan Report. Additional data was obtained through Humboldt County's website, airport records maintained by the FAA, and consultation with Airport staff. The following sections discuss the data obtained from these sources in greater detail.

#### 6.2.1 Airport Configuration

Garberville Airport has a single north-south oriented, asphalt runway, Runway 18-36. Runway 18-36 is 2,783-ft long and 75-ft wide. There is currently no ATCT at the Airport. Pilots using the airport communicate directly with each other via a common traffic advisory frequency (CTAF). Prior to departure/arrival, pilots use Oakland's FAA Flight Service Station (FSS), which provides pilot briefings on weather, airports, altitudes, routes, and other flight planning information. There are no visual approach aids installed on Runway 18-36. More information on the airport configuration is provided in Appendix G.

The County updated the Airport's Master Plan, including the ALP, in January 2007. The planned improvements to the Airport shown in the Master Plan and on the ALP include a 20-year plan that discusses sites for future rehabilitation and reconstruction of the runway, ramp, storm drain, as well as fencing and gates.

## 6.2.2 Airport Activity Forecast

For purposes of this ALUCP, the airport activity forecast included in the Airport’s Master Plan, data included in the FAA’s TAF, as well as information provided by the County were used to characterize future airport activity (year 2039). The TAF forecasts approximately 16,500 annual operations or 46 average annual daily operations for 2039. More information on the airport activity forecast is provided in Appendix H.

## 6.2.3 Compatibility Factor Policy Maps

The following sections discuss the four compatibility factors prepared for Garberville Airport.

### Noise Compatibility Policy Map

Under California state law, the CNEL contours provided in the ALUCP must reflect the anticipated growth in operations at the Airport during at least the next 20 years. (Public Util. Code, § 21675(a).) As discussed in Section 6.2.3, the activity forecast prepared for the Airport and reflected in the CNEL contours represents 2039 conditions. **Figure 6-1** depicts the noise contours for the Airport. More information on the aircraft operational data used to produce the CNEL contours is provided in Appendix H.

### Safety Zone Compatibility Policy Map

**Figure 6-2** depicts the safety zones for the Airport. The safety zones were developed based on guidance provided in the Caltrans Handbook, which includes dimensions for “generic” safety zones. These generic safety zones are geometric shapes representing areas of progressive degree of risk for aircraft accident based on statistical analysis of accident locations. Typically, the closer to the runway end, the higher the risk for an accident.

Safety Zones for Runway 18-36 were based on *Example 1: Short General Aviation Runway*, included in the Caltrans Handbook. *Example 1* assumes a runway length less than 4,000 feet, approach visibility minimums greater than or equal to one mile, and runway protection zones (RPZs) of 250 feet by 450 feet by 1,000 feet. Adjustments were made to Safety Zone 4 off both runway ends to better reflect how aircraft operate at the Airport. The safety zones are discussed in greater detail in Appendix G.

### Airspace Compatibility Policy Map

**Figure 6-3** depicts the 14 CFR Part 77 airspace surfaces for the Airport as shown in the ALP. Part 77 airspace surfaces reflect areas around airports to be protected from obstructions that may serve as hazards to safe air navigation. Humboldt County has promulgated height regulations similar to Part 77 airspace surfaces (Humboldt County Code, Tit. III, Div. 3, Ch.3). As shown on the map, there are terrain penetrations in the approach surface to Runway 18 and within the horizontal and conical surfaces to the west and southeast of the airport. There are additional terrain penetrations in the conical surface to the east of the Runway 18 end. Copies of 14 CFR

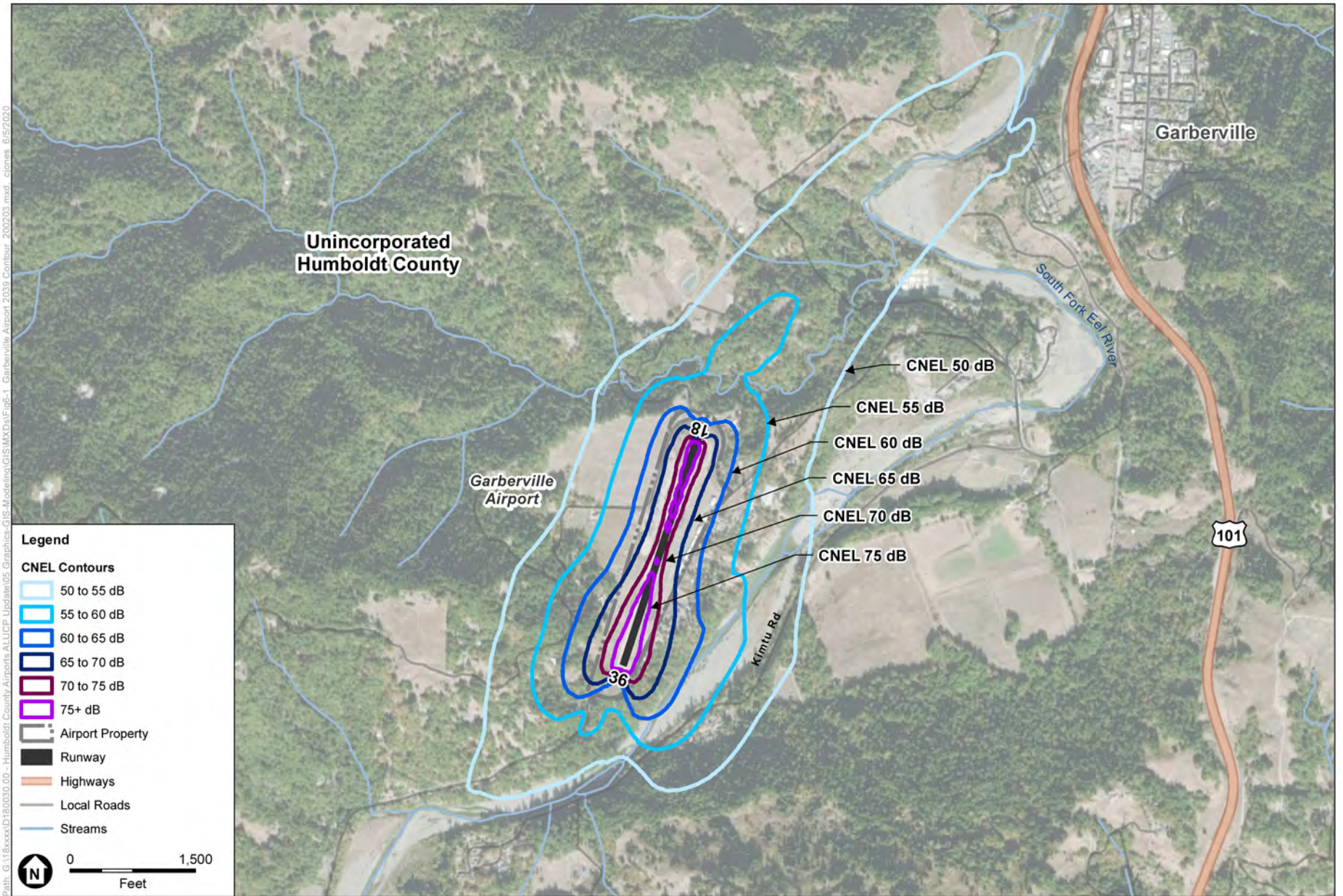
Part 77 as well as Humboldt County's Approach Zone Building Height Regulations are provided in Appendix B.

## Overflight Compatibility Policy Map

**Figure 6-4** shows the overflight notification area for Garberville Airport. The overflight notification area includes all areas covered by the Airport's Safety Zones as well as flight corridors based on the flight tracks used to model the CNEL contours depicted on Figure 6-1. The flight tracks were used to delineate generalized flight corridors in which aircraft arrive to and depart the Airport. As shown in Figure 6-4, the generalized flight corridors extend to the outer boundary of the Airport's conical surface as defined by 14 CFR Part 77.

## Airport Influence Area

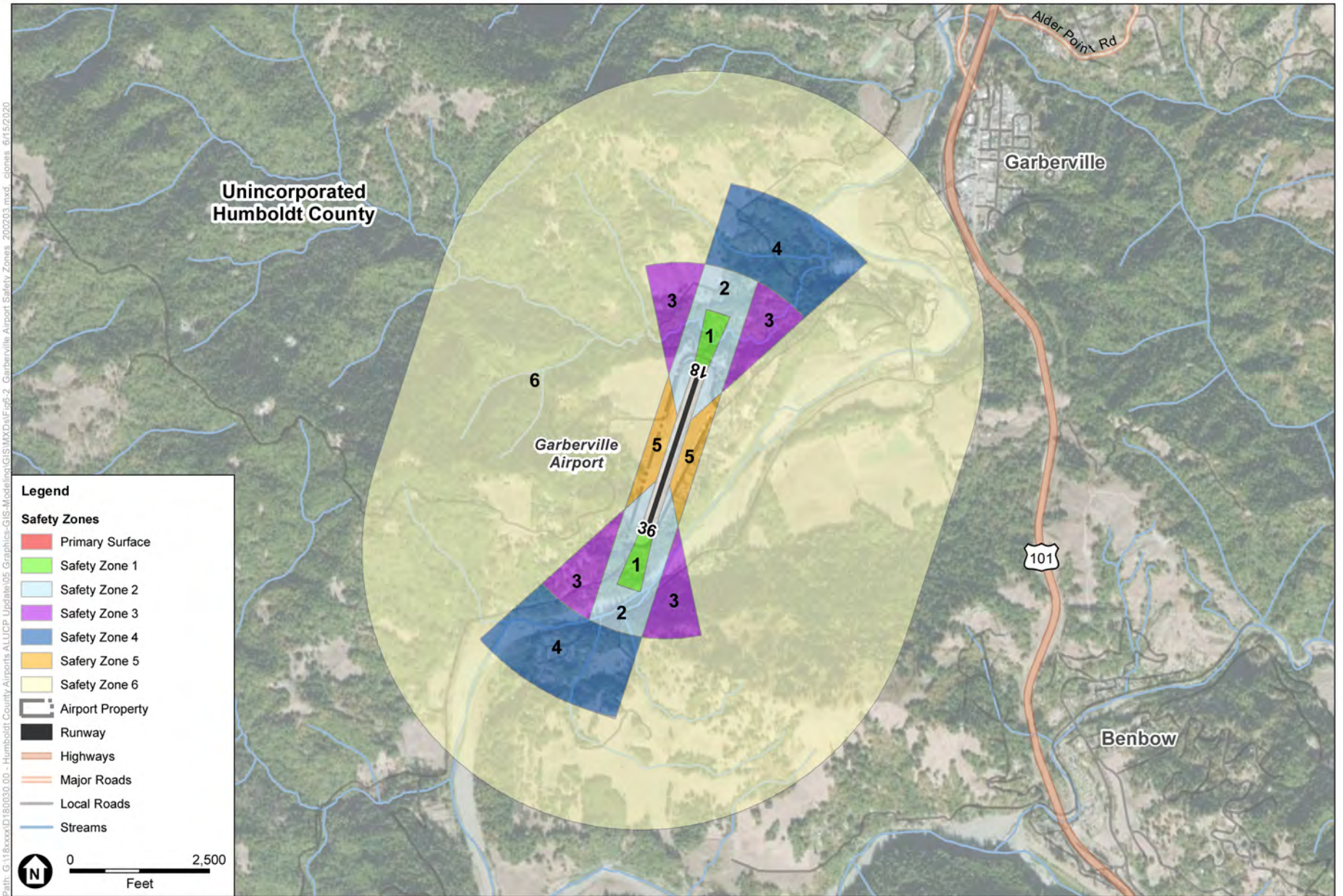
**Figure 1-4** shows the AIA for Garberville Airport. The AIA is "the area in which current or future airport-related noise, overflight, safety, or airspace protection factors may significantly affect land uses or necessitate restrictions on those uses." (Bus. and Prof. Code, § 11010(b)(13)(b).) The AIA is divided into two areas. Review Area 1 and Review Area 2. Review Area 1 consists of a combination of the CNEL contours and six safety zones for the Airport, and represents areas where noise and/or safety concerns may require limitations on the type of land uses that may be developed in the future. The policies included in Sections 3.2 and 3.3 are applicable in Review Area 1. Review Area 2, consists of areas within the combined airspace surfaces and overflight notification area. The policies included in Sections 3.4 and 3.5 are applicable in Review Area 2.



SOURCE: AEDT 2d; ESA, 2018; DigitalGlobe, July 2016; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

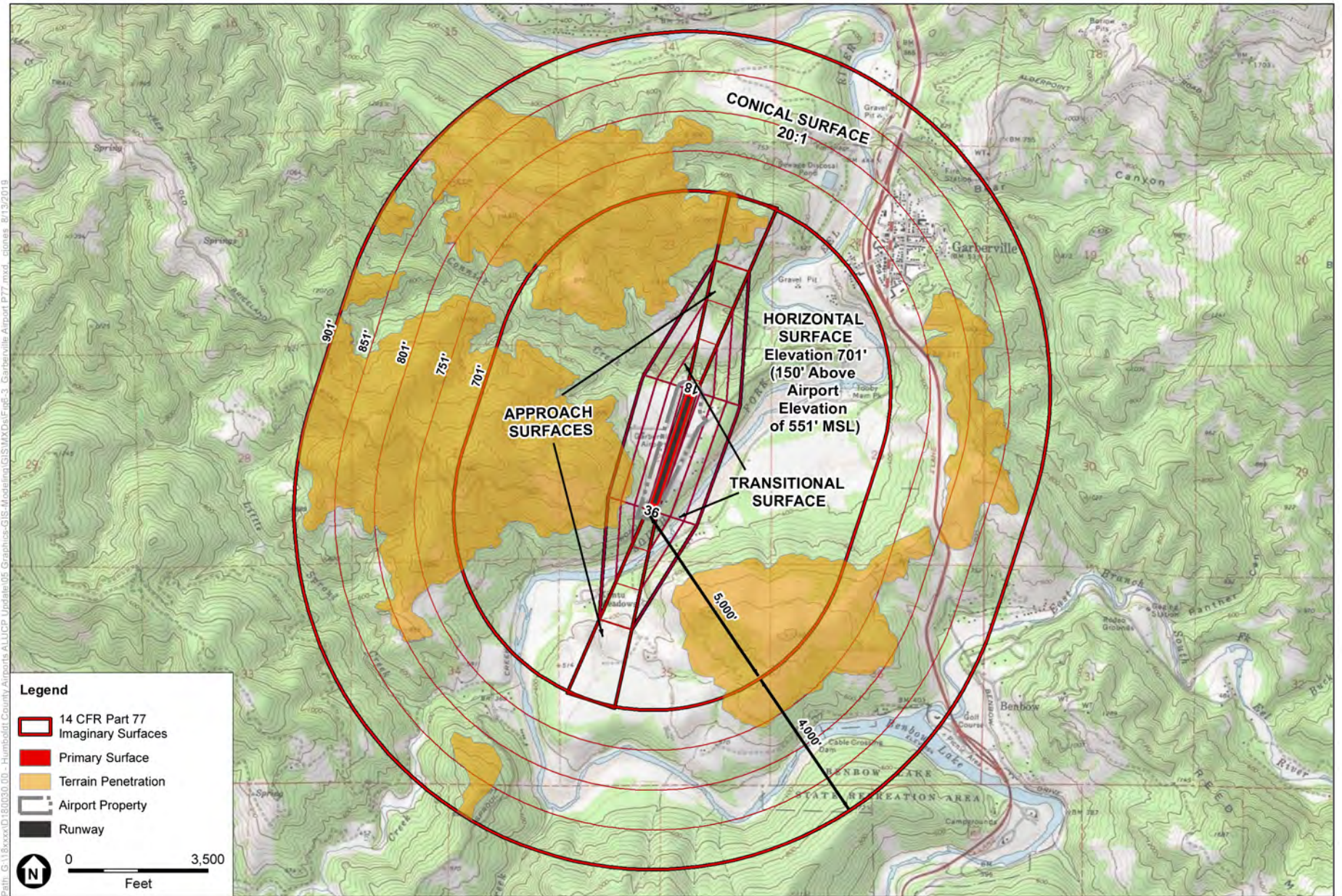
**Figure 6-1**  
Noise Compatibility Policy Map  
Garberville Airport



SOURCE: ESA, 2018; DigitalGlobe, July 2016; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure 6-2**  
 Safety Compatibility Policy Map  
 Garberville Airport

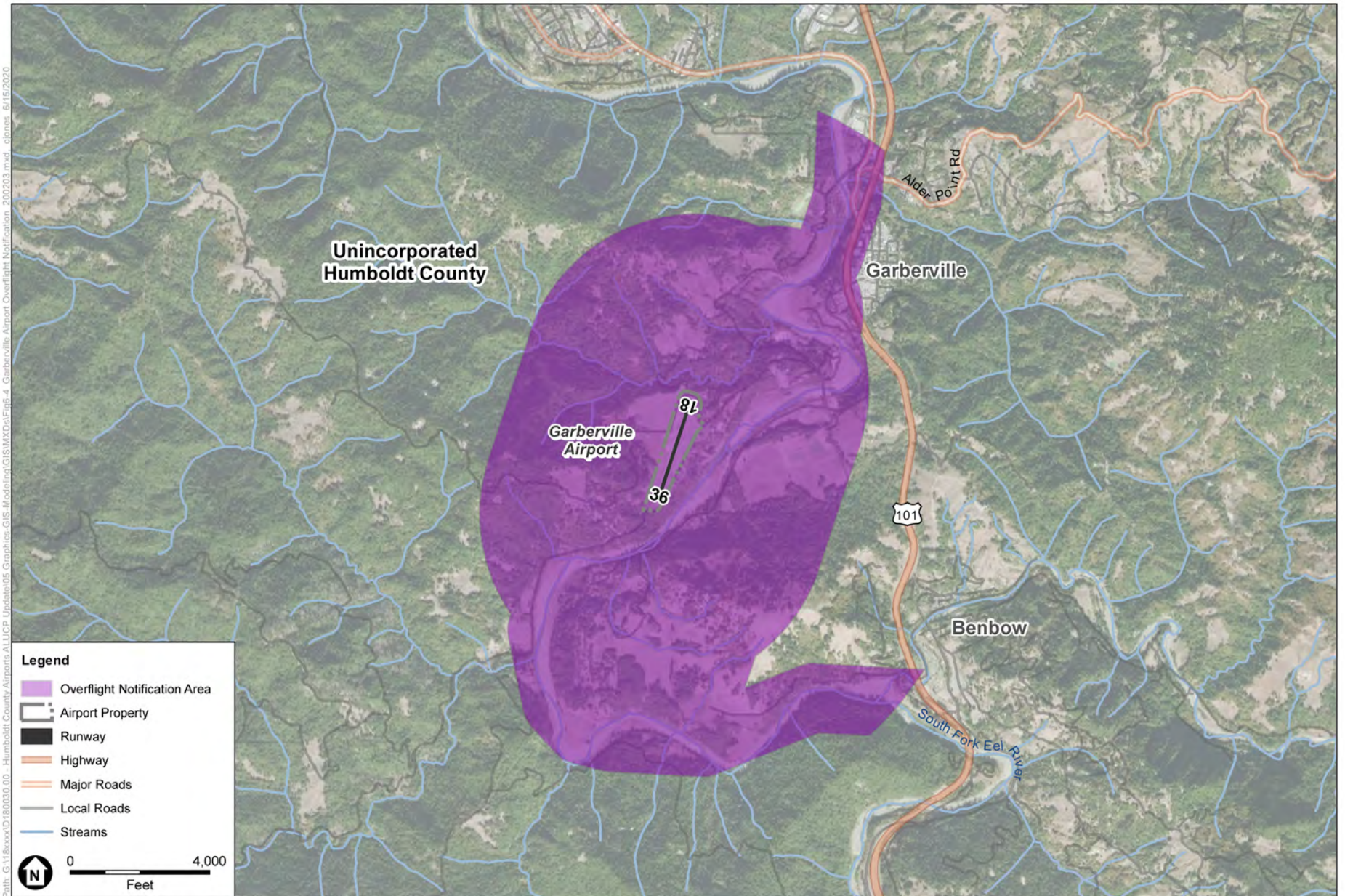


SOURCE: USDOT. FAA 14 CFR Part 77, Safe, Efficient Use and Preservation of Navigable Airspace, July 21, 2010; ESA, 2018

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure 6-3**  
14 CFR Part 77 Airspace Protection Surfaces  
Garberville Airport





SOURCE: ESA, 2018; DigitalGlobe, July 2016; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure 6-4**  
Overflight Compatibility Policy Map  
Garberville Airport

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# CHAPTER 7

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## Kneeland Airport Maps

### 7.1 Chapter Overview

This chapter includes maps delineating noise, safety, airspace, and overflight compatibility factors for Kneeland Airport (O19 or the Airport). These maps are to be used in combination with the policies presented in Chapter 3, *Humboldt County Airports Policies*, to identify areas around the Airport in which the ALUCP policies are applicable.

The following sections provide a summary of the physical and operational characteristics that were identified and used to develop the maps presented in this chapter. A more detailed discussion of this data as well as further information on Kneeland Airport and the surrounding area is presented in Appendix G.

### 7.2 Compatibility Factor Delineation

Compatibility factors for Kneeland Airport were developed based on information derived from the Kneeland Airport Master Plan update (Master Plan), prepared in September 2005, airport records maintained by the FAA, as well as information provided on the approved ALP (and described in the Airport Master Plan Update). The following sections discuss these data sources in greater detail.

#### 7.2.1 Airport Configuration

The Airport has one north-south oriented, asphalt runway, Runway 15-33. Per the ALP, the runway is 2,252 feet long and 50 feet wide. There is no ATCT at the airport, and the Airport is unmanned and offers no services. There are also no visual or navigational aids at the Airport. Kneeland Airport is classified as a GA airport in the NPIAS as well as the CASP with the CASP classifying the Airport in the Community General Aviation sub-category.

The Kneeland Airport Master Plan was last updated in September 2005 and provides a forecast of Airport activity through 2025. The Master Plan and the FAA's TAF anticipate consistent activity in Airport operations through 2039 and proposes a phased program of improvements to meet the Airport's facility needs. The planned improvements to the Airport shown in the Master Plan and on the ALP include a 20-year plan that mostly discusses stabilization and sealing of Runway 15-33. More information on the airport activity forecast is provided in Appendix G.

## 7.2.2 Airport Activity Forecast

For purposes of this ALUCP, information from the 2005 Airport Master Plan, the FAA TAF, as well as information provided by the County was used to characterize future airport activity (year 2039). Based on this information, the Airport estimates approximately 7,000 annual operations at the Airport in 2039. More information on the airport activity forecast is provided in Appendix H.

## 7.2.3 Compatibility Factor Policy Maps

The following sections discuss the four compatibility factors prepared for Kneeland Airport.

### Noise Compatibility Policy Map

Under California state law, the CNEL contours provided in the ALUCP must reflect the anticipated growth in operations at the Airport during at least the next 20 years. (Pub. Util. Code, § 21675(a).) As discussed in Section 7.2.3, the activity forecast prepared for the Airport and reflected in the CNEL contours represents 2039 conditions. **Figure 7-1** depicts the CNEL contours for the Airport. More information on the aircraft operational data used to produce the CNEL contours is provided in Appendix H.

### Safety Zone Compatibility Policy Map

**Figure 7-2** depicts the safety zones for Kneeland Airport. The safety zones were developed based on guidance provided in the Caltrans Handbook, which includes dimensions for “generic” safety zones. These generic safety zones are geometric shapes representing areas of progressive degree of risk for aircraft accident based on statistical analysis of accident locations. Typically, the closer to the runway end, the higher the risk for an accident.

The safety zones for Runway 15-33 were based on *Example 1: Short General Aviation Runway*, included in the Caltrans Handbook. *Example 1* assumes a runway length of less than 4,000 feet, approach visibility minimums greater than or equal to a mile or a visual approach only, and RPZs of 250 feet by 450 feet by 1,000 feet. Due to terrain to the east of the runway, aircraft arrive to and depart from the airport to the west. To reflect this single-sided traffic pattern, Safety Zone 3 was eliminated from the eastern side of both runway ends. Adjustments made to the safety zones are discussed in greater detail in Appendix G.

### Airspace Compatibility Policy Map

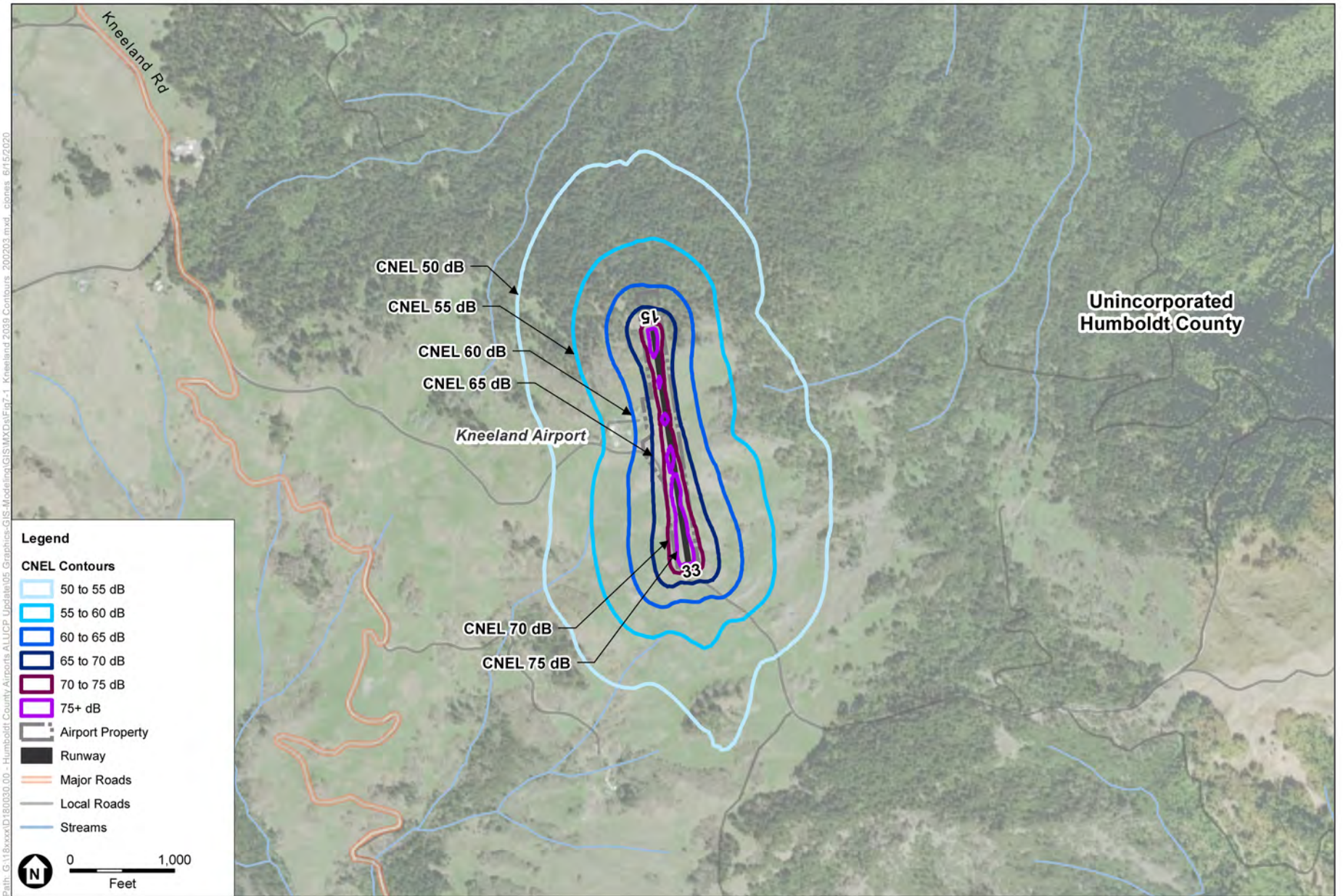
**Figure 7-3** depicts the 14 CFR Part 77 airspace surfaces for the Airport as shown in the ALP. Part 77 airspace surfaces reflect areas around airports to be protected from obstructions that may serve as hazards to safe air navigation. Humboldt County has promulgated height regulations similar to Part 77 airspace surfaces (Humboldt County Code, Tit. III, Div. 3, Ch.3). Copies of 14 CFR Part 77 as well as Humboldt County’s Approach Zone Building Height Regulations are provided in Appendix B.

## Overflight Compatibility Policy Map

**Figure 7-4** shows the overflight notification area for Kneeland Airport. The overflight notification area includes all areas covered by the Airport's Safety Zones as well as flight corridors based on the flight tracks used to model the CNEL contours shown in Figure 7-1. The flight tracks were used to delineate generalized flight corridors in which aircraft arrive to and depart the Airport. As shown in Figure 7-4, the generalized flight corridors extend to the outer boundary of the Airport's conical surface as defined by 14 CFR Part 77.

## Airport Influence Area

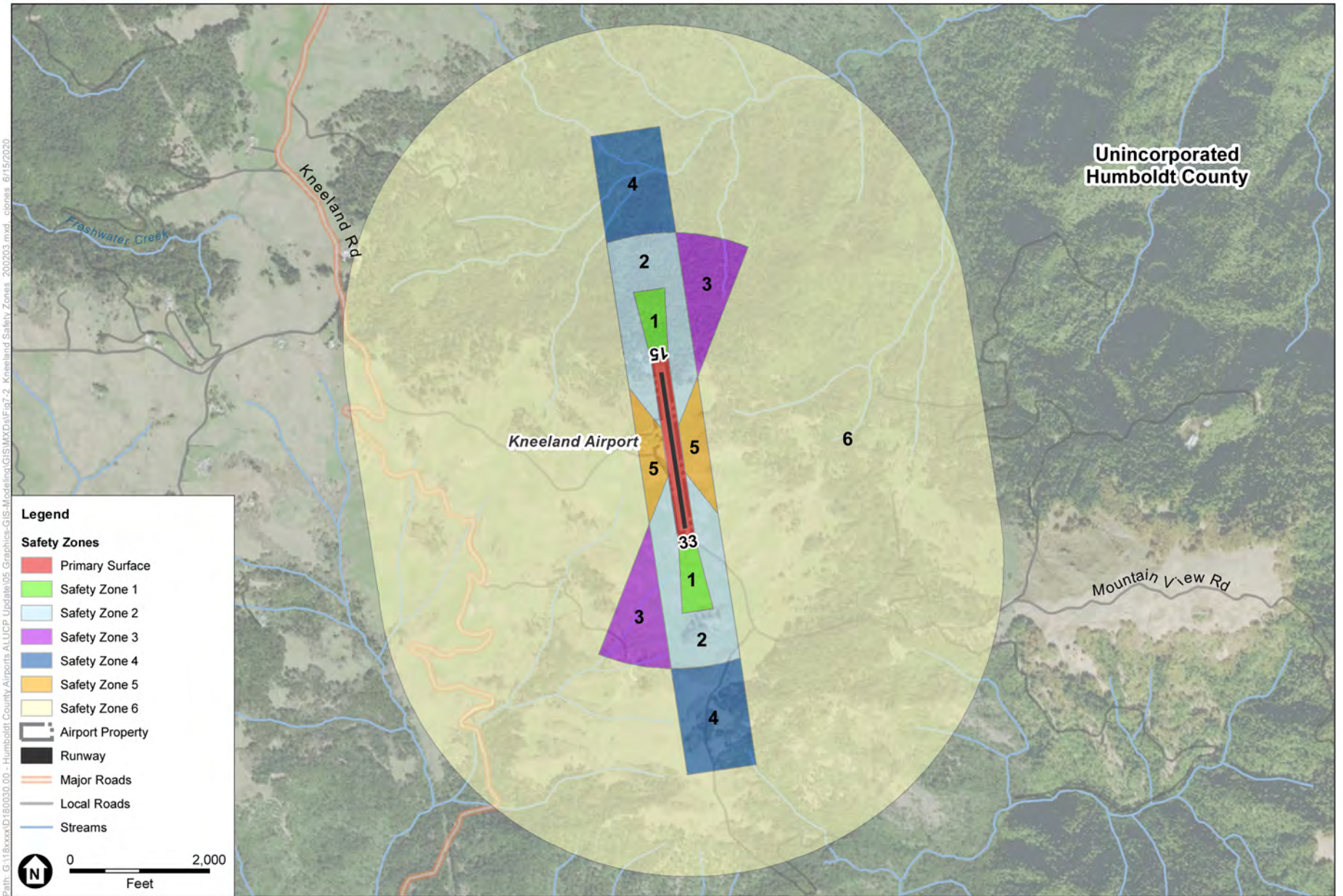
**Figure 1-5** shows the AIA for Kneeland Airport. The AIA is "the area in which current or future airport-related noise, overflight, safety, or airspace protection factors may significantly affect land uses or necessitate restrictions on those uses." (Bus and Prof. Code, § 11010(b)(13)(b).) The AIA is divided into two areas. Review Area 1 and Review Area 2. Review Area 1 consists of a combination of the CNEL contours and six safety zones for the Airport, and represents areas where noise and/or safety concerns may require limitations on the type of land uses that may be developed in the future. The policies included in Sections 3.2 and 3.3 are applicable in Review Area 1. Review Area 2, consists of areas within the combined airspace surfaces and overflight notification area. The policies included in Sections 3.4 and 3.5 are applicable in Review Area 2.



SOURCE: AEDT 2d; ESA, 2018; DigitalGlobe, October 2017; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

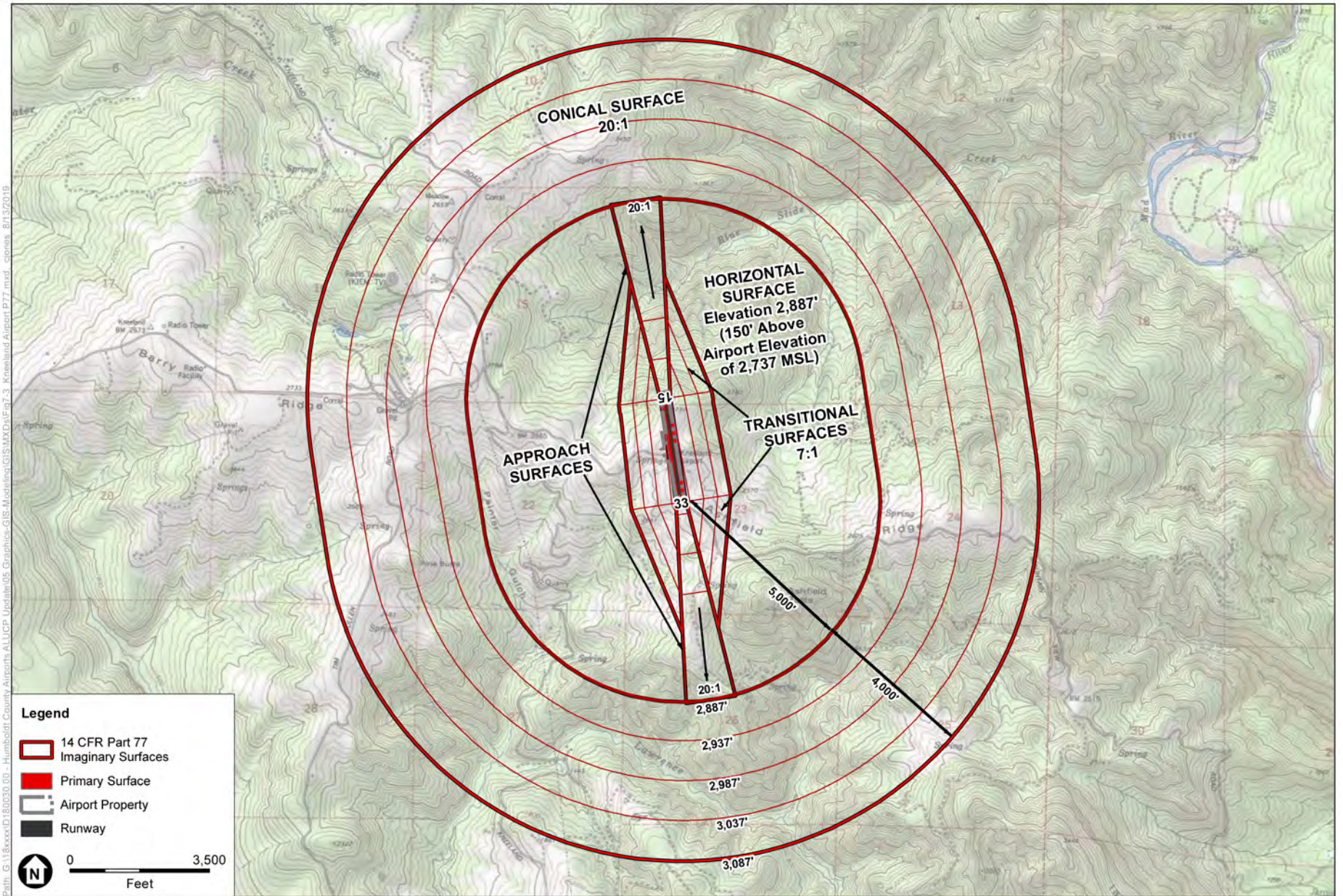
**Figure 7-1**  
Noise Compatibility Policy Map  
Kneeland Airport



SOURCE: ESA, 2018; DigitalGlobe, October 2017; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure 7-2**  
 Safety Compatibility Policy Map  
 Kneeland Airport

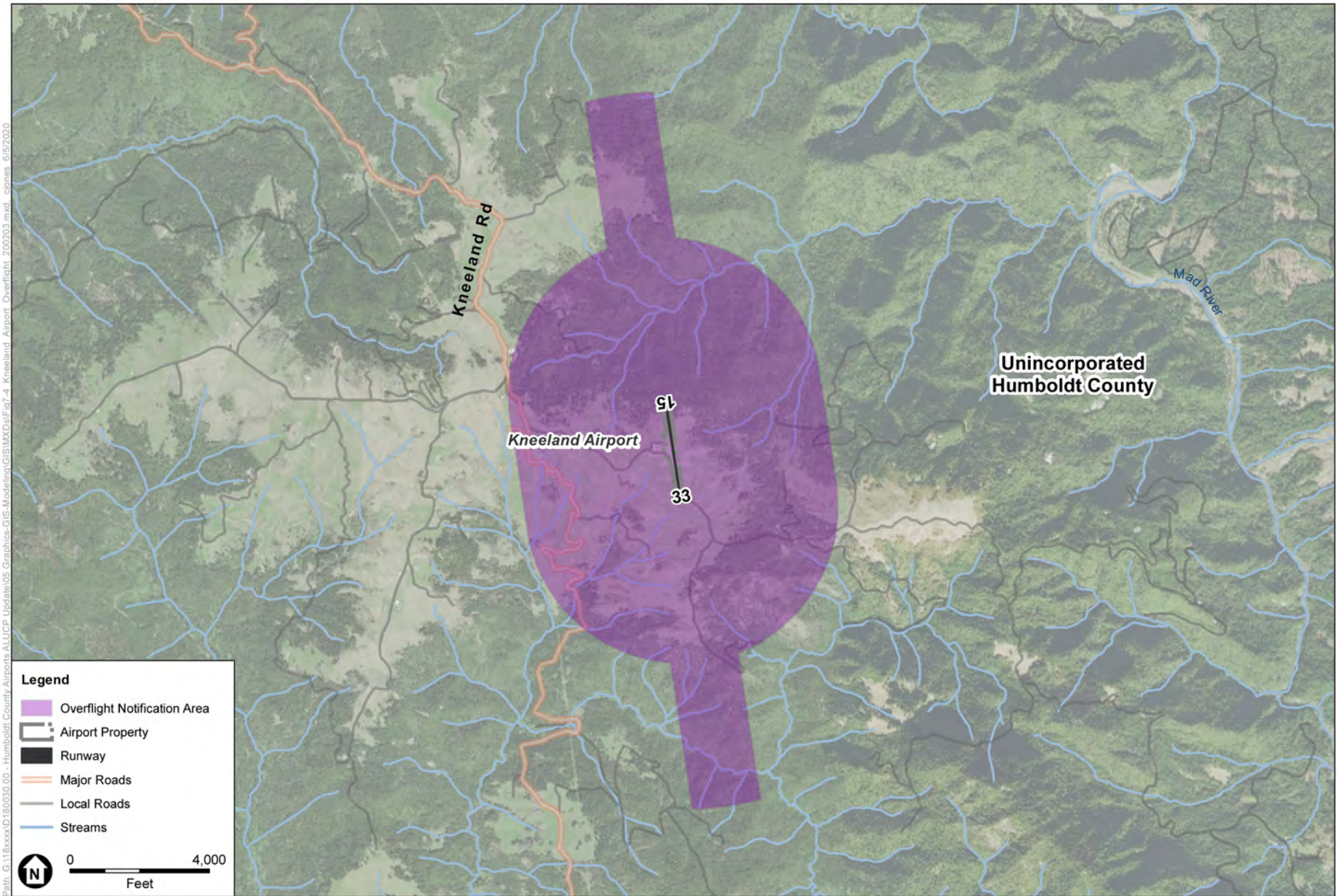


SOURCE: USDOT. FAA 14 CFR Part 77, Safe, Efficient Use and Preservation of Navigable Airspace, July 21, 2010; ESA, 2018

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure 7-3**  
14 CFR Part 77 Airspace Protection Surfaces  
Kneeland Airport





SOURCE: ESA, 2018; DigitalGlobe, October 2017; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure 7-4**  
Overflight Compatibility Policy Map  
Kneeland Airport

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# CHAPTER 8

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## Murray Field Airport Maps

### 8.1 Chapter Overview

This chapter includes maps delineating noise, safety, airspace, and overflight compatibility factors for Murray Field Airport. These maps are to be used in combination with the policies presented in Chapter 3, *Humboldt County Airports Policies*, to identify areas around Murray Field Airport in which the ALUCP policies are applicable.

The following sections provide a summary of the physical and operational characteristics that were identified and used to develop the maps presented in this chapter. A more detailed discussion of this data as well as further information on Murray Field Airport and the surrounding area is presented in Appendix G.

### 8.2 Compatibility Zone Delineation

Compatibility factors for the Murray Field Airport were derived from the 2007 Murray Field ALP, Airport Master Plan, airport records maintained by the FAA, as well as input from County staff. The following sections discuss the data obtained from these sources in greater detail.

#### 8.2.1 Airport Configuration

The Airport has one northwest-southeast oriented, asphalt runway, Runway 12-30. The runway is, 3,011-feet long by 75-feet wide. Approximately 65 percent of operations are arrivals to and departures from Runway 30. The Airport does not have an ATCT. Navigational aids at the airport include GPS, a segmented circle, and a wind cone. Visual aids at the Airport include a rotating beacon, a two-box visual approach slope indicator at both ends of the runway (SAVSI and VASI-2L), and medium intensity runway lights (MIRL), as well as a Very-High-Frequency Omnidirectional Range (VOR-DME) antenna located at Rohnerville Airport (Fortuna VOR) which provides distance and bearing information to pilots on approach to Runway 12.

#### 8.2.2 Airport Activity Forecast

For purposes of this ALUCP, information from the 2005 Airport Master Plan, the FAA's TAF, as well as information provided by the County was used to characterize future airport activity (year 2039). Based on this information, the Airport estimates approximately 55,450 annual operations or 152 average annual daily operations for 2039. Information on the airport activity forecast is provided in Appendix H.

## 8.2.3 Compatibility Factor Policy Maps

The following sections discuss the four compatibility factors prepared for Murray Field Airport.

### Noise Compatibility Policy Map

Under California state law, the CNEL contours provided in the ALUCP must reflect the anticipated growth in operations at the Airport during at least the next 20 years. (Public Util. Code, § 21675(a).) As discussed in Section 8.2.3, the activity forecast prepared for the Airport and reflected in the CNEL contours represents 2039 conditions. **Figure 8-1** depicts the CNEL contours for the Airport. More information on the aircraft operational data used to produce the CNEL contours is provided in Appendix H.

### Safety Zone Compatibility Policy Map

**Figure 8-2** depicts the safety zones for the Airport. The safety zones were developed based on guidance provided in the Caltrans Handbook, which includes dimensions for “generic” safety zones. These generic safety zones are geometric shapes representing areas of progressive degree of risk for aircraft accident based on statistical analysis of accident locations. Typically, the closer to the runway end, the higher the risk for an accident.

The safety zones for Runway 12-30 were based on *Example 1: Short General Aviation Runway*, included in the Caltrans Handbook. *Example 1* assumes a runway length of less than 4,000 feet, approach visibility minimums greater than or equal to a mile or a visual approach only, and RPZs of 250 feet by 450 feet by 1,000 feet. Excluding Safety Zone 1, no other adjustments were made to the generic safety zones. Adjustments made to the safety zones are discussed in greater detail in Appendix G.

### Airspace Compatibility Policy Map

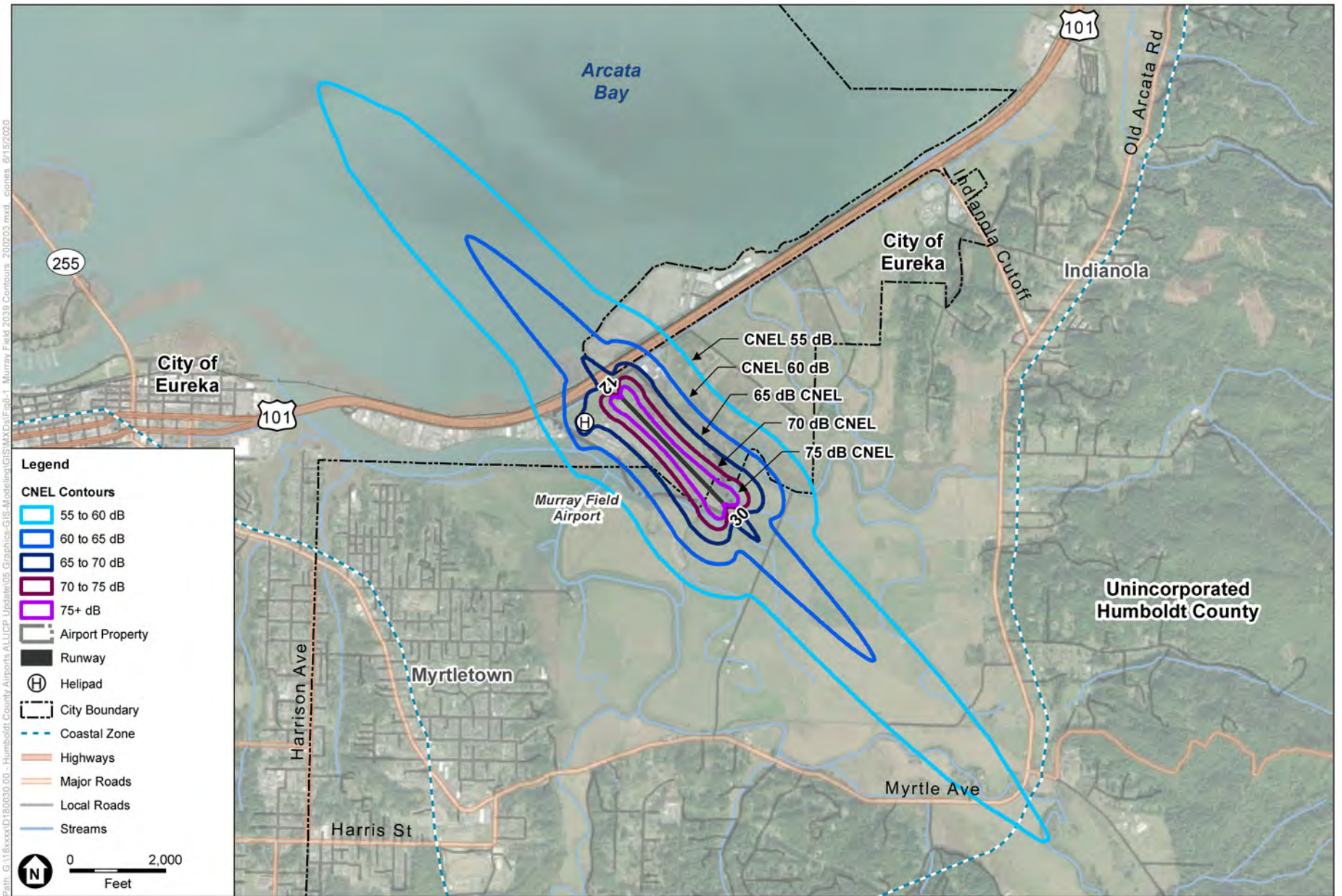
**Figure 8-3** depicts the 14 CFR Part 77 airspace surfaces for Murray Field Airport based on the current ALP. Part 77 airspace surfaces reflect areas around airports to be protected from obstructions that may serve as hazards to safe air navigation. Humboldt County has promulgated height regulations similar to Part 77 airspace surfaces (Humboldt County Code, Tit. III, Div. 3, Ch.3). Copies of 14 CFR Part 77 as well as Humboldt County’s Approach Zone Building Height Regulations are provided in Appendix B.

### Overflight Compatibility Policy Map

**Figure 8-4** shows the overflight notification area for Murray Field Airport. The overflight notification area includes all areas covered by the Airport’s Safety Zones as well as flight corridors based on the flight tracks used to model the CNEL contours depicted on Figure 8-1. The flight tracks were used to delineate generalized flight corridors in which aircraft arrive to and depart the Airport. As shown in Figure 8-4, the generalized flight corridors extend to the outer boundary of the Airport’s conical surface as defined by 14 CFR Part 77.

## Airport Influence Area

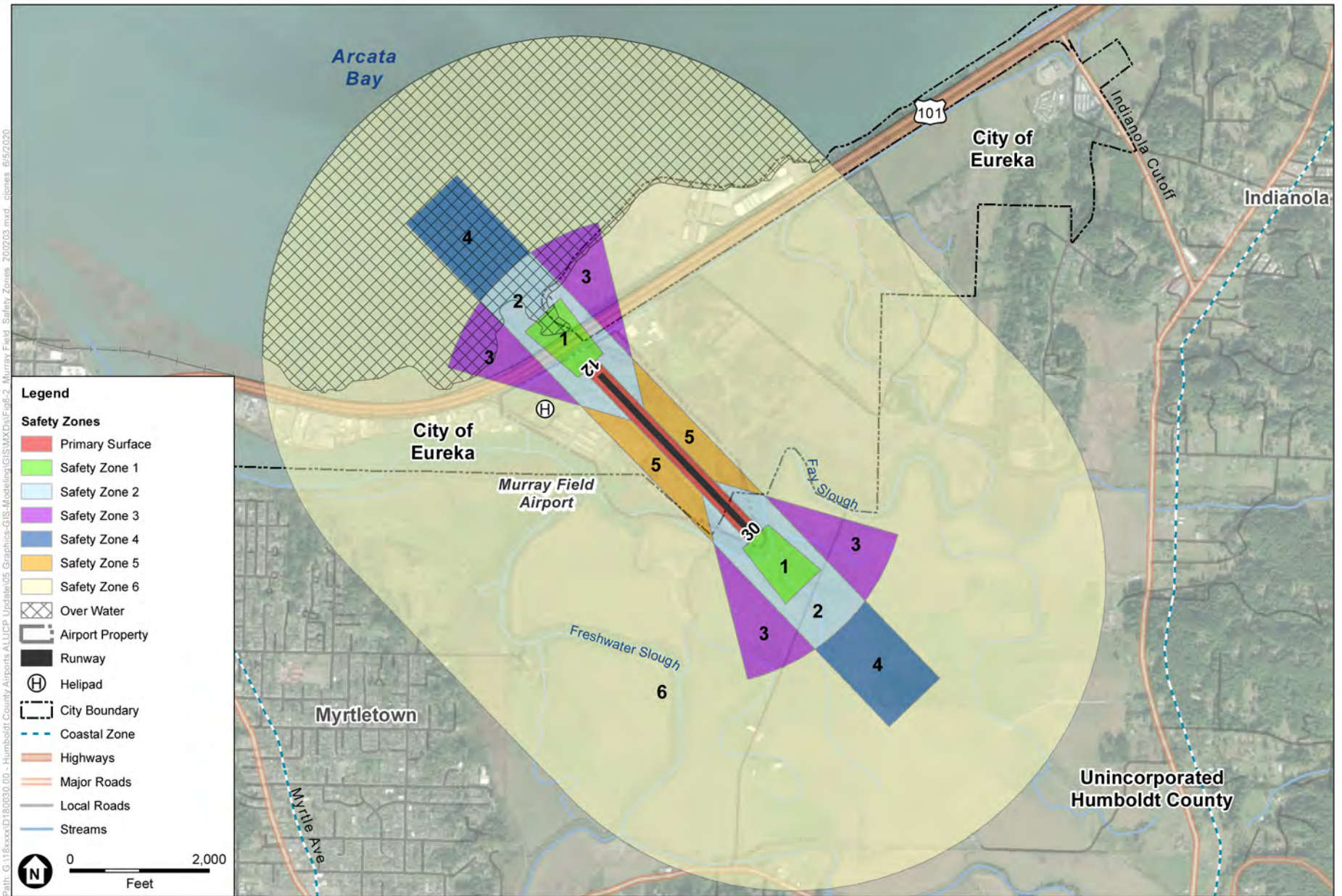
**Figure 1-6** shows the AIA for Murray Field Airport. The AIA is “the area in which current or future airport-related noise, overflight, safety, or airspace protection factors may significantly affect land uses or necessitate restrictions on those uses.” (Bus. and Prof. Code, § 11010(b)(13)(b).) The AIA is divided into two areas. Review Area 1 and Review Area 2. Review Area 1 consists of a combination of the CNEL contours and six safety zones for the Airport, and represents areas where noise and/or safety concerns may require limitations on the type of land uses that may be developed in the future. The policies included in Sections 3.2 and 3.3 are applicable in Review Area 1. Review Area 2, consists of areas within the combined airspace surfaces and overflight notification area. The policies included in Sections 3.4 and 3.5 are applicable in Review Area 2.



SOURCE: AEDT 2d; ESA, 2018; DigitalGlobe, October 2017; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

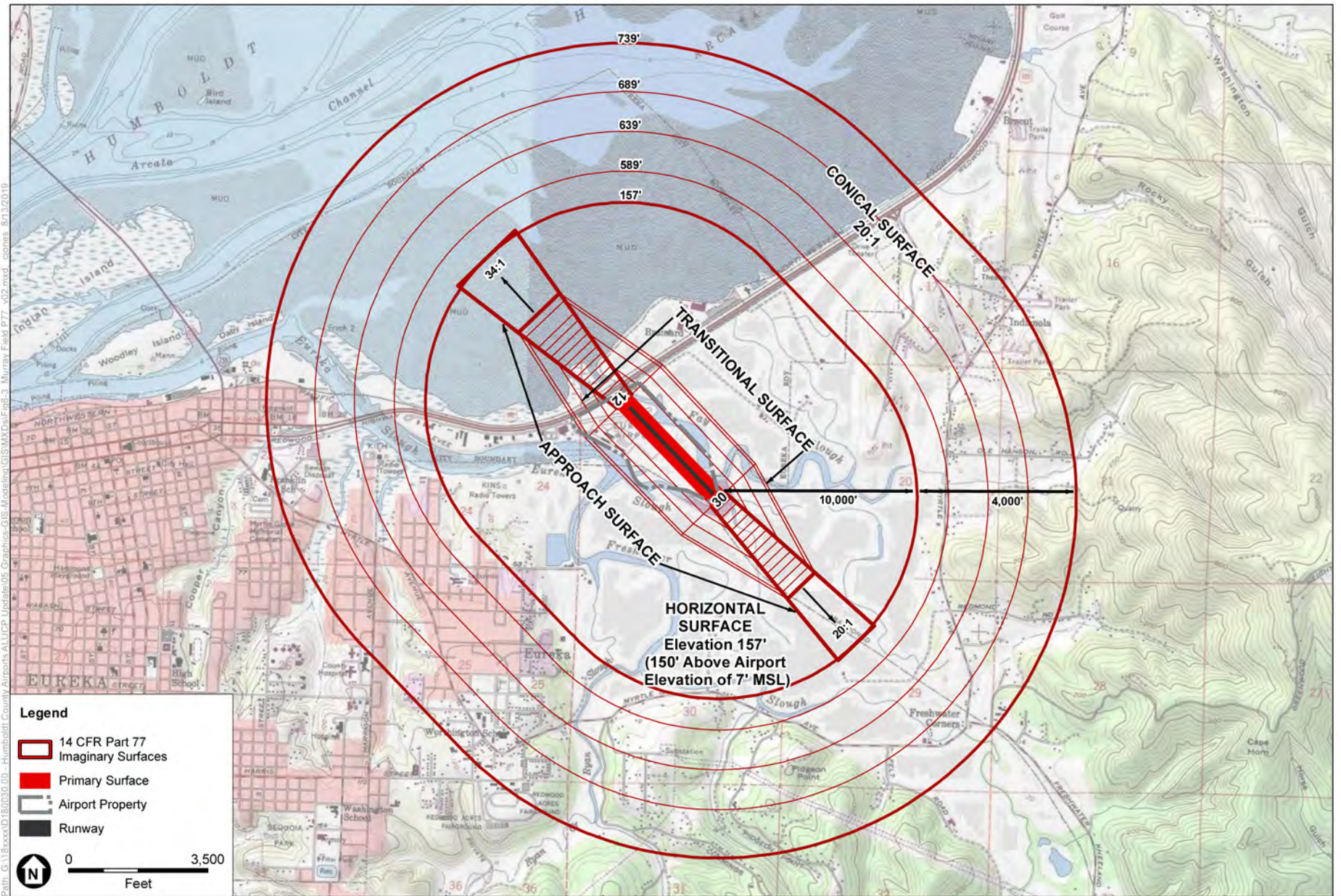
**Figure 8-1**  
Noise Compatibility Policy Map  
Murray Field Airport



SOURCE: ESA, 2018; County of Humboldt, January 2019; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure 8-2**  
 Safety Compatibility Policy Map  
 Murray Field Airport

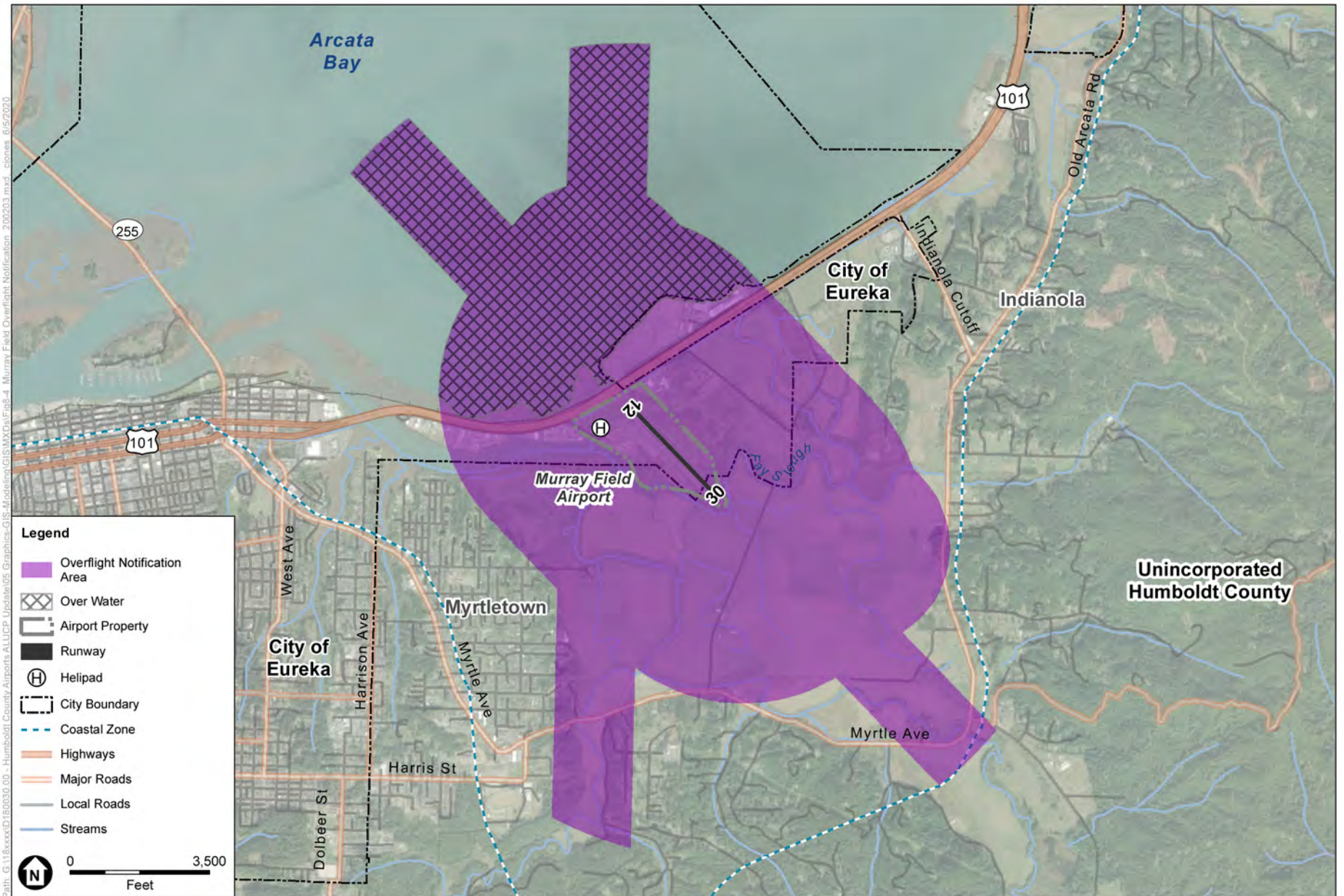


SOURCE: USDOT. FAA 14 CFR Part 77, Safe, Efficient Use and Preservation of Navigable Airspace, July 21, 2010; ESA, 2018

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure 8-3**  
14 CFR Part 77 Airspace Protection Surfaces  
Murray Field Airport





SOURCE: ESA, 2018; DigitalGlobe, October 2017; US Census Bureau, Geography Division, September 2018; USDOT. FAA 14 CFR Part 77, Safe, Efficient Use and Preservation of Navigable Airspace, July 21, 2010.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure 8-4**  
Overflight Compatibility Policy Map  
Murray Field Airport

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# CHAPTER 9

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## Rohnerville Airport Maps

### 9.1 Chapter Overview

This chapter includes maps delineating noise, safety, airspace, and overflight compatibility factors for Rohnerville (FOT or the Airport). These maps are to be used in combination with the policies presented in Chapter 3, *Humboldt County Airports Policies*, to identify areas around Rohnerville in which the ALUCP policies are applicable.

The following sections provide a summary of the physical and operational characteristics that were identified and used to develop the maps presented in this chapter. A more detailed discussion of this data as well as further information on Rohnerville and the surrounding area is presented in Appendix G.

### 9.2 Compatibility Factor Delineation

Compatibility factors for the Rohnerville Airport were derived from the 2007 Rohnerville ALP and Airport Master Plan, airport records maintained by the FAA, as well as input from County staff. The following sections discuss the data obtained from these sources in greater detail.

#### 9.2.1 Airport Configuration

Rohnerville Airport operates one northwest-southeast oriented, asphalt runway, Runway 11-29. The runway is 4,007 feet long by 100 feet wide. The Airport does not operate an ATCT. Visual aids at the Airport include a rotating beacon located midfield, west of the runway. The Runway 11 end has identifier lights (REIL), MIREL, and a VASI. The VASI provides pilots with visual descent guidance while on approach to Runway 11. Two navigational aids serve Rohnerville Airport. A GPS employs a network of satellites to help pilots determine a positional fix to the airport. A VOR is another navigational aid used to provide bearing information to aircraft enroute to the airport. More information on the airport configuration is provided in Appendix G.

#### 9.2.2 Airport Activity Forecast

Aircraft operational data is derived from the 2007 Airport Master Plan, the FAA'S TAF for the Airport, as well as input from County staff. Based on this information, the Airport estimates approximately 27,500 annual operations or 75 average annual daily operations for 2039. Information on the airport activity forecast is provided in Appendix H.

## 9.2.3 Compatibility Factor Policy Maps

The following sections discuss the four compatibility factors prepared for Rohnerville Airport.

### Noise Compatibility Policy Map

Under California state law, the CNEL contours provided in the ALUCP must reflect the anticipated growth in operations at the Airport during at least the next 20 years. (Pub. Util. Code § 21675(a).) As discussed in Section 9.2.3, the activity forecast prepared for the Airport and reflected in the CNEL contours represents 2039 conditions. **Figure 9-1** depicts the CNEL contours for the Airport. More information on the aircraft operational data used to produce the CNEL contours is provided in Appendix H.

### Safety Zone Compatibility Policy Map

**Figure 9-2** depicts the safety zones for Rohnerville Airport. The safety zones were developed based on guidance provided in the Caltrans Handbook, which includes dimensions for “generic” safety zones. These generic safety zones are geometric shapes representing areas of progressive degree of risk for aircraft accident based on statistical analysis of accident locations. Typically, the closer to the runway end, the higher the risk for an accident.

The safety zones for Runway 11-29 were based on *Example 2: Medium General Aviation Runway* included in the Caltrans Handbook. *Example 2* assumes a runway length of 4,000 to 5,999 feet, approach visibility minimums greater than or equal to three quarters of mile to less than a mile, and RPZs of 1,000 feet by 1,510 feet by 1,700 feet. To reflect the single-sided traffic pattern at the Airport, Safety Zone 3 was eliminated from the north side of the runway. The safety zones are discussed in greater detail in Appendix G.

### Airspace Compatibility Policy Map

**Figure 9-3** depicts the 14 CFR Part 77 airspace surfaces for Rohnerville Airport based on the current ALP. Part 77 airspace surfaces reflect areas around airports to be protected from obstructions that may serve as hazards to safe air navigation. Humboldt County has promulgated height regulations similar to Part 77 airspace surfaces (Humboldt County Code, Tit. III, Div. 3, Ch.3). As shown on Figure 9-3, terrain penetrates the horizontal and conical surfaces directly south of the Airport, the horizontal surface northeast of the runway, and the conical surface to the northeast. Copies of 14 CFR Part 77 as well as Humboldt County’s Approach Zone Building Height Regulations are provided in Appendix B.

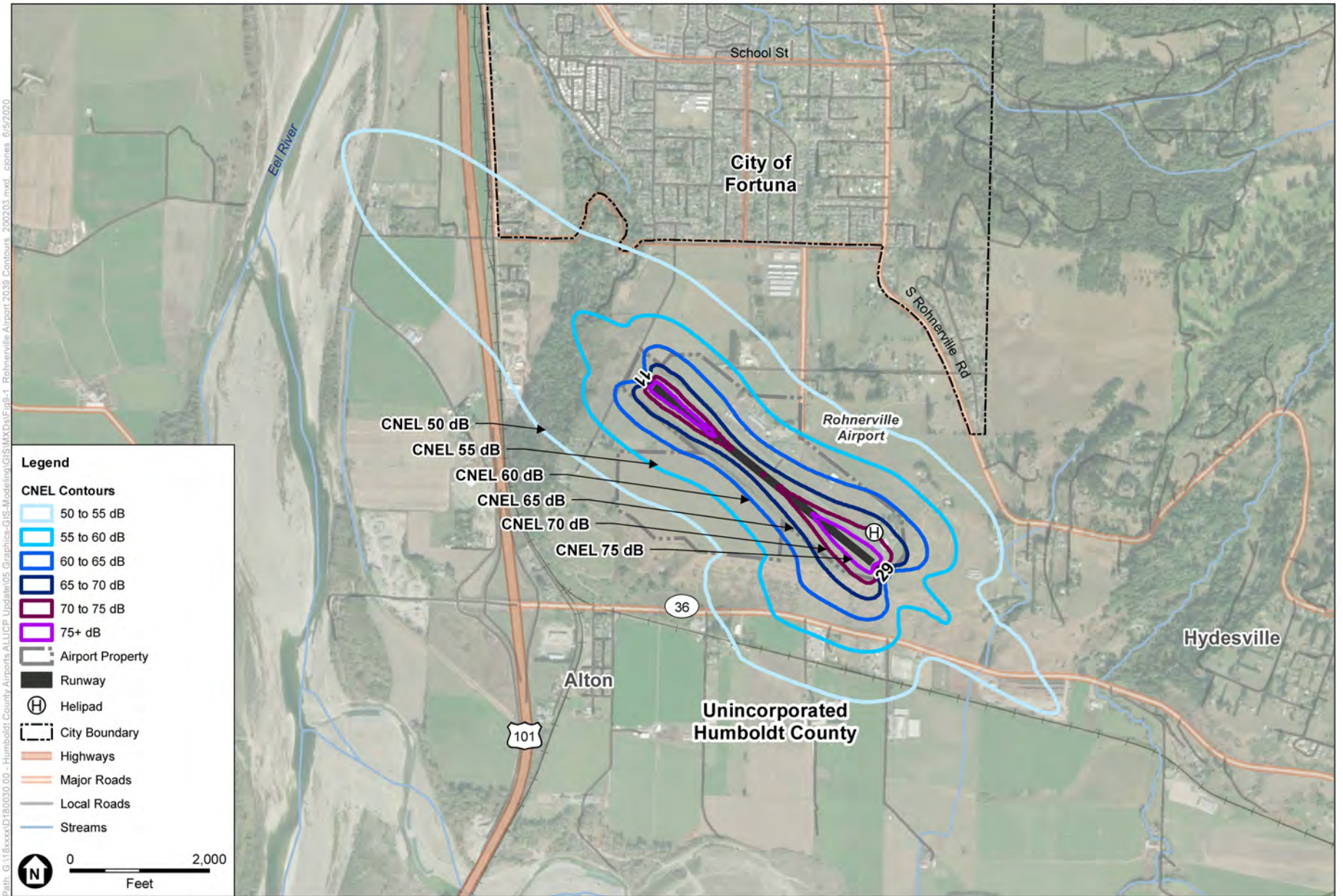
### Overflight Compatibility Policy Map

**Figure 9-4** shows the overflight notification area for Rohnerville Airport. The overflight notification area includes all areas covered by the Airport’s Safety Zones as well as flight corridors based on the flight tracks used to model the CNEL contours depicted on Figure 9-1. The flight tracks were used to delineate generalized flight corridors in which aircraft arrive to and

depart the Airport. As shown in Figure 9-4, the generalized flight corridors extend to the outer boundary of the Airport's conical surface as defined by 14 CFR Part 77.

## Airport Influence Area

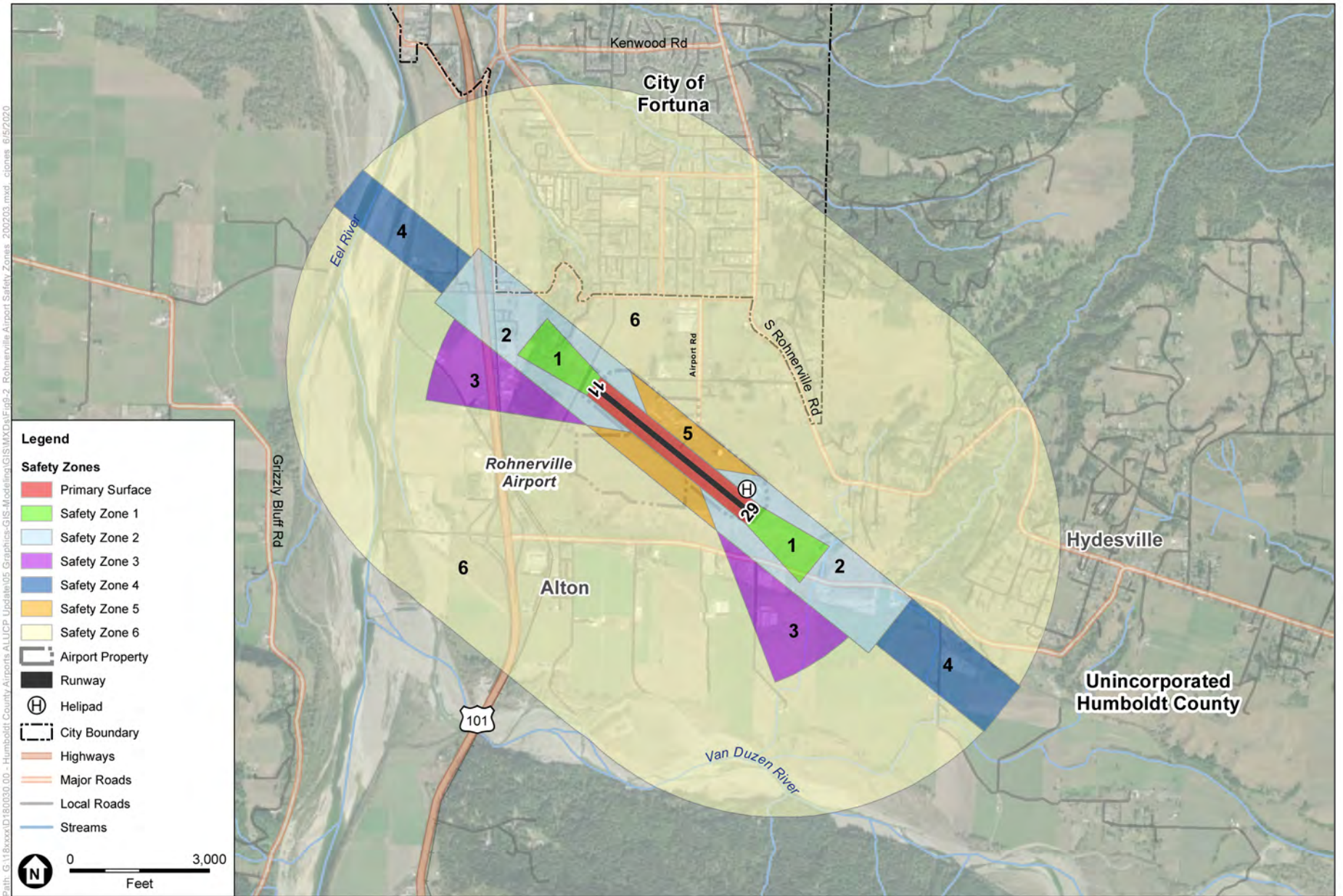
**Figure 1-7** shows the AIA for Rohnerville Airport. The AIA is “the area in which current or future airport-related noise, overflight, safety, or airspace protection factors may significantly affect land uses or necessitate restrictions on those uses.” (Bus. and Prof. Code, § 11010(b)(13)(b).) The AIA is divided into two areas. Review Area 1 and Review Area 2. Review Area 1 consists of a combination of the CNEL contours and six safety zones for the Airport, and represents areas where noise and/or safety concerns may require limitations on the type of land uses that may be developed in the future. The policies included in Sections 3.2 and 3.3 are applicable in Review Area 1. Review Area 2, consists of areas within the combined airspace surfaces and overflight notification area. The policies included in Sections 3.4 and 3.5 are applicable in Review Area 2.



SOURCE: AEDT 2d; ESA, 2018; DigitalGlobe, October 2017; County of Humboldt, February 2019; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

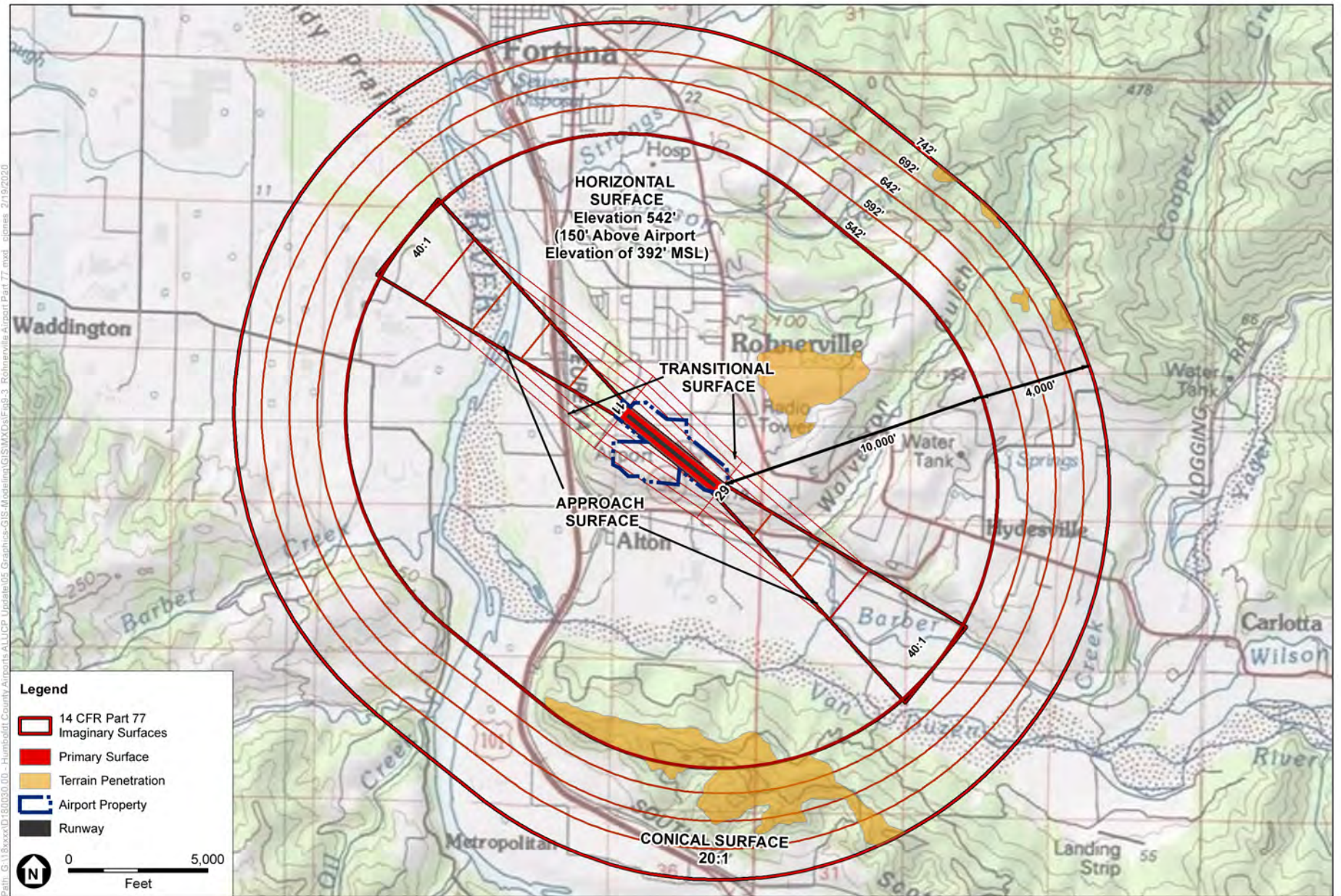
**Figure 9-1**  
Noise Compatibility Policy Map  
Rohnerville Airport



SOURCE: ESA, 2018; DigitalGlobe, October 2017; County of Humboldt, February 2019; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure 9-2**  
 Safety Compatibility Policy Map  
 Rohnerville Airport

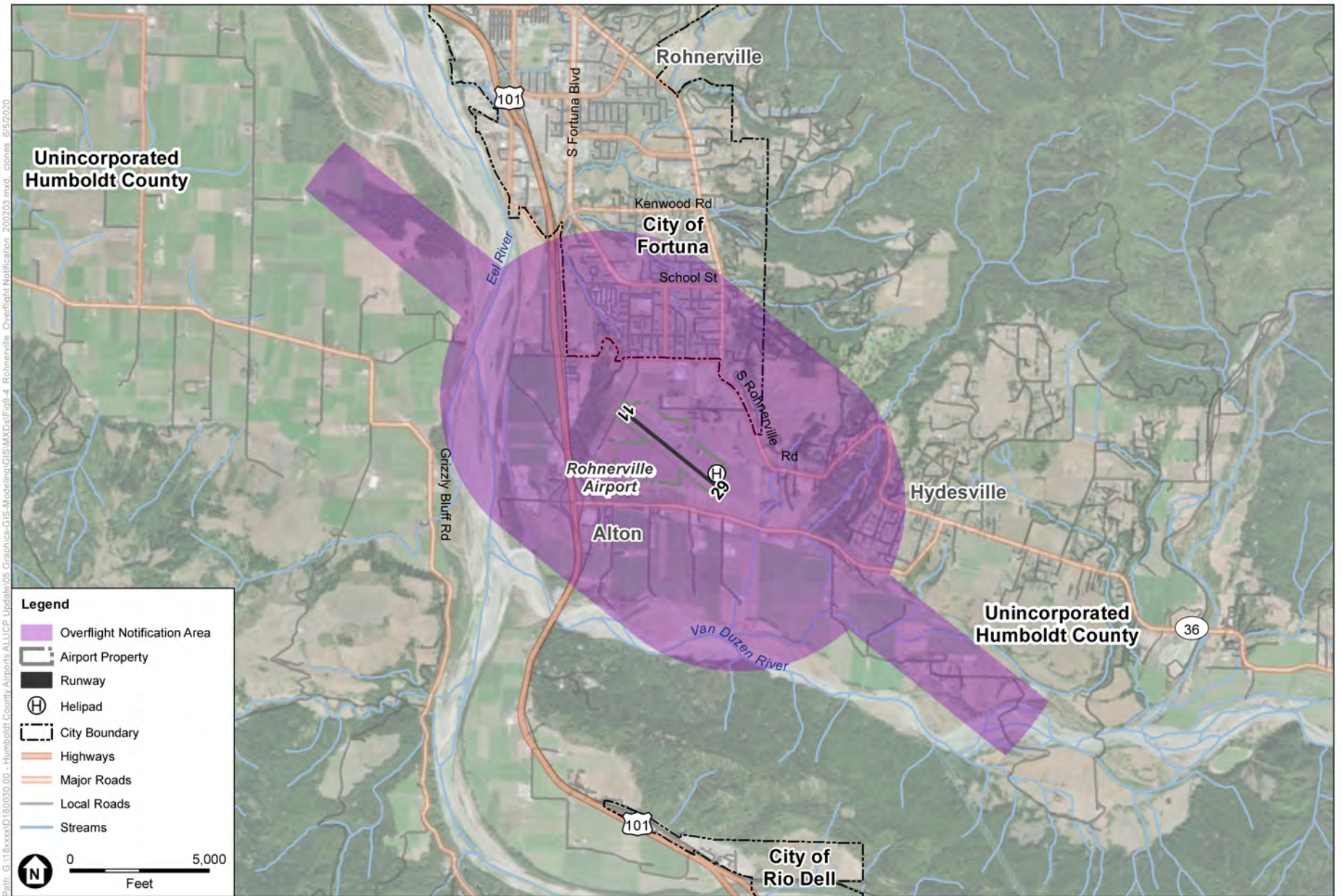


SOURCE: USDOT. FAA 14 CFR Part 77, Safe, Efficient Use and Preservation of Navigable Airspace, July 21, 2010; ESA, 2018

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure 9-3**  
14 CFR Part 77 Airspace Protection Surfaces  
Rohnerville Airport





SOURCE: ESA, 2018; DigitalGlobe, October 2017; County of Humboldt, February 2019; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure 9-4**  
Overflight Compatibility Policy Map  
Rohnerville Airport

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# CHAPTER 10

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## Samoa Field Airport Maps

### 10.1 Chapter Overview

This chapter includes maps delineating noise, safety, airspace, and overflight compatibility factors for Samoa Field Airport (O33 or the Airport). These maps are to be used in combination with the policies presented in Chapter 3, *Humboldt County Airports Policies*, to identify areas around Samoa Field Airport in which the ALUCP policies are applicable.

The following sections provide a summary of the physical and operational characteristics that were identified and used to develop the maps presented in this chapter. A more detailed discussion of this data as well as further information on Samoa Field Airport and the surrounding area is presented in Appendix G.

### 10.2 Compatibility Factor Delineation

Compatibility factors for Samoa Field Airport were developed based on information derived from the Samoa Field Airport Diagram prepared by the City of Eureka, airport records maintained by the FAA, and consultation with the airport manager. The following sections discuss the data obtained from these sources in greater detail.

#### 10.2.1 Airport Configuration

Samoa Field Airport operates one north-south oriented, asphalt runway, Runway 16-34. The runway is 2,700 feet long and 60 feet wide. There are no currently published instrument approaches to the Airport. More information on the airport configuration is provided in Appendix G.

#### 10.2.2 Airport Activity Forecast

Aircraft operational data is derived from the FAA's TAF and input from the airport manager. Based on this information, the Airport estimates approximately 2,764 annual operations or eight average annual daily operations for 2039. More information on the airport activity forecast is provided in Appendix H.

## 10.2.3 Compatibility Factor Policy Maps

The following sections discuss the four compatibility factors prepared for Samoa Field Airport.

### Noise Compatibility Policy Map

Under California state law, the CNEL contours provided in the ALUCP must reflect the anticipated growth in operations at the Airport during at least the next 20 years. (Pub. Util. Code § 21675(a).) As discussed in Section 10.2.3, the activity forecast prepared for the Airport and reflected in the CNEL contours represents 2039 conditions. **Figure 10-1** depicts the CNEL contours for the Airport. More information on the aircraft operational data used to produce the CNEL contours is provided in Appendix H.

### Safety Zone Compatibility Policy Map

**Figure 10-2** depicts the safety zones for Samoa Field Airport. Safety zones for the Airport were developed by selecting the appropriate set of generic safety zones from the examples provided in the Caltrans Handbook and then overlaying them on the runways. Where necessary, adjustments were made to the safety zones to reflect the unique operating conditions at the Airport.

The safety zones for Runway 16-34 were based on *Example 1: Short General Aviation Runway*, included in the Caltrans Handbook. *Example 1* assumes a runway length of less than 4,000 feet, approach visibility minimums greater than or equal to a mile or a visual approach only, and RPZs of 250 feet by 450 feet by 1,000 feet. Safety Zone 3 was eliminated from the east side of the runway to better reflect the single-sided traffic pattern at the Airport. Safety Zone 3 on the west side of the Runway 34 end was expanded to reflect how aircraft operate at the Airport. The safety zones are discussed in greater detail in Appendix G.

### Airspace Compatibility Policy Map

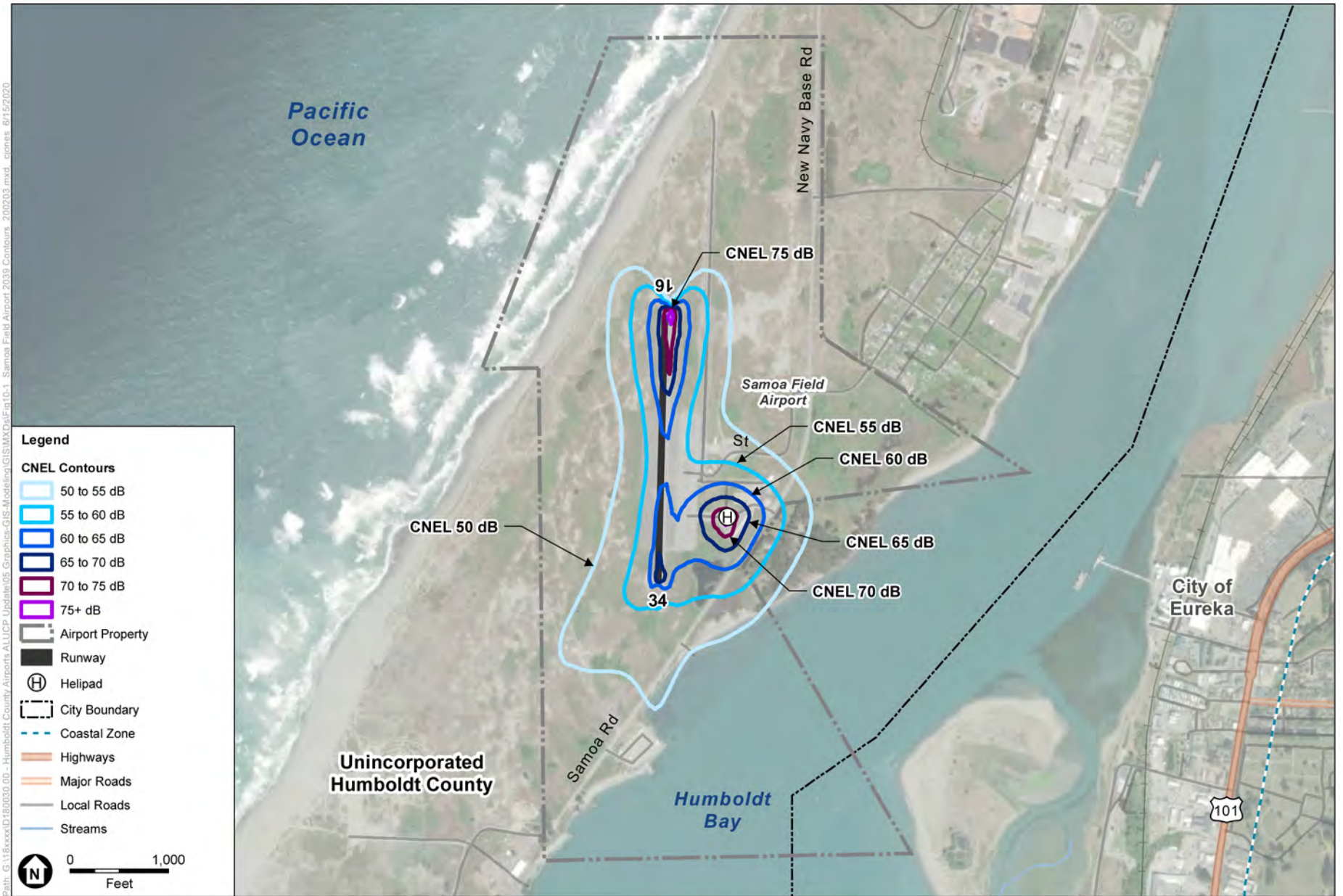
**Figure 10-3** depicts the 14 CFR Part 77 surfaces for Samoa Field. Part 77 airspace surfaces reflect areas around airports to be protected from obstructions that may serve as hazards to safe air navigation. Humboldt County has promulgated height regulations similar to Part 77 airspace surfaces (Humboldt County Code, Tit. III, Div. 3, Ch.3). Copies of 14 CFR Part 77 as well as Humboldt County's Approach Zone Building Height Regulations are provided in Appendix B.

### Overflight Compatibility Policy Map

**Figure 10-4** shows the overflight notification area for Samoa Field Airport. The overflight notification area includes all areas covered by the Airport's Safety Zones as well as flight corridors based on the flight tracks used to model the CNEL contours depicted on Figure 4-1. The flight tracks were used to delineate generalized flight corridors in which aircraft arrive to and depart the Airport. As shown in Figure 4-4, the generalized flight corridors extend to the outer boundary of the Airport's conical surface as defined by 14 CFR Part 77.

## Airport Influence Area

**Figure 1-8** shows the AIA for Samoa Field Airport. The AIA is “the area in which current or future airport-related noise, overflight, safety, or airspace protection factors may significantly affect land uses or necessitate restrictions on those uses.” (Bus. and Prof. Code § 11010(b)(13)(b).) The AIA is divided into two areas. Review Area 1 and Review Area 2. Review Area 1 consists of a combination of the CNEL contours and six safety zones for the Airport, and represents areas where noise and/or safety concerns may require limitations on the type of land uses that may be developed in the future. The policies included in Sections 3.2 and 3.3 are applicable in Review Area 1. Review Area 2, consists of areas within the combined airspace surfaces and overflight notification area. The policies included in Sections 3.4 and 3.5 are applicable in Review Area 2.



SOURCE: AEDT 2d; ESA, 2018; DigitalGlobe, October 2017; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

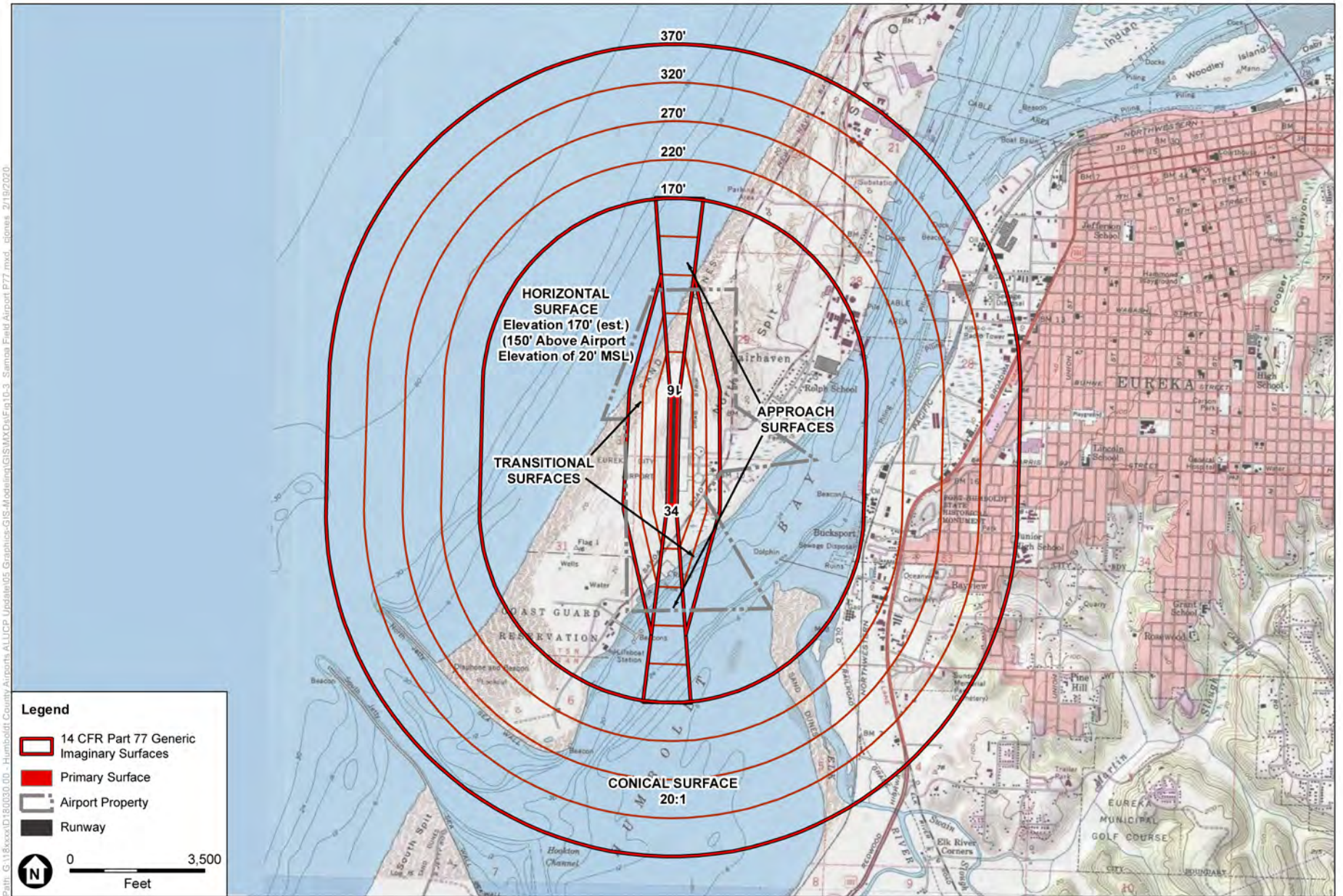
**Figure 10-1**  
 Noise Compatibility Policy Map  
 Samoa Field Airport



SOURCE: ESA, 2018; DigitalGlobe, October 2017; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure 10-2**  
 Safety Compatibility Policy Map  
 Samoa Field Airport

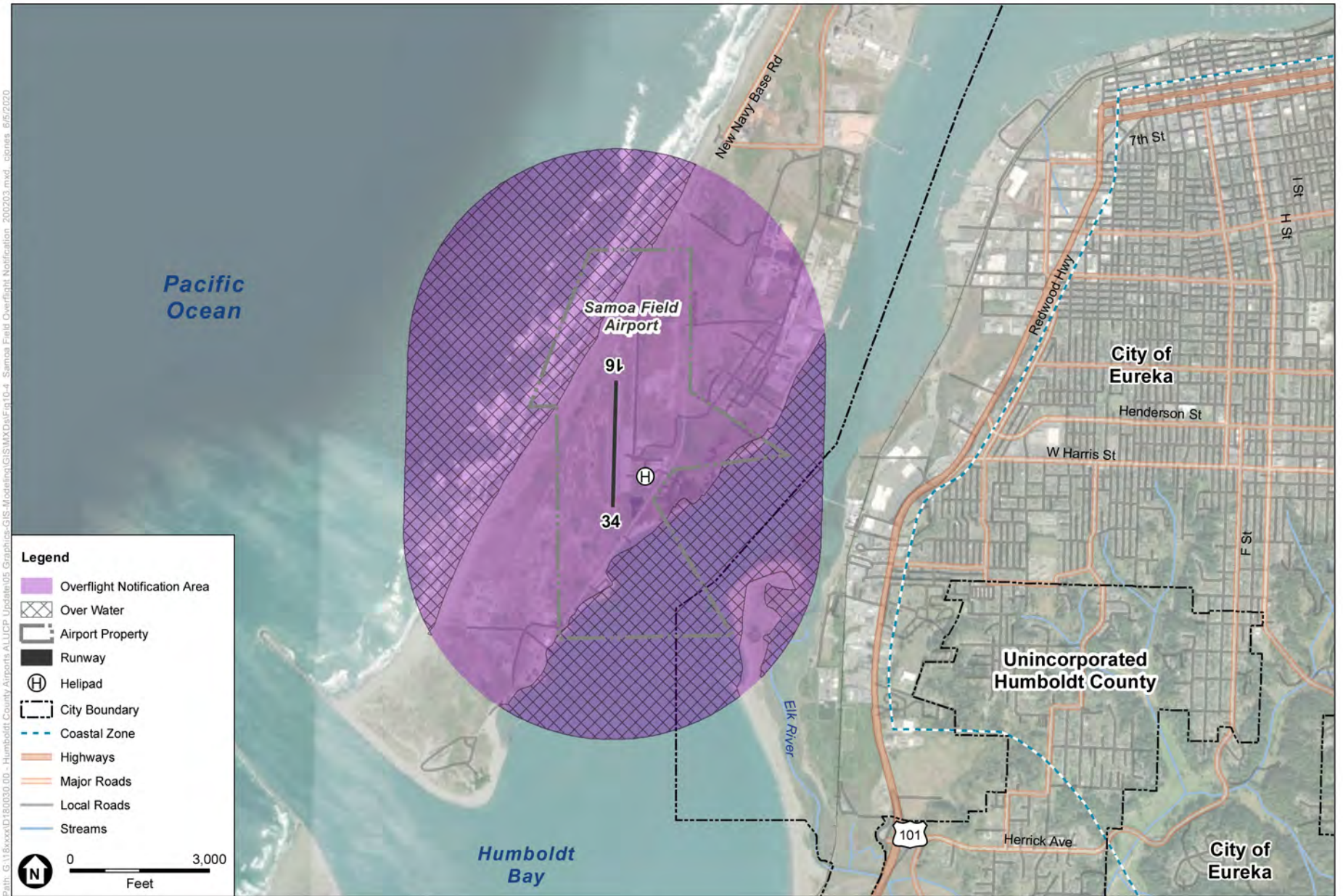


SOURCE: USDOT. FAA 14 CFR Part 77, Safe, Efficient Use and Preservation of Navigable Airspace, July 21, 2010; ESA, 2018

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure 10-3**  
14 CFR Part 77 Generic Airspace Protection Surfaces  
Samoa Field Airport





SOURCE: ESA, 2018; DigitalGlobe, October 2017; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure 10-4**  
Overflight Compatibility Policy Map  
Samoa Field Airport

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# CHAPTER 11

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## Shelter Cove Airport Maps

### 11.1 Chapter Overview

This chapter includes maps delineating noise, safety, airspace, and overflight compatibility factors for Shelter Cove Airport (0Q5 or the Airport). These maps are to be used in combination with the policies presented in Chapter 3, *Humboldt County Airports Policies*, to identify areas around Shelter Cove Airport in which the ALUCP policies are applicable.

The following sections provide a summary of the physical and operational characteristics that were identified and used to develop the maps presented in this chapter. A more detailed discussion of this data as well as further information on Shelter Cove Airport and the surrounding area is presented in Appendix G.

### 11.2 Compatibility Factor Delineation

Compatibility factors for the Shelter Cove Airport were derived from airport records maintained by the FAA and input from Shelter Cove Resort Improvement District staff. The following sections discuss the data obtained in greater detail.

#### 11.2.1 Airport Configuration

Shelter Cove Airport operates one northwest-southeast oriented, asphalt runway, Runway 12-30. The runway is 3,407 feet long by 60 feet wide. The Airport is unmanned and offers no services. Visual and navigational aids at the Airport are minimal and include a segmented circle and a wind indicator. There is no runway lighting. More information on the airport configuration is provided in Appendix G.

#### 11.2.2 Airport Activity Forecast

Aircraft operational data is derived from conversations with Shelter Cove Resort Improvement District staff responsible for airport management, the airport records maintained by the FAA, as well as projections based on the FAA's TAF. The transient operations described by the Airport staff and included in the FAA TAF data assumptions are representative of current operations. Currently, there are a total of approximately nine annual average daily operations at Shelter Cove Airport, with approximately 250 operations per month during the high-season. The forecast prepared for the Airport estimates approximately 2,208 annual operations or six average annual daily operations for 2039. Information on the airport activity forecast is provided in Appendix H.

## 11.2.3 Compatibility Factor Policy Maps

The following sections discuss the four compatibility factors prepared for Shelter Cover Airport.

### Noise Compatibility Policy Map

Under California state law, the CNEL contours provided in the ALUCP must reflect the anticipated growth in operations at the Airport during at least the next 20 years. (Pub. Util. Code, §21675(a).) As discussed in Section 11.2.3, the activity forecast prepared for the Airport and reflected in the CNEL contours represents 2039 conditions. **Figure 11-1** depicts the CNEL contours for the Airport. More information on the aircraft operational data used to produce the CNEL contours is provided in Appendix H.

### Safety Zone Compatibility Policy Map

**Figure 11-2** depicts the safety zones for Shelter Cove Airport. The safety zones for Runway 12-30 were based on *Example 1: Short General Aviation Runway*, included in the Caltrans Handbook. *Example 1* assumes a runway length of less than 4,000 feet, approach visibility minimums greater than or equal to a mile or a visual approach only, and RPZs of 250 feet by 450 feet by 1,000 feet. To better reflect the single-sided traffic pattern at the Airport, Safety Zone 3 was removed from the east side of the runway. The safety zones are discussed in greater detail in Appendix G.

### Airspace Compatibility Policy Map

**Figure 11-3** depicts the 14 CFR Part 77 airspace surfaces for Shelter Cove Airport based on the current ALP. Part 77 airspace surfaces reflect areas around airports to be protected from obstructions that may serve as hazards to safe air navigation. Humboldt County has promulgated height regulations similar to Part 77 airspace surfaces (Humboldt County Code, Tit. III, Div. 3, Ch.3). Copies of 14 CFR Part 77 as well as Humboldt County's Approach Zone Building Height Regulations are provided in Appendix B.

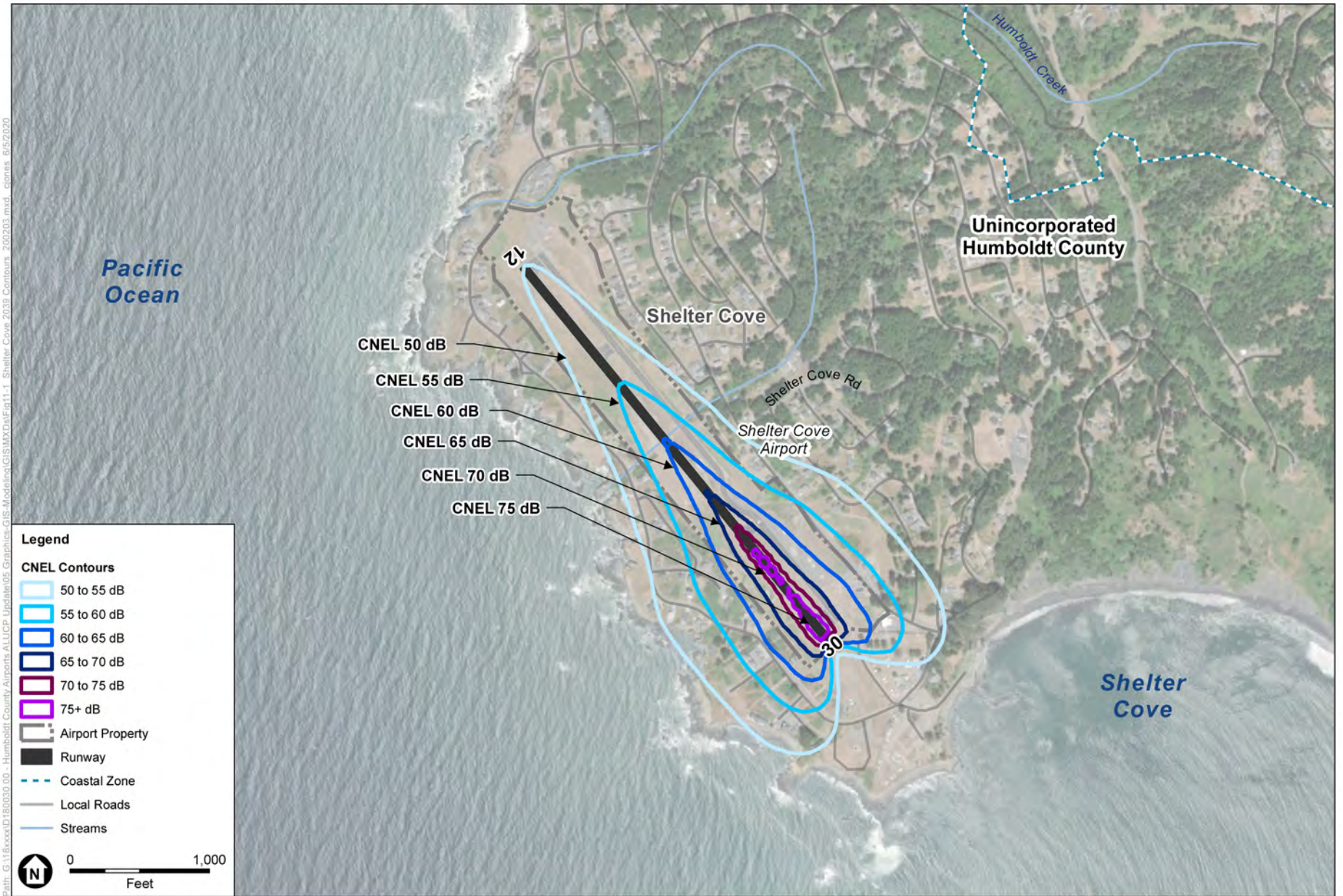
### Overflight Compatibility Policy Map

**Figure 11-4** shows the overflight notification area for Shelter Cove Airport. The overflight notification area includes all areas covered by the Airport's Safety Zones as well as flight corridors based on the flight tracks used to model the CNEL contours depicted on Figure 11-1. The flight tracks were used to delineate generalized flight corridors in which aircraft arrive to and depart the Airport. As shown in Figure 11-4, the generalized flight corridors extend to the outer boundary of the Airport's conical surface as defined by 14 CFR Part 77.

### Airport Influence Area

**Figure 1-9** shows the AIA for Shelter Cove. The AIA is "the area in which current or future airport-related noise, overflight, safety, or airspace protection factors may significantly affect land uses or necessitate restrictions on those uses." (Bus. and Prof. Code, § 11010(b)(13)(b).) The AIA is divided into two areas. Review Area 1 and Review Area 2. The AIA is divided into two areas.

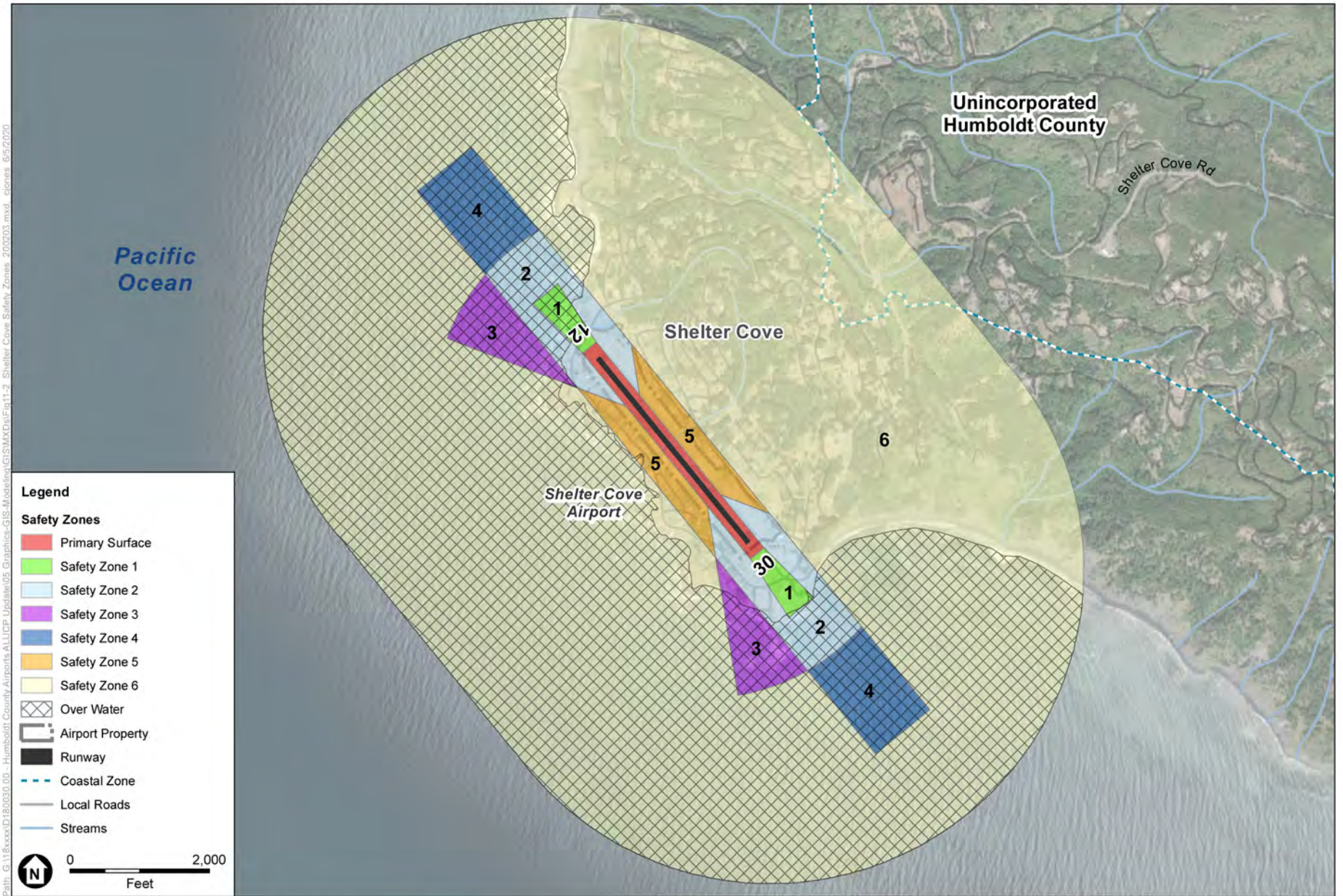
Review Area 1 and Review Area 2. Review Area 1 consists of a combination of the CNEL contours and six safety zones for the Airport, and represents areas where noise and/or safety concerns may require limitations on the type of land uses that may be developed in the future. The policies included in Sections 3.2 and 3.3 are applicable in Review Area 1. Review Area 2, consists of areas within the combined airspace surfaces and overflight notification area. The policies included in Sections 3.4 and 3.5 are applicable in Review Area 2.



SOURCE: AEDT 2d; ESA, 2018; DigitalGlobe, June 2017; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

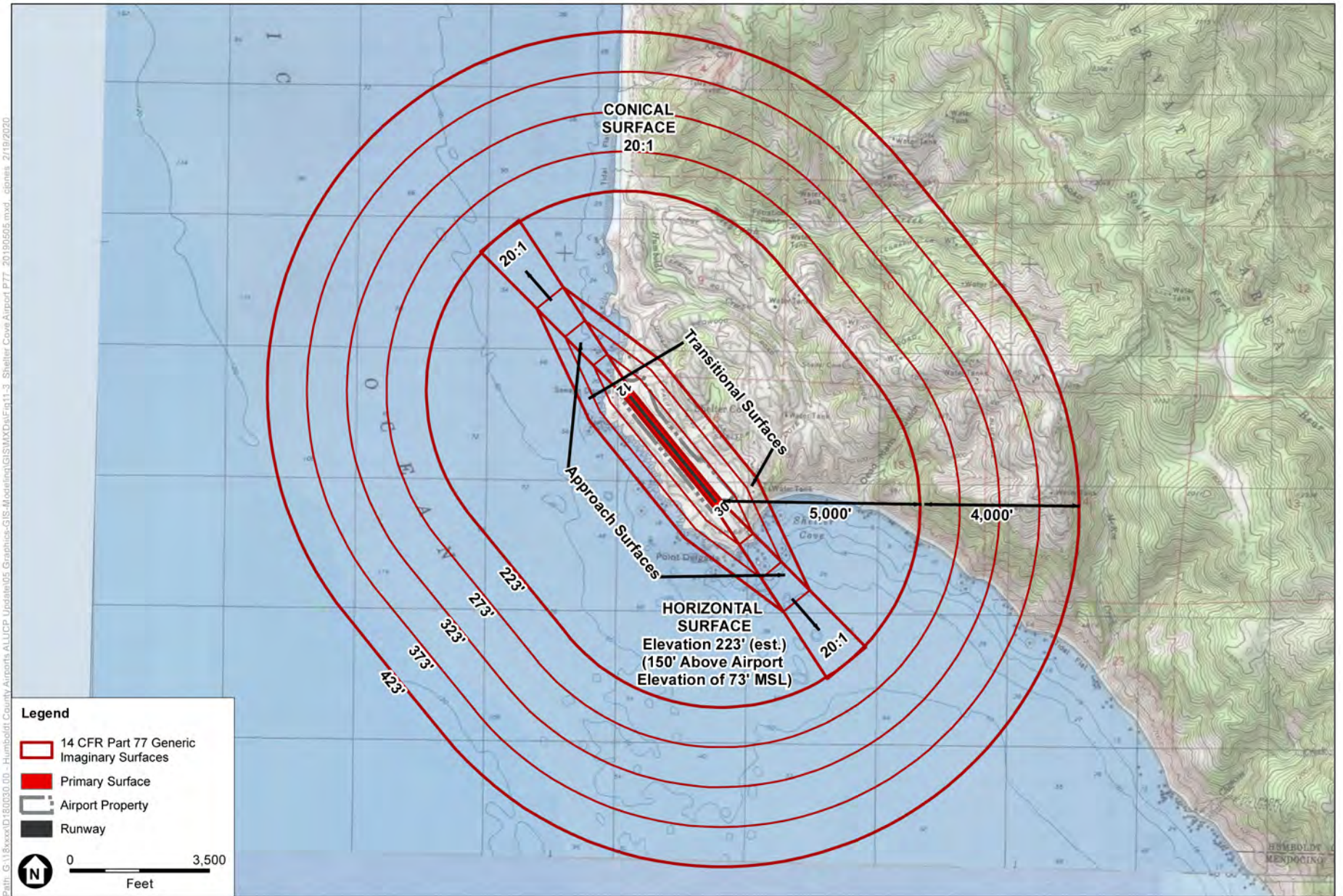
**Figure 11-1**  
 Noise Compatibility Policy Map  
 Shelter Cove Airport



SOURCE: ESA, 2018; DigitalGlobe, June 2017; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure 11-2**  
 Safety Compatibility Policy Map  
 Shelter Cove Airport



SOURCE: USDOT. FAA 14 CFR Part 77, Safe, Efficient Use and Preservation of Navigable Airspace, July 21, 2010; ESA, 2018

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure 11-3**  
14 CFR Part 77 Generic Airspace Protection Surfaces  
Shelter Cove Airport



Path: G:\18\xxxx\18\030.00 - Humboldt County Airports\ALUCP\_Update\05\_Graphics\GIS\Modeling\GIS\MXD\as\Fig11-4\_Shelter\_Cove\_Overflight\_Notification\_200203.mxd\_cipnes\_6/5/2020



SOURCE: ESA, 2018; DigitalGlobe, June 2017; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure 11-4**  
Overflight Compatibility Policy Map  
Shelter Cove Airport

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Appendix A  
**General Plan Consistency  
Checklist**

# APPENDIX A

## General Plan Consistency Checklist

### GENERAL PLAN CONSISTENCY CHECKLIST

This checklist is intended to assist local agencies with modifications necessary to make their local plans and other local policies consistent with the ALUCP. It is also designed to facilitate ALUC reviews of these local plans and policies.

#### GENERAL PLAN DOCUMENT

The following items typically appear directly in a general plan document. Amendment of the general plan will be required if there are any conflicts with the ALUCP.

See Table 3-1, *Noise Compatibility Criteria*, and Table 3-2, *Safety Compatibility Criteria*

See also California Airport Land Use Planning Handbook - Page 6-12

**Land Use Map**—No direct conflicts should exist between proposed new land uses indicated on a general plan land use map and the ALUC land use compatibility criteria.

- Proposed nonresidential development needs to be assessed with respect to applicable intensity limits.
- No new land uses of a type listed as specifically prohibited should be shown within affected areas.

See Table 3-1, *Noise Compatibility Criteria*

See also California Airport Land Use Planning Handbook - Page 3-2

**Noise Element**—General plan noise elements typically include criteria indicating the maximum noise exposure for which residential development is normally acceptable. This limit must be made consistent with the equivalent ALUCP criteria. Note, however, that a general plan may establish a different limit with respect to aviation-related noise than for noise from other sources (this may be appropriate in that aviation-related noise is sometimes judged to be more objectionable than other types of equally loud noises).

#### ZONING OR OTHER POLICY DOCUMENTS

The following items need to be reflected either in the general plan or in a separate policy document such as a combining zone ordinance. If a separate policy document is adopted, modification of the general plan to achieve consistency with the ALUCP may not be required. Modifications would normally be needed only to eliminate any conflicting language which may be present and to make reference to the separate policy document.

See Table 3-2, *Safety Compatibility Criteria*, and Appendix F, *Methods for Determining Concentrations of People*

See also California Airport Land Use Planning Handbook - Page 4-26

**Intensity Limitations on Nonresidential Uses**—The ALUCP establishes limits on the usage intensities of commercial, industrial, and other nonresidential land uses. The ALUC has created a detailed matrix of land uses which are allowable and/or not allowable within each safety zone, along with the acceptable usage intensity.

See Table 3-1, *Noise Compatibility Criteria*, and Table 3-2, *Safety Compatibility Criteria*

See also California Airport Land Use Planning Handbook - Page 3-11, 4-19, Figures 4B-G (Pages 4-20 – 4-25)

**Identification of Prohibited Uses**—The ALUCP prohibits certain land uses within parts of the airport influence area. This includes areas within the CNEL contours and safety zones for the Airport. The ALUCP includes a noise compatibility criteria matrix and a safety compatibility criteria matrix.

## GENERAL PLAN CONSISTENCY CHECKLIST

**This checklist is intended to assist local agencies with modifications necessary to make their local plans and other local policies consistent with the ALUCP. It is also designed to facilitate ALUC reviews of these local plans and policies.**

<p>See Table 3-2, <i>Safety Compatibility Criteria</i></p> <p>See also California Airport Land Use Planning Handbook - Page 4-31</p>	<p><b>Open Land Requirements</b>—ALUCP requirements, if any, for assuring that a minimum amount of open land is preserved in the airport vicinity must be reflected in local policies. Normally, the locations which are intended to be maintained as open land would be identified on a map with the total acreage within each compatibility zone indicated. If some of the area included as open land is private property, then policies must be established which assure that the open land will continue to exist as the property develops. Policies specifying the required characteristics of eligible open land should also be established.</p>
<p>See Section 3.4, <i>Airspace Protection Compatibility Policies</i></p> <p>See also California Airport Land Use Planning Handbook - Page 3-28, 4-34</p>	<p><b>Height Limitations and Other Hazards to Flight</b>—To protect the airport airspace, limitations must be set on the height of structures and other objects near airports. These limitations are to be based upon FAR Part 77. Restrictions also must be established on other land use characteristics which can cause hazards to flight (specifically, visual or electronic interference with navigation and uses which attract birds).</p>
<p>See Section 3.5, <i>Overflight Notification Policies</i></p> <p>See also California Airport Land Use Planning Handbook - Page 3-8, 4-13</p>	<p><b>Buyer Awareness Measures</b>—Besides disclosure rules already required by state law, as a condition for approval of development within certain compatibility zones, some ALUCPs require either dedication of an avigation easement to the airport proprietor or placement on deeds of a notice regarding airport impacts. If so, local agency policies must contain similar requirements.</p>
<p>See Section 2.9, <i>Special Compatibility Considerations</i></p> <p>See also California Airport Land Use Planning Handbook - Page 4-41</p>	<p><b>Nonconforming Uses and Reconstruction</b>—Local agency policies regarding nonconforming uses and reconstruction must be equivalent to or more restrictive than those in the ALUCP, if any.</p>
<p><b>REVIEW PROCEDURES</b></p>	
<p>In addition to incorporation of ALUC compatibility criteria, local agency implementing documents must specify the manner in which development proposals will be reviewed for consistency with the compatibility criteria.</p>	
<p>See Section 2.4, <i>Actions Subject to ALUC Review</i></p> <p>See also California Airport Land Use Planning Handbook - Page 6-1</p>	<p><b>Actions Always Required to be Submitted for ALUC Review</b>—Section 21676 of the Public Utilities Code identifies the types of actions that must be submitted for airport land use commission review. Local policies should either list these actions or, at a minimum, note the local agency's intent to comply with the state statute.</p>
<p>See Section 2.4, <i>Actions Subject to ALUC Review</i></p> <p>See also California Airport Land Use Planning Handbook - Page 6-4</p>	<p><b>Other Land Use Actions Potentially Subject to ALUC Review</b>—The ALUCP identifies certain major land use actions for which referral to the ALUC is dependent upon agreement between the local agency and ALUC. If the local agency fully complies with all of the items in this general plan consistency check list or has taken the necessary steps to overrule the ALUC, then referral of the additional actions is voluntary. On the other hand, a local agency may elect not to incorporate all of the necessary compatibility criteria and review procedures into its own policies. In this case, referral of major land use actions to the ALUC is mandatory. Local policies should indicate the local agency's intentions in this regard.</p>
<p>See Section 2.5, <i>General Review Process for Land Use Actions</i></p> <p>See also California Airport Land Use Planning Handbook - Page 5-8, 6-12</p>	<p><b>Process for Compatibility Reviews by Local Agencies</b>—If a local agency chooses to submit only the mandatory actions for ALUC review, then it must establish a policy indicating the procedures which will be used to assure that airport compatibility criteria are addressed during review of other projects. Possibilities include: a standard review procedure checklist which includes reference to compatibility criteria; use of a geographic information system to identify all parcels within the airport influence area; etc.</p>
<p>See Section 2.4, <i>Actions Subject to ALUC Review</i></p> <p>See also California Airport Land Use Planning Handbook - Page 6-9</p>	<p><b>Variance Procedures</b>—Local procedures for granting of variances to the zoning ordinance must make certain that any such variances do not result in a conflict with the compatibility criteria. Any variance that involves issues of noise, safety, airspace protection, or overflight compatibility as addressed in the ALUCP must be referred to the ALUC for review.</p>

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## GENERAL PLAN CONSISTENCY CHECKLIST

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**This checklist is intended to assist local agencies with modifications necessary to make their local plans and other local policies consistent with the ALUCP. It is also designed to facilitate ALUC reviews of these local plans and policies.**

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See Section 2.7, *Land Use Plan Consistency with Compatibility Plan*

See also California Airport Land Use Planning Handbook - Page 5-8

**Enforcement**—Policies must be established to assure compliance with compatibility criteria during the lifetime of the development. Enforcement procedures are especially necessary with regard to limitations on usage intensities and the heights of trees. An airport combining district zoning ordinance is one means of implementing enforcement requirements.

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SOURCE: California Department of Transportation, Division of Aeronautics, California Airport Land Use Planning Handbook, Table 5-A, October 2011.

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## Appendix B

**Title 14, Code of Federal  
Regulations, Part 77, Federal  
Aviation Administration (FAA)  
Order 8260.3D, and Humboldt  
County Code, Airport Approach  
Zone Building Height  
Regulations**

# Title 14, Code of Federal Regulations, Part 77

## Subpart A GENERAL

**Amdt. 77-13, as of May 24, 2017.**

### **77.1 Purpose.**

This part establishes:

- (a) The requirements to provide notice to the FAA of certain proposed construction, or the alteration of existing structures;
- (b) The standards used to determine obstructions to air navigation, and navigational and communication facilities;
- (c) The process for aeronautical studies of obstructions to air navigation or navigational facilities to determine the effect on the safe and efficient use of navigable airspace, air navigation facilities or equipment; and
- (d) The process to petition the FAA for discretionary review of determinations, revisions, and extensions of determinations.

### **77.3 Definitions.**

For the purpose of this part:

*Non-precision instrument runway* means a runway having an existing instrument approach procedure utilizing air navigation facilities with only horizontal guidance, or area type navigation equipment, for which a straight-in non-precision instrument approach procedure has been approved, or planned, and for which no precision approach facilities are planned, or indicated on an FAA planning document or military service military airport planning document.

*Planned or proposed airport* is an airport that is the subject of at least one of the following documents received by the FAA:



- (1) Airport proposals submitted under 14 CFR part 157.
- (2) Airport Improvement Program requests for aid.
- (3) Notices of existing airports where prior notice of the airport construction or alteration was not provided as required by 14 CFR part 157.
- (4) Airport layout plans.
- (5) DOD proposals for airports used only by the U.S. Armed Forces.
- (6) DOD proposals on joint-use (civil-military) airports.
- (7) Completed airport site selection feasibility study.

*Precision instrument runway* means a runway having an existing instrument approach procedure utilizing an Instrument Landing System (ILS), or a Precision Approach Radar (PAR). It also means a runway for which a precision approach system is planned and is so indicated by an FAA-approved airport layout plan; a military service approved military airport layout plan; any other FAA planning document, or military service military airport planning document.

*Public use airport* is an airport available for use by the general public without a requirement for prior approval of the airport owner or operator.

*Seaplane base* is considered to be an airport only if its sea lanes are outlined by visual markers.

*Utility runway* means a runway that is constructed for and intended to be used by propeller driven aircraft of 12,500 pounds maximum gross weight and less.

*Visual runway* means a runway intended solely for the operation of aircraft using visual approach procedures, with no straight-in instrument approach procedure and no instrument designation indicated on an FAA-approved airport layout plan, a military service approved military airport layout plan, or by any planning document submitted to the FAA by competent authority.

**Subpart B**  
**NOTICE REQUIREMENTS**

**77.5 Applicability.**

- (a) If you propose any construction or alteration described in §77.9, you must provide adequate notice to the FAA of that construction or alteration.
- (b) If requested by the FAA, you must also file supplemental notice before the start date and upon completion of certain construction or alterations that are described in §77.9.
- (c) Notice received by the FAA under this subpart is used to:
  - (1) Evaluate the effect of the proposed construction or alteration on safety in air commerce and the efficient use and preservation of the navigable airspace and of airport traffic capacity at public use airports;
  - (2) Determine whether the effect of proposed construction or alteration is a hazard to air navigation;
  - (3) Determine appropriate marking and lighting recommendations, using FAA Advisory Circular 70/7460-1, Obstruction Marking and Lighting.
  - (4) Determine other appropriate measures to be applied for continued safety of air navigation; and
  - (5) Notify the aviation community of the construction or alteration of objects that affect the navigable airspace, including the revision of charts, when necessary.

**77.7 Form and Time of Notice.**

- (a) If you are required to file notice under §77.9, you must submit to the FAA a completed FAA Form 7460-1, Notice of Proposed Construction or Alteration. FAA Form 7460-1 is available at FAA regional offices and on the Internet.
- (b) You must submit this form at least 45 days before the start date of the proposed construction or alteration or the date an application for a construction permit is filed, whichever is earliest.
- (c) If you propose construction or alteration that is also subject to the licensing requirements of the Federal Communications Commission (FCC), you must submit notice to the FAA on or before the date that the application is filed with the FCC.
- (d) If you propose construction or alteration to an existing structure that exceeds 2,000 ft. in height above ground level (AGL), the FAA presumes it to be a hazard to air navigation that results in an inefficient use of airspace. You must include details explaining both why the proposal would not constitute a hazard to air navigation and why it would not cause an inefficient use of airspace.

- (e) The 45-day advance notice requirement is waived if immediate construction or alteration is required because of an emergency involving essential public services, public health, or public safety. You may provide notice to the FAA by any available, expeditious means. You must file a completed FAA Form 7460-1 within 5 days of the initial notice to the FAA. Outside normal business hours, the nearest flight service station will accept emergency notices.

### **77.9 Construction or Alteration Requiring Notice.**

If requested by the FAA, or if you propose any of the following types of construction or alteration, you must file notice with the FAA of:

- (a) Any construction or alteration that is more than 200 ft. AGL at its site.
- (b) Any construction or alteration that exceeds an imaginary surface extending outward and upward at any of the following slopes:
  - (1) 100 to 1 for a horizontal distance of 20,000 ft. from the nearest point of the nearest runway of each airport described in paragraph (d) of this section with its longest runway more than 3,200 ft. in actual length, excluding heliports.
  - (2) 50 to 1 for a horizontal distance of 10,000 ft. from the nearest point of the nearest runway of each airport described in paragraph (d) of this section with its longest runway no more than 3,200 ft. in actual length, excluding heliports.
  - (3) 25 to 1 for a horizontal distance of 5,000 ft. from the nearest point of the nearest landing and takeoff area of each heliport described in paragraph (d) of this section.
- (c) Any highway, railroad, or other traverse way for mobile objects, of a height which, if adjusted upward 17 feet for an Interstate Highway that is part of the National System of Military and Interstate Highways where overcrossings are designed for a minimum of 17 feet vertical distance, 15 feet for any other public roadway, 10 feet or the height of the highest mobile object that would normally traverse the road, whichever is greater, for a private road, 23 feet for a railroad, and for a waterway or any other traverse way not previously mentioned, an amount equal to the height of the highest mobile object that would normally traverse it, would exceed a standard of paragraph (a) or (b) of this section.
- (d) Any construction or alteration on any of the following airports and heliports:
  - (1) A public use airport listed in the Airport/Facility Directory, Alaska Supplement, or Pacific Chart Supplement of the U.S. Government Flight Information Publications.
  - (2) A military airport under construction, or an airport under construction that will be available for public use.
  - (3) An airport operated by a Federal agency or the DOD.
  - (4) An airport or heliport with at least one FAA-approved instrument approach procedure.
- (e) You do not need to file notice for construction or alteration of:

- (1) Any object that will be shielded by existing structures of a permanent and substantial nature or by natural terrain or topographic features of equal or greater height, and will be located in the congested area of a city, town, or settlement where the shielded structure will not adversely affect safety in air navigation.
- (2) Any air navigation facility, airport visual approach or landing aid, aircraft arresting device, or meteorological device meeting FAA-approved siting criteria or an appropriate military service siting criteria on military airports, the location and height of which are fixed by its functional purpose.
- (3) Any construction or alteration for which notice is required by any other FAA regulation.
- (4) Any antenna structure of 20 feet or less in height, except one that would increase the height of another antenna structure

#### **77.11 Supplemental Notice Requirements.**

- (a) You must file supplemental notice with the FAA when:
  - (1) The construction or alteration is more than 200 feet in height AGL at its site; or
  - (2) Requested by the FAA.
- (b) You must file supplemental notice on a prescribed FAA form to be received within the time limits specified in the FAA determination. If no time limit has been specified, you must submit supplemental notice of construction to the FAA within 5 days after the structure reaches its greatest height.
- (c) If you abandon a construction or alteration proposal that requires supplemental notice, you must submit notice to the FAA within 5 days after the project is abandoned.
- (d) If the construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

**Subpart C**  
**STANDARDS FOR DETERMINING OBSTRUCTIONS TO AIR NAVIGATION OR**  
**NAVIGATIONAL AIDS OR FACILITIES**

**77.13 Applicability.**

This subpart describes the standards used for determining obstructions to air navigation, navigational aids, or navigational facilities. These standards apply to the following:

- (a) Any object of natural growth, terrain, or permanent or temporary construction or alteration, including equipment or materials used and any permanent or temporary apparatus.
- (b) The alteration of any permanent or temporary existing structure by a change in its height, including appurtenances, or lateral dimensions, including equipment or material used therein.

**77.15 Scope.**

- (a) This subpart describes standards used to determine obstructions to air navigation that may affect the safe and efficient use of navigable airspace and the operation of planned or existing air navigation and communication facilities. Such facilities include air navigation aids, communication equipment, airports, Federal airways, instrument approach or departure procedures, and approved off-airway routes.
- (b) Objects that are considered obstructions under the standards described in this subpart are presumed hazards to air navigation unless further aeronautical study concludes that the object is not a hazard. Once further aeronautical study has been initiated, the FAA will use the standards in this subpart, along with FAA policy and guidance material, to determine if the object is a hazard to air navigation.
- (c) The FAA will apply these standards with reference to an existing airport facility, and airport proposals received by the FAA, or the appropriate military service, before it issues a final determination.
- (d) For airports having defined runways with specially prepared hard surfaces, the primary surface for each runway extends 200 feet beyond each end of the runway. For airports having defined strips or pathways used regularly for aircraft takeoffs and landings, and designated runways, without specially prepared hard surfaces, each end of the primary surface for each such runway shall coincide with the corresponding end of the runway. At airports, excluding seaplane bases, having a defined landing and takeoff area with no defined pathways for aircraft takeoffs and landings, a determination must be made as to which portions of the landing and takeoff area are regularly used as landing and takeoff pathways. Those determined pathways must be considered runways, and an appropriate primary surface as defined in §77.19 will be considered as longitudinally centered on each such runway. Each end of that primary surface must coincide with the corresponding end of that runway.
- (e) The standards in this subpart apply to construction or alteration proposals on an airport (including heliports and seaplane bases with marked lanes) if that airport is one of the following before the issuance of the final determination:

- (1) Available for public use and is listed in the Airport/Facility Directory, Supplement Alaska, or Supplement Pacific of the U.S. Government Flight Information Publications; or,
- (2) A planned or proposed airport or an airport under construction of which the FAA has received actual notice, except DOD airports, where there is a clear indication the airport will be available for public use; or,
- (3) An airport operated by a Federal agency or the DOD; or,
- (4) An airport that has at least one FAA-approved instrument approach.

**77.17 Obstruction Standards.**

- (a) An existing object, including a mobile object, is, and a future object would be an obstruction to air navigation if it is of greater height than any of the following heights or surfaces:
  - (1) A height of 499 feet AGL at the site of the object.
  - (2) A height that is 200 feet AGL, or above the established airport elevation, whichever is higher, within 3 nautical miles of the established reference point of an airport, excluding heliports, with its longest runway more than 3,200 feet in actual length, and that height increases in the proportion of 100 feet for each additional nautical mile from the airport up to a maximum of 499 feet.
  - (3) A height within a terminal obstacle clearance area, including an initial approach segment, a departure area, and a circling approach area, which would result in the vertical distance between any point on the object and an established minimum instrument flight altitude within that area or segment to be less than the required obstacle clearance.
  - (4) A height within an en route obstacle clearance area, including turn and termination areas, of a Federal Airway or approved off-airway route, that would increase the minimum obstacle clearance altitude.
  - (5) The surface of a takeoff and landing area of an airport or any imaginary surface established under §77.19, 77.21, or 77.23. However, no part of the takeoff or landing area itself will be considered an obstruction.
- (b) Except for traverse ways on or near an airport with an operative ground traffic control service furnished by an airport traffic control tower or by the airport management and coordinated with the air traffic control service, the standards of paragraph (a) of this section apply to traverse ways used or to be used for the passage of mobile objects only after the heights of these traverse ways are increased by:
  - (1) 17 feet for an Interstate Highway that is part of the National System of Military and Interstate Highways where overcrossings are designed for a minimum of 17 feet vertical distance.

- (2) 15 feet for any other public roadway.
- (3) 10 feet or the height of the highest mobile object that would normally traverse the road, whichever is greater, for a private road.
- (4) 23 feet for a railroad.
- (5) For a waterway or any other traverse way not previously mentioned, an amount equal to the height of the highest mobile object that would normally traverse it.

### **77.19 Civil Airport Imaginary Surfaces**

The following civil airport imaginary surfaces are established with relation to the airport and to each runway. The size of each such imaginary surface is based on the category of each runway according to the type of approach available or planned for that runway. The slope and dimensions of the approach surface applied to each end of a runway are determined by the most precise approach procedure existing or planned for that runway end.

- (a) *Horizontal surface.* A horizontal plane 150 feet above the established airport elevation, the perimeter of which is constructed by swinging arcs of a specified radii from the center of each end of the primary surface of each runway of each airport and connecting the adjacent arcs by lines tangent to those arcs. The radius of each arc is:
  - (1) 5,000 feet for all runways designated as utility or visual.
  - (2) 10,000 feet for all other runways. The radius of the arc specified for each end of a runway will have the same arithmetical value. That value will be the highest determined for either end of the runway. When a 5,000-foot arc is encompassed by tangents connecting two adjacent 10,000-foot arcs, the 5,000-foot arc shall be disregarded on the construction of the perimeter of the horizontal surface.
- (b) *Conical surface.* A surface extending outward and upward from the periphery of the horizontal surface at a slope of 20 to 1 for a horizontal distance of 4,000 feet.
- (c) *Primary surface.* A surface longitudinally centered on a runway. When the runway has a specially prepared hard surface, the primary surface extends 200 feet beyond each end of that runway; but when the runway has no specially prepared hard surface, the primary surface ends at each end of that runway. The elevation of any point on the primary surface is the same as the elevation of the nearest point on the runway centerline. The width of the primary surface is:
  - (1) 250 feet for utility runways having only visual approaches.
  - (2) 500 feet for utility runways having non-precision instrument approaches.
  - (3) For other than utility runways, the width is:
    - i. 500 feet for visual runways having only visual approaches.

- ii. 500 feet for non-precision instrument runways having visibility minimums greater than three-fourths statute mile.
  - iii. 1,000 feet for a non-precision instrument runway having a non-precision instrument approach with visibility minimums as low as three-fourths of a statute mile, and for precision instrument runways.
  - iv. The width of the primary surface of a runway will be that width prescribed in this section for the most precise approach existing or planned for either end of that runway.
- (d) *Approach surface.* A surface longitudinally centered on the extended runway centerline and extending outward and upward from each end of the primary surface. An approach surface is applied to each end of each runway based upon the type of approach available or planned for that runway end.
- (1) The inner edge of the approach surface is the same width as the primary surface and it expands uniformly to a width of:
    - i. 1,250 feet for that end of a utility runway with only visual approaches;
    - ii. 1,500 feet for that end of a runway other than a utility runway with only visual approaches;
    - iii. 2,000 feet for that end of a utility runway with a non-precision instrument approach;
    - iv. 3,500 feet for that end of a non-precision instrument runway other than utility, having visibility minimums greater than three-fourths of a statute mile;
    - v. 4,000 feet for that end of a non-precision instrument runway, other than utility, having a non-precision instrument approach with visibility minimums as low as three-fourths statute mile; and
    - vi. 16,000 feet for precision instrument runways.
  - (2) The approach surface extends for a horizontal distance of:
    - i. 5,000 feet at a slope of 20 to 1 for all utility and visual runways;
    - ii. 10,000 feet at a slope of 34 to 1 for all non-precision instrument runways other than utility; and
    - iii. 10,000 feet at a slope of 50 to 1 with an additional 40,000 feet at a slope of 40 to 1 for all precision instrument runways.
  - (3) The outer width of an approach surface to an end of a runway will be that width prescribed in this subsection for the most precise approach existing or planned for that runway end.
- (e) *Transitional surface.* These surfaces extend outward and upward at right angles to the runway centerline and the runway centerline extended at a slope of 7 to 1 from the sides of the primary surface and from the sides of the approach surfaces. Transitional surfaces for those portions of the precision approach surface which project through and beyond the limits of the conical surface, extend a distance of 5,000 feet measured horizontally from the edge of the approach surface and at right angles to the runway centerline.



### **77.21 Department of Defense (DOD) Airport Imaginary Surfaces.**

- (a) *Related to airport reference points.* These surfaces apply to all military airports. For the purposes of this section, a military airport is any airport operated by the DOD.
- (1) *Inner horizontal surface.* A plane that is oval in shape at a height of 150 feet above the established airfield elevation. The plane is constructed by scribing an arc with a radius of 7,500 feet about the centerline at the end of each runway and interconnecting these arcs with tangents.
  - (2) *Conical surface.* A surface extending from the periphery of the inner horizontal surface outward and upward at a slope of 20 to 1 for a horizontal distance of 7,000 feet to a height of 500 feet above the established airfield elevation.
  - (3) *Outer horizontal surface.* A plane, located 500 feet above the established airfield elevation, extending outward from the outer periphery of the conical surface for a horizontal distance of 30,000 feet.
- (b) *Related to runways.* These surfaces apply to all military airports.
- (1) *Primary surface.* A surface located on the ground or water longitudinally centered on each runway with the same length as the runway. The width of the primary surface for runways is 2,000 feet. However, at established bases where substantial construction has taken place in accordance with a previous lateral clearance criteria, the 2,000-foot width may be reduced to the former criteria.
  - (2) *Clear zone surface.* A surface located on the ground or water at each end of the primary surface, with a length of 1,000 feet and the same width as the primary surface.
  - (3) *Approach clearance surface.* An inclined plane, symmetrical about the runway centerline extended, beginning 200 feet beyond each end of the primary surface at the centerline elevation of the runway end and extending for 50,000 feet. The slope of the approach clearance surface is 50 to 1 along the runway centerline extended until it reaches an elevation of 500 feet above the established airport elevation. It then continues horizontally at this elevation to a point 50,000 feet from the point of beginning. The width of this surface at the runway end is the same as the primary surface, it flares uniformly, and the width at 50,000 is 16,000 feet.
  - (4) *Transitional surfaces.* These surfaces connect the primary surfaces, the first 200 feet of the clear zone surfaces, and the approach clearance surfaces to the inner horizontal surface, conical surface, outer horizontal surface or other transitional surfaces. The slope of the transitional surface is 7 to 1 outward and upward at right angles to the runway centerline.

### **77.23 Heliport Imaginary Surfaces.**

- (a) *Primary surface.* The area of the primary surface coincides in size and shape with the designated take-off and landing area. This surface is a horizontal plane at the elevation of the established heliport elevation.

- (b) *Approach surface.* The approach surface begins at each end of the heliport primary surface with the same width as the primary surface, and extends outward and upward for a horizontal distance of 4,000 feet where its width is 500 feet. The slope of the approach surface is 8 to 1 for civil heliports and 10 to 1 for military heliports.
- (c) *Transitional surfaces.* These surfaces extend outward and upward from the lateral boundaries of the primary surface and from the approach surfaces at a slope of 2 to 1 for a distance of 250 feet measured horizontally from the centerline of the primary and approach surfaces.

**Subpart D**  
**AERONAUTICAL STUDIES AND DETERMINATIONS**

**77.25 Applicability.**

- (a) This subpart applies to any aeronautical study of a proposed construction or alteration for which notice to the FAA is required under §77.9.
- (b) The purpose of an aeronautical study is to determine whether the aeronautical effects of the specific proposal and, where appropriate, the cumulative impact resulting from the proposed construction or alteration when combined with the effects of other existing or proposed structures, would constitute a hazard to air navigation.
- (c) The obstruction standards in subpart C of this part are supplemented by other manuals and directives used in determining the effect on the navigable airspace of a proposed construction or alteration. When the FAA needs additional information, it may circulate a study to interested parties for comment.

**77.27 Initiation of Studies.**

The FAA will conduct an aeronautical study when:

- (a) Requested by the sponsor of any proposed construction or alteration for which a notice is submitted; or
- (b) The FAA determines a study is necessary.

**77.29 Evaluating Aeronautical Effect.**

- (a) The FAA conducts an aeronautical study to determine the impact of a proposed structure, an existing structure that has not yet been studied by the FAA, or an alteration of an existing structure on aeronautical operations, procedures, and the safety of flight. These studies include evaluating:
  - (1) The impact on arrival, departure, and en route procedures for aircraft operating under visual flight rules.
  - (2) The impact on arrival, departure, and en route procedures for aircraft operating under instrument flight rules.
  - (3) The impact on existing and planned public use airports.
  - (4) Airport traffic capacity of existing public use airports and public use airport development plans received before the issuance of the final determination.
  - (5) Minimum obstacle clearance altitudes, minimum instrument flight rules altitudes, approved or planned instrument approach procedures, and departure procedures.

- (6) The potential effect on ATC radar, direction finders, ATC tower line-of-sight visibility, and physical or electromagnetic effects on air navigation, communication facilities, and other surveillance systems.
  - (7) The aeronautical effects resulting from the cumulative impact of a proposed construction or alteration of a structure when combined with the effects of other existing or proposed structures.
- (b) If you withdraw the proposed construction or alteration or revise it so that it is no longer identified as an obstruction, or if no further aeronautical study is necessary, the FAA may terminate the study.

**77.31 Determinations.**

- (a) The FAA will issue a determination stating whether the proposed construction or alteration would be a hazard to air navigation, and will advise all known interested persons.
- (b) The FAA will make determinations based on the aeronautical study findings and will identify the following:
  - (1) The effects on VFR/IFR aeronautical departure/arrival operations, air traffic procedures, minimum flight altitudes, and existing, planned, or proposed airports listed in §77.15(e) of which the FAA has received actual notice prior to issuance of a final determination.
  - (2) The extent of the physical and/or electromagnetic effect on the operation of existing or proposed air navigation facilities, communication aids, or surveillance systems.
- (c) The FAA will issue a Determination of Hazard to Air Navigation when the aeronautical study concludes that the proposed construction or alteration will exceed an obstruction standard and would have a substantial aeronautical impact.
- (d) A Determination of No Hazard to Air Navigation will be issued when the aeronautical study concludes that the proposed construction or alteration will exceed an obstruction standard but would not have a substantial aeronautical impact to air navigation. A Determination of No Hazard to Air Navigation may include the following:
  - (1) Conditional provisions of a determination.
  - (2) Limitations necessary to minimize potential problems, such as the use of temporary construction equipment.
  - (3) Supplemental notice requirements, when required.
  - (4) Marking and lighting recommendations, as appropriate.
- (e) The FAA will issue a Determination of No Hazard to Air Navigation when a proposed structure does not exceed any of the obstruction standards and would not be a hazard to air navigation.

### **77.33 Effective Period of Determinations.**

- (a) The effective date of a determination not subject to discretionary review under 77.37(b) is the date of issuance. The effective date of all other determinations for a proposed or existing structure is 40 days from the date of issuance, provided a valid petition for review has not been received by the FAA. If a valid petition for review is filed, the determination will not become final, pending disposition of the petition.
- (b) Unless extended, revised, or terminated, each Determination of No Hazard to Air Navigation issued under this subpart expires 18 months after the effective date of the determination, or on the date the proposed construction or alteration is abandoned, whichever is earlier.
- (c) A Determination of Hazard to Air Navigation has no expiration date.

[Doc. No. FAA-2006-25002, 75 FR 42303, July 21, 2010, as amended by Amdt. 77-13-A, 76 FR 2802, Jan. 18, 2011]

### **77.35 Extensions, terminations, revisions and corrections.**

- (a) You may petition the FAA official that issued the Determination of No Hazard to Air Navigation to revise or reconsider the determination based on new facts or to extend the effective period of the determination, provided that:
  - (1) Actual structural work of the proposed construction or alteration, such as the laying of a foundation, but not including excavation, has not been started; and
  - (2) The petition is submitted at least 15 days before the expiration date of the Determination of No Hazard to Air Navigation.
- (b) A Determination of No Hazard to Air Navigation issued for those construction or alteration proposals not requiring an FCC construction permit may be extended by the FAA one time for a period not to exceed 18 months
- (c) A Determination of No Hazard to Air Navigation issued for a proposal requiring an FCC construction permit may be granted extensions for up to 18 months, provided that:
  - (1) You submit evidence that an application for a construction permit/license was filed with the FCC for the associated site within 6 months of issuance of the determination; and
  - (2) You submit evidence that additional time is warranted because of FCC requirements; and
  - (3) Where the FCC issues a construction permit, a final Determination of No Hazard to Air Navigation is effective until the date prescribed by the FCC for completion of the construction. If an extension of the original FCC completion date is needed, an extension of the FAA determination must be requested from the Obstruction Evaluation Service (OES).
  - (4) If the Commission refuses to issue a construction permit, the final determination expires on the date of its refusal.

**Subpart E**  
**PETITIONS FOR DISCRETIONARY REVIEW**

**77.37 General.**

- (a) If you are the sponsor, provided a substantive aeronautical comment on a proposal in an aeronautical study, or have a substantive aeronautical comment on the proposal but were not given an opportunity to state it, you may petition the FAA for a discretionary review of a determination, revision, or extension of a determination issued by the FAA.
- (b) You may not file a petition for discretionary review for a Determination of No Hazard that is issued for a temporary structure, marking and lighting recommendation, or when a proposed structure or alteration does not exceed obstruction standards contained in subpart C of this part.

**77.39 Contents of a Petition.**

- (a) You must file a petition for discretionary review in writing and it must be received by the FAA within 30 days after the issuance of a determination under §77.31, or a revision or extension of the determination under §77.35.
- (b) The petition must contain a full statement of the aeronautical basis on which the petition is made, and must include new information or facts not previously considered or presented during the aeronautical study, including valid aeronautical reasons why the determination, revisions, or extension made by the FAA should be reviewed.
- (c) In the event that the last day of the 30-day filing period falls on a weekend or a day the Federal government is closed, the last day of the filing period is the next day that the government is open.
- (d) The FAA will inform the petitioner or sponsor (if other than the petitioner) and the FCC (whenever an FCC-related proposal is involved) of the filing of the petition and that the determination is not final pending disposition of the petition.

**77.41 Discretionary Review Results.**

- (a) If discretionary review is granted, the FAA will inform the petitioner and the sponsor (if other than the petitioner) of the issues to be studied and reviewed. The review may include a request for comments and a review of all records from the initial aeronautical study.
- (b) If discretionary review is denied, the FAA will notify the petitioner and the sponsor (if other than the petitioner), and the FCC, whenever a FCC-related proposal is involved, of the basis for the denial along with a statement that the determination is final.
- (c) After concluding the discretionary review process, the FAA will revise, affirm, or reverse the determination.

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## CHAPTER 3

### AIRPORT APPROACH ZONE BUILDING HEIGHT REGULATIONS

Sections:

- § 333-1. **Purpose.**
- § 333-2. **Scope.**
- § 333-3. **Definitions.**
- § 333-4. **Height Limits.**
- § 333-5. **Use Restrictions.**
- § 333-6. **Nonconforming Uses.**
- § 333-7. **Administration.**
- § 333-8. **Variances.**
- § 333-9. **Permits.**
- § 333-10. **Hazard Marking and Lighting.**
- § 333-11. **Appeals.**
- § 333-12. **Conflicting Regulation.**
- § 333-13. **Penalty.**

#### **333-1. Purpose.**

This chapter is adopted pursuant to the authority conferred by Article 6.5 of Chapter 2, Part 1, Division 1, Title 5 of the [Government Code](#) of the State of California, otherwise known as the "Airport Approaches Zoning Law," for the purpose of promoting the public health, safety and general welfare of the inhabitants of the County. (Ord. 331, 8/29/1955)

#### **333-2. Scope.**

This chapter regulates and restricts the height of structures and objects of natural growth, and otherwise regulates the use of property in the vicinity of airports, by creating airport approach, turning and transition zones and establishing the boundaries thereof; providing for changes in the restrictions and boundaries of such zones; defining certain terms and used herein; providing for enforcement; and imposing penalties. (Ord. 331, 8/29/1955)

#### **333-3. Definitions.**

As used in this chapter, unless the context otherwise requires, the following words and terms shall have the meaning ascribed to them:



- (a) *Airport*. "Airport" means any publicly owned or administered airport.
- (b) *Airport Hazard*. "Airport hazard" means any structure or tree or use of land which obstructs the airspace for the flight of aircraft in landing or taking off from any airport or is otherwise hazardous to such landing or taking off of aircraft.
- (c) *Airport Hazard Area*. "Airport hazard area" means any area of land or water upon which an airport might be established if not prevented as provided in this chapter. The zones described in this chapter are hereby designated as the airport hazard areas of all airports subject to the provisions of this chapter.
- (d) *Nonconforming Use*. "Nonconforming use" means any structure, tree or use of land which does not conform to a regulation prescribed in this chapter or any amendment thereto as of the effective date of such regulations.
- (e) *Structure*. "Structure" means any object constructed or installed by man, including but not limited to buildings, towers, smokestacks, mill burners and overhead transmission lines.
- (f) *Tree*. "Tree" means any object of natural growth.
- (g) *Landing Area*. "Landing area" means the area of an airport used for the landing, taking off or taxiing of aircraft, consisting of the areas more particularly described in other sections of this chapter.
- (h) *Approach Surface*. "Approach surface" means the inclined plane located directly above the approach area. The dimensions of the approach surface are measured horizontally.
- (i) *Approach Area Length*. "Approach area length" means a length of 10,000 feet beginning 200 feet outward from the end of each runway and extended outward ending at a point of 10,200 feet from the end of the runway on the extended center line of the runway. In addition, the approach areas of all runways which are used for instrument operation shall extend outward an additional 40,000 feet. The approach area requirements for instrument runways shall apply to all runways which are used for instrument operations and to both ends of such runways.
- (j) *Approach Area Width*. "Approach area width" means an area symmetrically located with respect to the extended runway center line and, for all instrument runways, has a total width of 1,000 feet at the end adjacent to the runway. The approach area flares uniformly to a total width of 4,000 feet at the end of the 10,000 foot section and to a total width of 16,000 feet at the end of the additional 40,000 foot section. For all other runways not intended for instrument operation, the approach area has a total width at the end adjacent to the runway and at the approach, respectively, as follows: for express air carrier service and larger airports, 500 feet and 2,500 feet; for trunk line air carrier service airports, 400 feet and 2,400 feet; for feeder air carrier service airports, 300 feet and 2,300 feet; and for secondary airports, 250 feet and 2,250 feet.
- (k) *Approach Area Slope*. "Approach area slope" means for instrument runways the slope of the approach surface along the runway center line extended is 50:1 for the inner 10,000 foot section and 40:1 for the outer 40,000 foot section. For all other runways not intended for instrument operation which meet or exceed the minimum runway length requirements for feeder air carrier service, the approach area slope is 40:1. On airports with shorter runway lengths than those specified for feeder air carrier service, the approach area slope 20:1 for all runways.

(1) *Horizontal Surface.* "Horizontal surface" means a plane, circular in shape, with its height 150 feet above the established airport elevation and having a radius from the airport reference point as indicated in the following table, which said table also indicates the classification of each airport for the purpose of this chapter:

Intercontinental Express Airports	13,000 Feet
Intercontinental Airports (Arcata Airport)	11,500 Feet
Continental Airports	10,000 Feet
Express Airports	8,500 Feet
Truck Line Airports	7,000 Feet
Feeder Airports (Rohnerville Airport)	6,000 Feet
Secondary Airports (Murray Field Airport, Eureka Municipal Airport, Garberville Airport, Shelter Cove Airport, Dinsmore Airport)	5,000 Feet

The established elevation of an airport is the elevation of the highest point of the usable landing area. The airport reference point is a point selected and marked at the approximate center of the airport landing area.

(m) *Conical Surface.* "Conical surface" means the conical surface extending upward and outward from the periphery of the horizontal surface with a slope of 20:1 measured in a vertical plane passing through the airport reference point. Measuring radially outward from the periphery distance of 7,000 feet for intercontinental and intercontinental express, trunk line and feeder airports; and 3,000 feet for all smaller airports.

(n) *Transitional Surface.* "Transitional surface" means an inclined plane with a slope of 7:1 measured upward and outward in a vertical plane at right angles to the center line of the runway. The transitional surfaces, symmetrically located on either side of the runway, extended upward and outward from a line on either side of the runway which is parallel to a level with the runway center line. These parallel lines are at a horizontal distance from the runway center line equal to one-half (½) of the minimum width of the approach area. Transitional surfaces extend from the edges of all approach surfaces upward and outward to the intersection with the horizontal surface or conical surface. The approach surfaces for instrument runways projecting through and beyond the limits of the conical surface have a 7:1 transitional surface extending a distance of 5,000 feet measured horizontally from the edge of the approach surfaces and at right angles to the runway center line.

(o) *Airport Approach Zone.* "Airport approach zone" includes the approach area and the air space directly above it.

(p) *Airport Transition Zone.* "Airport transition zone" includes the land area directly beneath the transition surfaces and the air spaces directly above and below the transition surfaces.

(q) *Airport Turning Zone.* "Airport turning zone" includes the land area directly beneath the conical surface and the horizontal surface and the air spaces directly above and below the horizontal surface and the conical surface.

(Ord. 331, § 2, 8/29/1955)

### **333-4. Height Limits.**

(a) Except as otherwise provided in this chapter, no structure shall be erected or altered, or tree maintained in any airport approach zone, airport turning zone or airport transition zone to a height which would project above the approach surface, the horizontal surface, the conical surface or the transitional surfaces as defined in this chapter.

(b) Whenever and wherever any of the aforesaid surfaces overlap, the most highly restrictive requirement shall govern and control; provided, however, that the foregoing descriptions shall not impose upon the County of Humboldt any duty of maintenance or care. (Ord. 331, § 3, 8/29/1955)

### **333-5. Use Restrictions.**

Notwithstanding any other provisions of this chapter, no use may be made of land within any airport approach zone, airport turning zone or airport transition zone in such manner as to create electrical interference with radio communication between the airport and aircraft, make it difficult for flyers to distinguish between airport lights and other lights, result in glare in the eyes of flyers using the airport, impair visibility in the vicinity of the airport or otherwise endanger the landing, taking off or maneuvering of aircraft. (Ord. 331, § 4, 8/29/1955)

### **333-6. Nonconforming Uses.**

The regulations prescribed in Section [333-5](#) of this chapter shall not be construed to require the removal, lowering or other change or alteration of any structure or tree not conforming to the regulations as of the effective date hereof, or otherwise interfere with the continuance of any nonconforming use. (Ord. 331, § 5, 8/29/1955)

### **333-7. Administration.**

The Division of Aviation is hereby designated the administrative agency charged with the duty of administering and enforcing the regulations prescribed by this chapter. The duties of said Division of Aviation shall include that of hearing and deciding all permits, except variances. The Division of Aviation shall not have or exercise any of the powers or duties herein retained by the Board of Supervisors. The Division of Aviation shall prepare and make available maps to the public showing the approximate elevation of all property affected by this chapter in order to aid property owners in complying with this chapter. Copies of the maps shall also be available in the Planning Commission Office for public use. (Ord. 331, § 6, 8/29/1955)

### **333-8. Variances.**

Any person desiring to erect any structure or increase the height of any structure, or permit the growth of any tree, or use his property not in accordance with the regulations prescribed in this chapter, may apply to the Planning Commission for a variance therefrom. The variance may be granted by the Board of Supervisors

following receipt of a report of the findings made by the Planning Commission. Such variance shall be allowed where a literal application or enforcement of the regulations would result in practical difficulty or unnecessary hardship, and the relief granted would not be contrary to the public interest but would do substantial justice and would be in accordance with the spirit of this chapter; provided, however, that any variance may be subject to such reasonable conditions and restrictions as the Board of Supervisors may deem necessary. (Ord. 331, § 7, 8/29/1955)

### **333-9. Permits.**

Before any nonconforming structure may be replaced, substantially altered or rebuilt within any airport approach zone, airport turning zone or airport transition zone, a permit must be secured authorizing such replacement or change. Such permit shall be granted except where the granting thereof would allow the establishment or creation of an airport hazard, or permit a nonconforming use or structure to be made or become higher or become a greater hazard to air navigation than existed on the effective date of the applicable regulation thereunder. In case of emergencies affecting the public welfare or safety or the preservation of property, any nonconforming structure may be replaced or repaired without first obtaining a permit provided that an application for a permit is filed with the Humboldt County Division of Aviation within twenty-four (24) hours after such Division is first opened subsequent to the emergency. (Ord. 331, § 8, 8/29/1955)

### **333-10. Hazard Marking and Lighting.**

Any permit or variance granted under this chapter may, if such action is deemed advisable to effectuate the purposes of this chapter and is reasonable in the circumstances, be so conditioned as to require the owner of the structure in question to install, operate, and maintain thereon such markers and lights as may be necessary to indicate to flyers the presence of any airport hazard. The provisions of this section shall apply only to any new nonconforming structure or tree, and to any nonconforming structure or tree that is replaced, altered or rebuilt in such a way as to create a greater hazard than existed before said replacement, alteration or rebuilding commenced. (Ord. 331, § 9, 8/29/1955)

### **333-11. Appeals.**

(a) Any person aggrieved or affected by any decision of the Humboldt County Division of Aviation made in the administration of this chapter, if the opinion that a decision of said Division of Aviation is an improper application of this chapter, must appeal to the Board of Supervisors prior to introducing any litigation forming the subject matter of the heretofore mentioned grievance.

(b) All appeals taken under this section must be taken within a reasonable time, as provided by the rules of the Board of Supervisors, by filing with the Division of Aviation and with the Board of Supervisors a notice of appeal specifying the grounds thereof. The Division of Aviation shall forthwith transmit to the Board of Supervisors all the papers constituting the record upon which the action appealed from was taken.

- (c) An appeal shall stay all proceedings in furtherance of the action appealed from unless the Director of the Division of Aviation certifies to the Board of Supervisors, after the notice of appeal has been filed, that by reason of the facts stated in the certificate a stay would, in his/her opinion, cause imminent peril to life or property. In such case, proceedings shall not be stayed otherwise than by order of the Board of Supervisors on notice to the Division of Aviation and on due cause shown.
- (d) The Board of Supervisors shall fix a reasonable time for the hearing of the appeal, give public notice and due notice to the parties in interest, and decide the same within a reasonable time. Upon the hearing, any party may appear in person or by agent or by attorney.
- (e) The Board of Supervisors may, in conformity with the provisions of this chapter, reverse or affirm, wholly or partly, or modify the order, requirement, decision or determination appealed from and may make such order, requirement, decision or determination as may seem meet or proper.
- (f) The concurring vote of a majority of the members of the Board of Supervisors shall be sufficient to reverse, affirm or modify any order, requirement, decision or determination of the Division of Aviation, or to decide in favor of the applicant on any matter upon which it is required to pass under this chapter, or to effect any variation in this chapter. (Ord. 331, § 10, 8/29/1955)

### **333-12. Conflicting Regulation.**

Where this chapter imposes a greater or more stringent restriction upon the use of land than is imposed or required by any other, the provisions of this chapter shall govern. (Ord. 331, § 12, 8/29/1955)

### **333-13. Penalty.**

Each violation of this chapter or any regulation, order or ruling promulgated or made hereunder shall constitute a misdemeanor. (Ord. 331, § 11, 8/29/1955)

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**The Humboldt County Code is current through Ordinance 2629, passed June 11, 2019.**

Disclaimer: The Office of the County Counsel has the official version of the Humboldt County Code. Users should contact the Clerk of the Board's office for ordinances passed subsequent to the ordinance cited above.

[County Website: humboldt.gov](http://humboldt.gov)

County Telephone: (707) 445-7236

[Code Publishing Company](#)

Appendix C  
**Sample Implementation  
Documents**

# APPENDIX C

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## Sample Implementation Documents

The responsibility for implementation of the compatibility criteria set forth in the Humboldt County ALUCP rests largely with the affected local jurisdictions. Modification of local land use plans for consistency with this Compatibility Plan is the major step in this process. However, not all of the detailed policies necessary for achieving full consistency with the ALUCP are necessarily included in general plans and specific plans —many can be established through other documents. This appendix contains examples of three types of implementation documents.

- **Avigation Easement** — Avigation easements transfer certain property rights from the owner of the underlying property to the owner of an airport, typically a local government agency. ALUCs may require avigation easement dedication as a condition for approval of development on property subject to high noise levels or a need to restrict heights of structures and trees to less than might ordinarily occur on the property. Also, airports may require avigation easements in conjunction with programs for noise insulation of existing structures in the airport vicinity. A sample of an avigation easement is included herein.
- **Recorded Deed Notice** — Deed notices are a form of buyer awareness measure whose objective is to ensure that prospective buyers of airport area property, particularly residential property, are informed about the airport’s impact on the property. Unlike easements, deed notices do not convey property rights from the property owner to the airport and do not restrict the height of objects. They only document the existence of certain conditions which affect the property — such as the proximity of the airport and common occurrence of aircraft overflights at or below the airport traffic pattern altitude. A sample of a deed notice is included herein.
- **Airport Combining Zone Ordinance** — One local option for compatibility criteria implementation is adoption of an airport combining zone ordinance. An airport combining zone ordinance is a way of collecting various airport-related development conditions into one local policy document. Adoption of a combining zone is not required, but is suggested as an option. Potential components of an airport combining zone ordinance are included herein.

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# Sample Avigation Easement

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AFTER RECORDING RETURN TO:

**DEPARTMENT OF PUBLIC WORKS  
LAND USE DIVISION  
3033 H STREET, ROOM 17  
EUREKA CA 95501-4409**

This instrument is for the benefit of the County of Humboldt and is entitled to be recorded without fee. (Govt. Code 27383)

## AVIGATION EASEMENT

**APN:**

California Redwood Coast – Humboldt County Airport

Murray Field

**Development Permit Reference:**

Dinsmore Airport

Rohnerville Airport

Garberville Airport

Samoa Field Airport

Kneeland Airport

Shelter Cove Airport

This indenture made this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_ between \_\_\_\_\_, hereinafter referred to as **GRANTOR**, and the COUNTY OF HUMBOLDT, a political subdivision of the State of California, hereinafter referred to as **GRANTEE**.

**GRANTOR**, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, does hereby grant to **GRANTEE**, its successors and assigns, a perpetual and assignable easement over the following described parcel of land in which **GRANTOR** holds a fee simple estate. The property which is subject to this easement is depicted with the Assessor Parcel Number (APN) identified above and more particularly described in **Exhibit “A”** which is attached hereto, incorporated herein by reference, and is graphically depicted on **Exhibit “B”** which is attached hereto, incorporated herein by reference. The property which is subject to this easement lies within the Airport Influence Area of the Airport identified above (hereinafter called “AIRPORT”) as identified in the Airport Land Use Compatibility Plan for Humboldt County.

The easement applies to the airspace above an imaginary plane over the real property, as such plane is defined under 14 Code of Federal Regulations (CFR) Part 77 and more particularly described in **Exhibit “C”** which is attached hereto, and incorporated herein by reference.

The aforesaid easement and right of way includes, but is not limited to:

- (1) For the use and benefit of the public, and to the extent and in the manner consistent with safe operating procedures as provided under applicable government regulations, the right to make flights, and the noise inherent thereto,

in airspace over the property described in Exhibit A, in connection with landings, takeoffs, and general operation of the AIRPORT; or cause or permit the flight by any and all persons, or any aircraft, of any and all kinds now or hereafter known, in, through, across, or about any portion of the airspace hereinabove described; and

- (2) The easement and right to cause or create, or permit or allow to be caused or created within all space above the existing surface of the hereinabove described real property and any and all airspace laterally adjacent to said real property, such noise, vibration, currents, fumes, dust, fuel particle emissions, and other effects of air, illumination, and fuel consumption as may be inherent in, or may arise or occur from or during the operation of aircraft of any and all kinds, now or hereafter known or used, for navigation of or flight in air; and
- (3) The easement and right to regulate or prohibit the release in the air of any substance which would impair the visibility or otherwise interfere with the operations of aircraft such as, but not limited to: dust, steam, light emissions (either direct or indirect), electrical interference, glare, smoke, and other potential hazards to flight from the property; and

The right to regulate or prohibit electrical emissions which would interfere with aircraft communication systems or aircraft navigational equipment, and

- (4) The continuing right to clear and keep clear from the airspace any portions of buildings, structures, or improvements of any and all kinds, and of trees or other objects, including the right to remove or demolish those portions of such buildings, structures, improvements, trees, or other things which extend into or above said airspace, and the right to cut to the ground level and remove, any trees which extend into or above the airspace; and
- (5) The continuing right to mark and light, or cause or require to be marked or lighted, as obstructions to air navigation, any and all buildings, structures, or other improvements, and trees or other objects, which extend into or above the airspace; and
- (6) The right of ingress to, passage within, and egress from the hereinabove described real property, for the purposes described in subparagraphs (4) and (5) above at reasonable times and after reasonable notice.
- (7) The right to prohibit any use which would attract or sustain large groups of birds. For and behalf of itself, its successors and assigns, GRANTOR hereby covenants with GRANTEE, for the direct benefit of the real property constituting the AIRPORT referenced above, hereinafter described, that neither GRANTOR, nor its successors in interest or assigns will construct, install, erect, place, or grow in or upon the hereinabove described real property, nor will they permit or allow any building, structure, improvement, tree, or other object which extends into or above the airspace, or which constitutes an obstruction to air navigation,

or which obstructs or interferes with the use of the easement and rights of way herein granted.

The easements and rights of way herein granted shall be deemed both appurtenant to and for the direct benefit of that real property which constitutes the AIRPORT referenced above, in the County of Humboldt, State of California; and shall further be deemed in gross, being conveyed to **GRANTEE** for the benefit of **GRANTEE** and any and all members of the general public who may use said easement or right of way, in landing at, taking off from, or operating such aircraft in or about the airport referenced above, or in otherwise flying through said airspace.

GRANTOR, together with its successors in interest and assigns, hereby waives its right to legal action against GRANTEE, its successors or assigns for monetary damages or other redress due to impacts, as described in paragraph 2 of the granted rights of easement, associated with aircraft operations in the air or on the ground at the AIRPORT, including future increases in the volume or changes in locations of said operations. Furthermore, GRANTEE, its successors and assigns shall have no duty to avoid or mitigate such damages through physical modification of airport facilities or establishment or modification of aircraft operational procedures or restrictions. However, this waiver shall not apply if the airport role or character of its usage (as identified in an adopted airport master plan, for example) changes in a fundamental manner which could not reasonably have been anticipated at the time of the granting of this easement and which results in a substantial increase in the impacts associated with aircraft operations.

This grant of easement shall not operate to deprive **GRANTOR**, its successors or assigns, of any rights which **GRANTOR** may from time to time have against any air carrier or private operator for negligent or unlawful operation of aircraft.

These covenants and agreements run with the land and are binding upon the heirs, administrators, executors, successors, and assigns of **GRANTOR** and, for the purpose of this instrument, the real property first hereinabove described is the servient tenement and said airport referenced above is the dominant tenement.

**GRANTOR**

**GRANTOR**

\_\_\_\_\_  
**NAME**

\_\_\_\_\_  
**NAME**

\_\_\_\_\_  
**DATE**

\_\_\_\_\_  
**DATE**

**NOTARY ACKNOWLEDGMENT**

STATE OF \_\_\_\_\_ )  
  ) SS  
COUNTY OF \_\_\_\_\_ )

On \_\_\_\_\_ before me, \_\_\_\_\_  
a Notary Public, personally appeared \_\_\_\_\_  
\_\_\_\_\_

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

\_\_\_\_\_  
(Signature of Notary)

SAMPLE

Has changed

CERTIFICATE OF ACCEPTANCE

This is to certify that the interest in the real property conveyed herein to the County of Humboldt, a political subdivision of the State of California, is hereby accepted by the undersigned officer on behalf of the Board of Supervisors of the County of Humboldt pursuant to authority conferred by Resolution No. 06-120 of the Board of Supervisors of the County of Humboldt adopted on December 12, 2006, and the grantee consents to the recordation thereof by its duly authorized officer.

Dated: \_\_\_\_\_

\_\_\_\_\_  
Thomas K. Mattson  
Director of Public Works

SAMPLE

**ATTACH EXHIBITS A, B, and C**

SAMPLE



**EXHIBIT "C"**  
**(California Redwood Coast-Humboldt County Airport)**

The imaginary plane above the real property described in Exhibit "A", as such plane is defined by 14 Code of Federal Regulations (CFR) Part 77, and consists of a plane described as an approach, transition, or horizontal surface; the elevation of said plane being based upon the California Redwood Coast-Humboldt County Airport official runway and elevation of 218 feet Above Mean Sea Level (AMSL), as determined by California Redwood Coast-Humboldt County Airport Layout Plan, the approximate dimensions of which said plane are described as follows:

The airport traffic area at the California Redwood Coast-Humboldt County Airport consists of the airspace within the Runway Clear Zone under and above the Airport Approach Surface; the Airport Approach Surface; the Transitional Surface; and the Horizontal Surface of Runway 32, which are described as follows:

**(1) RUNWAY CLEAR ZONE**

An area at ground level that begins at the end of each primary surface defined in 14 CFR Part 77.25(c) and extends with the width of each approach surface defined in 14 CFR Part 77.25(d), to terminate directly below each approach surface slope at the point, or points, where the slope reaches a height of 50 feet (15m) above the elevation of the runway end or 50 feet (15m) above the terrain at the outer extremity of the clear zone, whichever distance is shorter.

**(2) INNER APPROACH SURFACE**

The approach surface is a surface longitudinally centered on the extended runway centerline and extending outward and upward from each end of the primary surface. An approach surface is applied to each end of each runway based upon the type of approach available or planned for that runway end. area trapezoidal in form located at the ends of said runway, which area extends outwardly 7,500 feet beginning at a point 200 feet outward from the end of the runway on the extended centerline of said runway and which area is 1,000 feet in width at its inner end and 3,600 feet in width at its outer end. The approach surface is a trapezoidal plane with a slope of 50:1 (1 foot of elevation for every 50 feet of horizontal distance) for a distance of 7,500 feet, which inclined plane has an elevation of 218 feet mean sea level at its inner lower edge and an elevation of 368 feet mean sea level at its outer and upper edge.

**(3) TRANSITIONAL SURFACE**

These surfaces extend outward and upward at a point 250 feet at right angles to the runway centerline extended at a slope of 7:1 from the sides to the horizontal surface, a point of 150 feet above the airport runway elevation of 218 feet at California Redwood Coast-Humboldt County Airport. These surfaces also extend outward and upward at right angles to the approach surface at a slope of 7:1 from the sides of the approach surface of the horizontal surface at a point 150 feet above the airport runway elevation of 218 feet at the California Redwood Coast-Humboldt County Airport.

**(4) HORIZONTAL SURFACE**

Horizontal surface means a plane circular in shape with its height 150 feet above the established airport elevation and having a radius from the airport reference point of

10,000 feet. The established elevation of an airport is the elevation of the highest point of the usable landing area. The airport reference point is the point selected and marked at the approximate center of the airport landing area.

SAMPLE

**EXHIBIT "C"**  
**(Runway 14– Arcata Eureka -Airport)**

The imaginary plane above the real property described in Exhibit "A", as such plane is defined by 14 CRR Part 77, and consists of a plane described as an approach, transition, or horizontal surface; the elevation of said plane being based upon the California Redwood Coast-Humboldt County Airport official runway and elevation of 218 feet Above Mean Sea Level (AMSL), as determined by California Redwood Coast-Humboldt County Airport Layout Plan, the approximate dimensions of which said plane are described as follows:

The airport traffic area at the California Redwood Coast-Humboldt County Airport consists of the airspace within the Runway Clear Zone under the approach surface and above the approach surface, transitional surface, and the horizontal surface of Runway 14, which are described as follows:

**(1) RUNWAY CLEAR ZONE**

An area at ground level that begins at the end of each primary surface defined in FAR 77.25(c) and extends with the width of each approach surface defined in FAR 77.25(d), to terminate directly below each approach surface slope at the point, or points, where the slope reaches a height of 50 feet (15m) above the elevation of the runway end or 50 feet (15m) above the terrain at the outer extremity of the clear zone, whichever distance is shorter.

**(2) AIRPORT APPROACH SURFACE**

The approach surface is an area trapezoidal in form located at the ends of said runway, which area extends outwardly 10,000 feet beginning at a point 200 feet outward from the end of the runway on the extended centerline of said runway and which area is 1,000 feet in width at its inner end and 16,000 feet in width at its outer end. The approach surface is a trapezoidal plane with a slope of 34:1 (1 foot of elevation for every 34 feet of horizontal distance) for a distance of 50,000 feet, which inclined plane has an elevation of 218 feet mean sea level at its inner lower edge and an elevation of 1,688 feet mean sea level at its outer and upper edge.

**(3) TRANSITIONAL SURFACE**

These surfaces extend outward and upward at a point 500 feet at right angles to the runway centerline extended at a slope of 7:1 from the sides to the horizontal surface, a point of 150 feet above the airport runway elevation of 218 feet at California Redwood Coast-Humboldt County Airport. These surfaces also extend outward and upward at right angles to the approach surface at a slope of 7:1 from the sides of the approach surface of the horizontal surface at a point 150 feet above the airport runway elevation of 218 feet at the California Redwood Coast-Humboldt County Airport.

**(4) HORIZONTAL SURFACE**

Horizontal surface means a plane circular in shape with its height 150 feet above the established airport elevation and having a radius from the airport reference point of 10,000 feet. The established elevation of an airport is the elevation of the highest point of the usable landing area. The airport reference point is the point selected and marked at the approximate center of the airport landing area.

**EXHIBIT "C"**  
**(Runway 1 – Arcata Eureka -Airport)**

The imaginary plane above the real property described in Exhibit "A", as such plane is defined by Part 77 of the Federal Aviation Regulations, and consists of a plane described as an approach, transition, or horizontal surface; the elevation of said plane being based upon the California Redwood Coast-Humboldt County Airport official runway and elevation of 218 feet Above Mean Sea Level (AMSL), as determined by California Redwood Coast-Humboldt County Airport Layout Plan, the approximate dimensions of which said plane are described as follows:

The airport traffic area at the California Redwood Coast-Humboldt County Airport consists of the airspace within the Runway Clear Zone under and above the Airport Approach Surface; the Airport Approach Surface; the Transitional Surface; and the Horizontal Surface of Runway 1, which are described as follows:

**(1) RUNWAY CLEAR ZONE**

An area at ground level that begins at the end of each primary surface defined in FAR 77.25(c) and extends with the width of each approach surface defined in FAR 77.25(d), to terminate directly below each approach surface slope at the point, or points, where the slope reaches a height of 50 feet (15m) above the elevation of the runway end or 50 feet (15m) above the terrain at the outer extremity of the clear zone, whichever distance is shorter.

**(2) AIRPORT APPROACH SURFACE**

The approach surface is an area trapezoidal in form located at the ends of said runway, which area extends outwardly 6,256 feet beginning at a point 200 feet outward from the end of the runway on the extended centerline of said runway and which area is 500 feet in width at its inner end and 2,300 feet in width at its outer end. The approach surface is a trapezoidal plane with a slope of 34:1 (1 foot of elevation for every 34 feet of horizontal distance) for a distance of 6,256 feet, which inclined plane has an elevation of 184 feet mean sea level at its inner lower edge and an elevation of 368 feet mean sea level at its outer and upper edge.

**(3) TRANSITIONAL SURFACE**

These surfaces extend outward and upward at a point 250 feet at right angles to the runway centerline extended at a slope of 7:1 from the sides to the horizontal surface, a point of 150 feet above the airport runway elevation of 218 feet at California Redwood Coast-Humboldt County Airport. These surfaces also extend outward and upward at right angles to the approach surface at a slope of 7:1 from the sides of the approach surface of the horizontal surface at a point 150 feet above the airport runway elevation of 218 feet at the California Redwood Coast-Humboldt County Airport.

**(4) HORIZONTAL SURFACE**

Horizontal surface means a plane circular in shape with its height 150 feet above the established airport elevation and having a radius from the airport reference point of 10,000 feet. The established elevation of an airport is the elevation of the highest point of the usable landing area. The airport reference point is the point selected and marked at the approximate center of the airport landing area.

**EXHIBIT "C"**  
**(Runway 19 – Arcata Eureka -Airport)**

The imaginary plane above the real property described in Exhibit "A", as such plane is defined by Part 77 of the Federal Aviation Regulations, and consists of a plane described as an approach, transition, or horizontal surface; the elevation of said plane being based upon the California Redwood Coast-Humboldt County Airport official runway and elevation of 218 feet Above Mean Sea Level (AMSL), as determined by California Redwood Coast-Humboldt County Airport Layout Plan, the approximate dimensions of which said plane are described as follows:

The airport traffic area at the California Redwood Coast-Humboldt County Airport consists of the airspace within the Runway Clear Zone under and above the Airport Approach Surface; the Airport Approach Surface; the Transitional Surface; and the Horizontal Surface of Runway 19, which are described as follows:

**(1) RUNWAY CLEAR ZONE**

An area at ground level that begins at the end of each primary surface defined in FAR 77.25(c) and extends with the width of each approach surface defined in FAR 77.25(d), to terminate directly below each approach surface slope at the point, or points, where the slope reaches a height of 50 feet (15m) above the elevation of the runway end or 50 feet (15m) above the terrain at the outer extremity of the clear zone, whichever distance is shorter.

**(2) AIRPORT APPROACH SURFACE**

The approach surface is an area trapezoidal in form located at the ends of said runway, which area extends outwardly 3,260 feet beginning at a point 200 feet outward from the end of the runway on the extended centerline of said runway and which area is 500 feet in width at its inner end and 1,000 feet in width at its outer end. The approach surface is a trapezoidal plane with a slope of 20:1 (1 foot of elevation for every 20 feet of horizontal distance) for a distance of 3,260 feet, which inclined plane has an elevation of 205 feet mean sea level at its inner lower edge and an elevation of 368 feet mean sea level at its outer and upper edge.

**(3) TRANSITIONAL SURFACE**

These surfaces extend outward and upward at a point 250 feet at right angles to the runway centerline extended at a slope of 7:1 from the sides to the horizontal surface, a point of 150 feet above the airport runway elevation of 218 feet at California Redwood Coast-Humboldt County Airport. These surfaces also extend outward and upward at right angles to the approach surface at a slope of 7:1 from the sides of the approach surface of the horizontal surface at a point 150 feet above the airport runway elevation of 218 feet at the California Redwood Coast-Humboldt County Airport.

**(4) HORIZONTAL SURFACE**

Horizontal surface means a plane circular in shape with its height 150 feet above the established airport elevation and having a radius from the airport reference point of 10,000 feet. The established elevation of an airport is the elevation of the highest point of the usable landing area. The airport reference point is the point selected and marked at the approximate center of the airport landing area.

**EXHIBIT "C"**  
**(Runway 29 – Rohnerville Airport)**

The imaginary plane above the real property described in Exhibit "A", as such plane is defined by Part 77 of the Federal Aviation Regulations, and consists of a plane described as an approach, transition, or horizontal surface; the elevation of said plane being based upon the Rohnerville Airport official runway and elevation of 218 feet Above Mean Sea Level (AMSL), as determined by Rohnerville Airport Layout Plan, the approximate dimensions of which said plane are described as follows:

The airport traffic area at the Rohnerville Airport consists of the airspace within the Runway Clear Zone under and above the Airport Approach Surface; the Airport Approach Surface; the Transitional Surface; and the Horizontal Surface of Runway 29, which are described as follows:

**(1) RUNWAY CLEAR ZONE**

An area at ground level that begins at the end of each primary surface defined in FAR 77.25(c) and extends with the width of each approach surface defined in FAR 77.25(d), to terminate directly below each approach surface slope at the point, or points, where the slope reaches a height of 50 feet (15m) above the elevation of the runway end or 50 feet (15m) above the terrain at the outer extremity of the clear zone, whichever distance is shorter.

**(2) AIRPORT APPROACH SURFACE**

The approach surface is an area trapezoidal in form located at the ends of said runway, which area extends outwardly 6,040 feet beginning at a point 200 feet outward from the end of the runway on the extended centerline of said runway and which area is 500 feet in width at its inner end and 1,000 feet in width at its outer end. The approach surface is a trapezoidal plane with a slope of 20:1 (1 foot of elevation for every 20 feet of horizontal distance) for a distance of 6,040 feet, which inclined plane has an elevation of 337 feet mean sea level at its inner lower edge and an elevation of 390 feet mean sea level at its outer and upper edge.

**(3) TRANSITIONAL SURFACE**

These surfaces extend outward and upward at a point 250 feet at right angles to the runway centerline extended at a slope of 7:1 from the sides to the horizontal surface, a point of 150 feet above the airport runway elevation of 390 feet at Rohnerville Airport. These surfaces also extend outward and upward at right angles to the approach surface at a slope of 7:1 from the sides of the approach surface of the horizontal surface at a point 150 feet above the airport runway elevation of 390 feet at the Rohnerville Airport.

**(4) HORIZONTAL SURFACE**

Horizontal surface means a plane circular in shape with its height 150 feet above the established airport elevation and having a radius from the airport reference point of 10,000 feet. The established elevation of an airport is the elevation of the highest point of the usable landing area. The airport reference point is the point selected and marked at the approximate center of the airport landing area.

**EXHIBIT "C"**  
**(Runway 11 – Rohnerville Airport)**

The imaginary plane above the real property described in Exhibit "A", as such plane is defined by Part 77 of the Federal Aviation Regulations, and consists of a plane described as an approach, transition, or horizontal surface; the elevation of said plane being based upon the Rohnerville Airport official runway and elevation of 218 feet Above Mean Sea Level (AMSL), as determined by Rohnerville Airport Layout Plan, the approximate dimensions of which said plane are described as follows:

The airport traffic area at the Rohnerville Airport consists of the airspace within the Runway Clear Zone under and above the Airport Approach Surface; the Airport Approach Surface; the Transitional Surface; and the Horizontal Surface of Runway 11, which are described as follows:

**(1) RUNWAY CLEAR ZONE**

An area at ground level that begins at the end of each primary surface defined in FAR 77.25(c) and extends with the width of each approach surface defined in FAR 77.25(d), to terminate directly below each approach surface slope at the point, or points, where the slope reaches a height of 50 feet (15m) above the elevation of the runway end or 50 feet (15m) above the terrain at the outer extremity of the clear zone, whichever distance is shorter.

**(2) AIRPORT APPROACH SURFACE**

The approach surface is an area trapezoidal in form located at the ends of said runway, which area extends outwardly 8,120 feet beginning at a point 200 feet outward from the end of the runway on the extended centerline of said runway and which area is 500 feet in width at its inner end and 1,010 feet in width at its outer end. The approach surface is a trapezoidal plane with a slope of 40:1 (1 foot of elevation for every 40 feet of horizontal distance) for a distance of 6,040 feet, which inclined plane has an elevation of 337 feet mean sea level at its inner lower edge and an elevation of 390 feet mean sea level at its outer and upper edge.

**(3) TRANSITIONAL SURFACE**

These surfaces extend outward and upward at a point 250 feet at right angles to the runway centerline extended at a slope of 7:1 from the sides to the horizontal surface, a point of 150 feet above the airport runway elevation of 390 feet at Rohnerville Airport. These surfaces also extend outward and upward at right angles to the approach surface at a slope of 7:1 from the sides of the approach surface of the horizontal surface at a point 150 feet above the airport runway elevation of 390 feet at the Rohnerville Airport.

**(4) HORIZONTAL SURFACE**

Horizontal surface means a plane circular in shape with its height 150 feet above the established airport elevation and having a radius from the airport reference point of 10,000 feet. The established elevation of an airport is the elevation of the highest point of the usable landing area. The airport reference point is the point selected and marked at the approximate center of the airport landing area.

**EXHIBIT "C"**  
**(Runway \_\_\_\_\_ - \_\_\_\_\_ Airport)**

The imaginary plane above the real property described in Exhibit "A", as such plane is defined by Part 77 of the Federal Aviation Regulations, and consists of a plane described as an approach, transition, or horizontal surface; the elevation of said plane being based upon the \_\_\_\_\_ Airport official runway and elevation of \_\_\_\_\_ feet Above Mean Sea Level (AMSL), as determined by \_\_\_\_\_ Airport Layout Plan, the approximate dimensions of which said plane are described as follows:

The airport traffic area at the \_\_\_\_\_ Airport consists of the airspace within the Runway Clear Zone under and above the Airport Approach Surface; the Airport Approach Surface; the Transitional Surface; and the Horizontal Surface of Runway \_\_\_\_\_, which are described as follows:

**(1) RUNWAY CLEAR ZONE**

An area at ground level that begins at the end of each primary surface defined in FAR 77.25(c) and extends with the width of each approach surface defined in FAR 77.25(d), to terminate directly below each approach surface slope at the point, or points, where the slope reaches a height of 50 feet (15m) above the elevation of the runway end or 50 feet (15m) above the terrain at the outer extremity of the clear zone, whichever distance is shorter.

**(2) AIRPORT APPROACH SURFACE**

The approach surface is an area trapezoidal in form located at the ends of said runway, which area extends outwardly \_\_\_\_\_ feet beginning at a point 200 feet outward from the end of the runway on the extended centerline of said runway and which area is \_\_\_\_\_ feet in width at its inner end and \_\_\_\_\_ feet in width at its outer end. The approach surface is a trapezoidal plane with a slope of \_\_\_\_\_:1 (1 foot of elevation for every \_\_\_\_\_ feet of horizontal distance) for a distance of \_\_\_\_\_ feet, which inclined plane has an elevation of \_\_\_\_\_ feet mean sea level at its inner lower edge and an elevation of \_\_\_\_\_ feet mean sea level at its outer and upper edge.

**(3) TRANSITIONAL SURFACE**

These surfaces extend outward and upward at a point \_\_\_\_\_ feet at right angles to the runway centerline extended at a slope of 7:1 from the sides to the horizontal surface, a point of 150 feet above the airport runway elevation of \_\_\_\_\_ feet at \_\_\_\_\_ Airport. These surfaces also extend outward and upward at right angles to the approach surface at a slope of 7:1 from the sides of the approach surface of the horizontal surface at a point 150 feet above the airport runway elevation of \_\_\_\_\_ feet at the \_\_\_\_\_ Airport.

**(4) HORIZONTAL SURFACE**

Horizontal surface means a plane circular in shape with its height 150 feet above the established airport elevation and having a radius from the airport reference point of 10,000 feet. The established elevation of an airport is the elevation of the highest point of the usable landing area. The airport reference point is the point selected and marked at the approximate center of the airport landing area.



## AVIGATION AND OVERFLIGHT PROCEDURE

1. Determine if project is in an Avigation or Overflight Easement Zone of the airport in question.
2. Order the Deed of the parcel or parcels of the related project.
3. Place the heading and signature page of the Easement Deed exactly as the Deed of the project parcel. Place the description of the parcel in the proper location in the Easement Deed.
4. If it is determined that the project is in the Overflight Easement Zone there are no attachments necessary.
5. If the project is in the Avigation Easement Zone attach the Exhibit C for the proper Runway and attach it to the Avigation Easement.
6. If the project is in the Avigation Easement Zone attach Exhibit B, a copy of the Assessors page depicting that parcel(s).
7. Send Easement Deed with all attachments and acknowledgment forms to owners for signatures. (Send two acknowledgment forms if two signatures are required). All signatures must be notarized to be able to record.
8. Select the most recent Board Letter on file under PWRK\board letters for either Avigation or Overflight.
9. Once received back from the Clerk of the Board make a copy and take with original to recorders office and record. **See continued #9 below**
10. Once there is a recorders book and page # place it in the specific airport file under Avigation/Overflight Easements for that year. Highlight Avigation/Overflight map with recording information. Place recorders information on Arc/View GIS map for reference and future Airport Master Plans.

---

**Owner brings in signed easement deed**  
**Signoff in building**  
**Do board letter**

**#9 Original easement deed comes back with board approval**  
**Take copy of easement deed to keep and give Joe original and copy**

**Joe brings back conformed copy with recorder's sticker on it**  
**After original is recorded it comes back to us**

**Recorded original goes to lora to keep on file**

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## Sample Deed Notice

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**REQUESTED BY AND RETURN TO:**

DEPARTMENT OF PUBLIC WORKS  
LAND USE DIVISION  
3033 H STREET, ROOM 17  
EUREKA CA 95501-4409

This instrument is for the benefit of the County of Humboldt and is entitled to be recorded without fee. (Govt. Code 27383)

**DEED NOTICE**

**APN:**

California Redwood Coast – Humboldt County Airport

Murray Field

**Development Permit Reference:**

Dinsmore Airport

Rohnerville Airport

Garberville Airport

Samoa Field Airport

Kneeland Airport

Shelter Cove Airport

The property described in **Exhibit A**, attached hereto and incorporated herein by reference, lies within the Airport Influence Area for the above selected airport as identified in the Airport Land Use Compatibility Plan (ALUCP) for Humboldt County. Properties within this area are subject to routine overflights by aircraft and, as a result, residents may experience inconvenience, annoyance, or discomfort arising from aircraft noise. State law (Public Utilities Code § 21670 *et seq.*) establishes the importance of the orderly development of public use airports and areas surrounding these airports to the public interest. Residents of property near a public use airport should therefore be prepared to accept potential inconvenience, annoyance, or discomfort from normal aircraft operations. Residents should also be aware that the current volume of aircraft activity may increase in the future in response to growth in Humboldt County's population and economy. Any subsequent deed conveying this parcel or subdivision thereof shall contain a statement in substantially this form.

Receipt of notice acknowledged by Record Owner(s) duly authorized to sign:

Signature: \_\_\_\_\_

Signature: \_\_\_\_\_

Name: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Date: \_\_\_\_\_



**Exhibit A**

DESCRIPTION

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE COUNTY OF HUMBOLDT,  
STATE OF CALIFORNIA AND IS DESCRIBED AS FOLLOWS:

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# Airport Combining Zone Ordinance Components

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An airport compatibility combining zoning ordinance might include some or all of the following components:

- **Airspace Protection** — A combining district can establish restrictions on the height of buildings, antennas, trees, and other objects as necessary to protect the airspace needed for operation of the airport. These restrictions should be based upon the current version of 14 Code of Federal Regulations (CFR) Part 77, Subpart C: *Standards for Determining Obstructions to Air Navigation or Navigational Aids or Facilities*. Additions or adjustment to take into account instrument approach (TERPS) surfaces should be made as necessary. Humboldt County has adopted height limitations for County defined airspace surfaces (Tit. III, Div. 3, Ch.3, *Airport Approach Zone Building Height Regulations*); however, where more restrictive, federal regulations as defined in 14 CFR Part 77 take precedence over the County code. Provisions prohibiting smoke, glare, hazardous wildlife attractants, and other hazards to flight should also be included.
- **FAA Notification Requirements**— Combining districts can also be used to ensure that project developers are informed about the need for compliance with the notification requirements of 14 CFR Part 77, Subpart B, *Notice Requirements*. 14 CFR Part 77.9 requires that the proponent of any project which exceeds a specified set of height criteria submit a Form 7460-1, *Notice of Proposed Construction or Alteration*, to the Federal Aviation Administration (FAA) prior to commencement of construction. The height criteria associated with this notification requirement are lower than those spelled out in 14 CFR Part 77, Subpart C, which define airspace obstructions. The purpose of the notification is to prompt the FAA to prepare an aeronautical study to determine if the proposed construction would constitute a potential obstruction in the airspace or hazard to flight. Notification is not required for proposed structures that would be shielded by existing structures or by natural terrain of equal or greater height, where it is obvious that the proposal would not adversely affect air safety.
- **State Regulation of Obstructions** — State law prohibits anyone from constructing or altering a structure or permitting an object of natural growth to exceed the heights established by 14 CFR Part 77, unless the FAA has determined the object would or does not constitute a hazard to air navigation (Public Utilities Code, Section 21659). Additionally, a permit from the Department of Transportation is required for any structure taller than 500 feet above the ground unless the height is reviewed and approved by the Federal Communications Commission or the FAA (Section 21656).
- **Designation of High Noise-Impact Areas** — California state statutes require that multi-family residential structures in high-noise exposure areas be constructed so as to limit the interior noise to a Community Noise Equivalent Level (CNEL) of no more than 45 dB. A combining district could be used to indicate the locations where special construction techniques may be necessary in order to ensure compliance with this requirement. The combining district also could extend this criterion to single-family dwellings.
- **Maximum Densities/Intensities**— Airport noise and safety compatibility criteria are frequently expressed in terms of dwelling units per acre for residential uses and people per acre for other land uses. These standards can either be directly included in

a combining zone or used to modify the underlying land use designations. For residential land uses, the correlation between the compatibility criteria and land use designations is direct. For other land uses, the method of calculating the intensity limitations needs to be defined.

Alternatively, a matrix can be established indicating whether each specific type of land use is compatible with each compatibility zone. To be useful, the land use categories need to be more detailed than typically provided by general plan or zoning ordinance land use designations.

- **Open Areas for Emergency Landing of Aircraft** — In most circumstances in which an accident involving a small aircraft occurs near an airport, the aircraft is under control as it descends. When forced to make an off-airport emergency landing, pilots will usually attempt to do so in the most open area readily available. To enhance safety both for people on the ground and the occupants of aircraft, airport compatibility plans often contain criteria requiring a certain amount of open land near airports. These criteria are most effectively carried out by planning at the general or specific plan level, but may also need to be included in a combining district so that they will be applied to development of large parcels. Adequate open areas can often be provided by clustering of development on adjacent land.
- **Areas of Special Compatibility Concern** — A significant drawback of standard general plan and zoning ordinance land use designations is that they can be changed. Uses that are currently compatible are not assured of staying that way in the future. Designation of areas of special compatibility concern would serve as a reminder that airport impacts should be carefully considered in any decision to change the existing land use designation.
- **Real Estate Disclosure Policies** — The geographic extent and specific language of recommended real estate disclosure statements can be described in an airport combining zone ordinance.

Appendix D  
**Land Use Crosswalk**

# APPENDIX D

## Land Use Category Crosswalks with Local Zoning Code Permitted Uses

TABLE D-1  
NOISE COMPATIBILITY LAND USE CATEGORY CROSSWALK TO MUNICIPAL ZONING USES

Compatibility Criteria Tables Land Use Categories	Permissible use category	Jurisdiction	Definition
<b>Agriculture</b>			
<b>Agriculture (except residences and livestock)</b>			
Agriculture (except residences and livestock)	Agriculture	City of Eureka	The use of the land for commercial farming, crop production, horticulture, floriculture, viticulture, and animal raising and production, including dairies. May include accessory uses for packing, processing, treating, and storing crops grown on site provided such accessory uses are secondary to crop production activities. (Eureka, 2019)
Agriculture (except residences and livestock)	Aquaculture	City of Eureka	Facilities or areas for the cultivation of marine or freshwater fish, shellfish, or plants under controlled conditions. Includes aquaponics that integrates aquaculture with hydroponics by recycling the waste products from fish to fertilize hydroponically growing plants. Includes cultured oyster beds and similar uses. (Eureka, 2019)
Agriculture (except residences and livestock)	Aquaculture	Humboldt County	The Aquaculture Use Type refers to aquaculture operations, including but not limited to oyster and mussel culturing, crab holding facilities and including support facilities such as earthen impoundments, steel or concrete holding tanks and raceways. (County, 2019)
Agriculture (except residences and livestock)	Cannabis cultivation	City of Eureka	N/A
Agriculture (except residences and livestock)	Commercial fishing	City of Eureka	The activity of catching fish and other seafood for commercial profit, mostly from wild fisheries. Includes ancillary fish and seafood processing; fish and seafood storage and distribution; and fish and seafood sales. (Eureka, 2019)
Agriculture (except residences and livestock)	Commercial nursery growing grounds	City of Eureka	N/A
Agriculture (except residences and livestock)	Field and truck crops	City of Eureka	N/A

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NOISE COMPATIBILITY LAND USE CATEGORY CROSSWALK TO MUNICIPAL ZONING USES**

<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible use category</b>	<b>Jurisdiction</b>	<b>Definition</b>
Agriculture (except residences and livestock)	General agriculture	Humboldt County	N/A
Agriculture (except residences and livestock)	Growing, harvesting and processing of forest products	Humboldt County	N/A
Agriculture (except residences and livestock)	Nurseries and greenhouses	Humboldt County	N/A
Agriculture (except residences and livestock)	Orchards	City of Eureka	N/A
Agriculture (except residences and livestock)	Raising of fruit and nut trees, vegetables, and horticultural specialties	City of Eureka	N/A
Agriculture (except residences and livestock)	Timber harvest	City of Eureka	N/A
<b>Livestock/Animal Husbandry</b>			
Livestock/Animal Husbandry	Animal breeding	City of Eureka	N/A
Livestock/Animal Husbandry	Animal sales and feed yards	Humboldt County	N/A
Livestock/Animal Husbandry	Apiaries	City of Eureka	N/A
Livestock/Animal Husbandry	Barns	City of Eureka	N/A
Livestock/Animal Husbandry	Feed lot/slaughter house	Humboldt County	The Feed Lot/Slaughter House Use Type includes large on-site yard(s) with pens or stables and other structures, other than those which are a part of a typical livestock ranch, where cattle, sheep, and similar animals are kept for finishing, shipment or slaughter. (County, 2019)
Livestock/Animal Husbandry	Frog farms	Humboldt County	N/A
Livestock/Animal Husbandry	Fur farms and rabbit raising	City of Eureka	N/A
Livestock/Animal Husbandry	Grazing and other agricultural uses	Humboldt County	N/A
Livestock/Animal Husbandry	Hog farms	Humboldt County	The Hog Farming Use Type refers to any premises used solely or primarily for the raising or keeping of three (3) or more hogs, when raised, fed or fattened for the purposes of sale and consumption by other than the owner or resident of the site. (County, 2019)
Livestock/Animal Husbandry	Intensive agriculture	Humboldt County	Any premises used solely or primarily for the raising or keeping of animals such as fur bearers, frogs, or turkeys, when raised, fed or fattened for the purpose of sale and/or consumption by other than the owner of the site. (County, 2019)
Livestock/Animal Husbandry	Keeping horses, rabbits, poultry, and bees	City of Eureka	N/A

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<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible use category</b>	<b>Jurisdiction</b>	<b>Definition</b>
Livestock/Animal Husbandry	Live storage, killing, or dressing of poultry or rabbits for retail sale	City of Eureka	N/A
Livestock/Animal Husbandry	Livestock raising	City of Eureka	N/A
Livestock/Animal Husbandry	Poultry raising, egg processing, and hatcheries	City of Eureka	N/A
Livestock/Animal Husbandry	Stables and kennels	Humboldt County	The Stables and Kennels Use Type refers to raising and keeping of dogs or horses (or similar hooved animals) for hire or animals boarded and fed for compensation. (County, 2019)
Livestock/Animal Husbandry	Turkey farms	Humboldt County	N/A
<b>Assembly - Public, Fraternal, Other</b>			
<b>Assembly Facilities - Indoor</b>			
Assembly Facilities - Indoor	Assembly halls	City of Fortuna	N/A
Assembly Facilities - Indoor	Auction rooms	City of Eureka	N/A
Assembly Facilities - Indoor	Auditoriums	City of Eureka	N/A
Assembly Facilities - Indoor	Banquet rooms	City of Eureka	N/A
Assembly Facilities - Indoor	Churches, synagogues, temples and other institutions of worship	City of Eureka	N/A
Assembly Facilities - Indoor	Community assembly	Humboldt County	The Community Assembly Use Type includes the activities typically performed by, or at, the following institutions or installations: <ul style="list-style-type: none"> <li>• Churches, temples, synagogues, and other places of worship;</li> <li>• Public parochial, and private non-profit clubs, lodges, meeting halls, and recreation centers;</li> <li>• Public swimming pools. (County, 2019)</li> </ul>
Assembly Facilities - Indoor	Enclosed theaters	Humboldt County	N/A
Assembly Facilities - Indoor	Meeting halls	City of Eureka	N/A
Assembly Facilities - Indoor	Non-Commercial Places of Assembly	City of Eureka	Facilities that provides space for public or private meetings or gatherings. Includes places of worship, fraternal lodges, meeting space for clubs and other membership organizations, social halls, union halls, non-profit banquet centers, and other similar facilities. (Eureka, 2019)
Assembly Facilities - Indoor	Private clubs and lodges	City of Eureka	N/A
Assembly Facilities - Indoor	Social halls, fraternal and social organizations, and clubs.	Humboldt County	N/A
Assembly Facilities - Indoor	Sports arenas	City of Eureka	N/A



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NOISE COMPATIBILITY LAND USE CATEGORY CROSSWALK TO MUNICIPAL ZONING USES**

<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible use category</b>	<b>Jurisdiction</b>	<b>Definition</b>
Assembly Facilities - Indoor	Sports arenas within buildings	City of Eureka	N/A
Assembly Facilities - Indoor	Theaters and auditoriums within buildings	City of Eureka	N/A
<b>Assembly Facilities – Outdoor</b>			
Assembly Facilities – Outdoor	Drive-in theaters	City of Eureka	N/A
Assembly Facilities – Outdoor	Racetracks	City of Eureka	N/A
Assembly Facilities – Outdoor	Sports areas or stadiums	City of Eureka	N/A
Assembly Facilities – Outdoor	Stadiums	City of Eureka	N/A
<b>Commercial - Lodging/Retail/Office</b>			
<b>Eating/Drinking Establishments</b>			
Eating/Drinking Establishments	Bars and nightclubs	City of Eureka	Businesses devoted to serving alcoholic beverages for consumption by guests on the premises and in which the serving of food is only incidental to the consumption of such beverages. Includes cocktail lounges, taverns, dance clubs, and other similar uses. Excludes tasting rooms ancillary to breweries, wineries, and other alcoholic beverage production uses. (Eureka, 2019)
Eating/Drinking Establishments	Restaurants and licensed premises appurtenant thereto	Humboldt County	N/A
Eating/Drinking Establishments	Restaurants and soda fountains, including drive-in establishments	City of Eureka	N/A
Eating/Drinking Establishments	Restaurants, cafes, and beverage sales	City of Eureka	A business selling prepared food and/or beverages for on- or off-premise consumption. Includes full service, fast-food and carryout restaurants, cafes, coffee shops, juice/smoothie bars, retail bakeries, and other similar eating and drinking establishments. Includes outdoor seating/service areas which are permitted by right. (Eureka, 2019)
Eating/Drinking Establishments	Retail bakeries	Humboldt County	N/A
<b>Lodging</b>			
Lodging	Bed and breakfast establishments	Humboldt County	The Bed and Breakfast Establishment Use Type refers to a residential structure with one family in permanent residence where a maximum of four (4) bedrooms without individual cooking facilities are rented for overnight lodging, and where at least one meal daily is provided. (County, 2019)
Lodging	Commercial lodging	City of Eureka	A commercial establishment in a non-residential zoning district providing overnight accommodations to guests

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<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible use category</b>	<b>Jurisdiction</b>	<b>Definition</b>
			for 30 consecutive calendar days or less. Commercial lodging establishments may provide additional services, such as conference and meeting rooms, restaurants, bars, or recreation facilities available to guests and the general public. Includes hotels, motels, hostels, and other similar commercial establishments. Also includes dwelling units or portions thereof located in a nonresidential zoning district rented to guests for 30 consecutive calendar days or less. (Eureka, 2019)
Lodging	Hotel	City of Eureka	N/A
Lodging	Hotels and motels	Humboldt County	N/A
Lodging	Motel	City of Eureka	N/A
Lodging	Residential lodging	City of Eureka	A dwelling unit or portions thereof located in a residential zoning district that is rented to guests for 30 consecutive calendar days or less. (Eureka, 2019)
Lodging	Resorts	City of Eureka	N/A
Lodging	Vacation dwelling units	City of Eureka	N/A
<b>Professional Office</b>			
Professional Office	Administrative, business and professional offices	Humboldt County	N/A
Professional Office	Offices	City of Eureka	place of employment occupied by businesses providing professional services. Includes offices for accountants, architects, insurance agents, attorneys, engineers, real estate agents, travel agents, artist studios, and other similar professions. (Eureka, 2019)
Professional Office	Radio and television broadcasting studios	City of Eureka	N/A
<b>Retail/Sales</b>			
<b>Retail/Sales – Indoor Oriented</b>			
Retail/Sales – Indoor Oriented	Antique shops	Humboldt County	N/A
Retail/Sales – Indoor Oriented	Arts and artists' supply stores	City of Eureka	N/A
Retail/Sales – Indoor Oriented	Bicycle shops	City of Eureka	N/A
Retail/Sales – Indoor Oriented	Book stores	Humboldt County	N/A
Retail/Sales – Indoor Oriented	Cabinet shops	City of Eureka	N/A
Retail/Sales – Indoor Oriented	Candy stores	City of Eureka	N/A
Retail/Sales – Indoor Oriented	Cannabis retail	City of Eureka	N/A
Retail/Sales – Indoor Oriented	Cigar stores	City of Eureka	N/A

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<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible use category</b>	<b>Jurisdiction</b>	<b>Definition</b>
Retail/Sales – Indoor Oriented	Clothing and apparel stores	Humboldt County	N/A
Retail/Sales – Indoor Oriented	Clothing and costume rental establishments	City of Eureka	N/A
Retail/Sales – Indoor Oriented	Department stores	Humboldt County	N/A
Retail/Sales – Indoor Oriented	Drug stores	City of Eureka	N/A
Retail/Sales – Indoor Oriented	Dry goods stores	City of Eureka	N/A
Retail/Sales – Indoor Oriented	Electrical appliance sales and repair stores, provided repair services shall be incidental to retail sales	City of Eureka	N/A
Retail/Sales – Indoor Oriented	Florists	Humboldt County	N/A
Retail/Sales – Indoor Oriented	Food stores and supermarkets	Humboldt County	N/A
Retail/Sales – Indoor Oriented	Fur shops	City of Eureka	N/A
Retail/Sales – Indoor Oriented	Furniture sales	Humboldt County	N/A
Retail/Sales – Indoor Oriented	Furniture stores	Humboldt County	N/A
Retail/Sales – Indoor Oriented	Gift shops	City of Eureka	N/A
Retail/Sales – Indoor Oriented	Hardware and appliance stores	City of Eureka	N/A
Retail/Sales – Indoor Oriented	Heavy Equipment Sales and Service	City of Eureka	Indoor retail establishments selling or renting industrial, construction, farm, or other heavy equipment for commercial use, including cranes, earth moving equipment, tractors, tractor trailers, combines, and heavy trucks. Outdoor display, storage, and sales is a second use subject to separate regulations and restrictions. (Eureka, 2019)
Retail/Sales – Indoor Oriented	Hobby shops	City of Eureka	N/A
Retail/Sales – Indoor Oriented	Jewelry stores	City of Eureka	N/A
Retail/Sales – Indoor Oriented	Large general retail – indoor	City of Eureka	A general retail indoor facility that is between 20,000 square feet and 50,000 square feet. (Eureka, 2019)
Retail/Sales – Indoor Oriented	Leather goods and luggage stores	City of Eureka	N/A
Retail/Sales – Indoor Oriented	Liquor stores	City of Eureka	N/A
Retail/Sales – Indoor Oriented	Machinery sales and rentals	City of Eureka	N/A
Retail/Sales – Indoor Oriented	Marine sales, services, and repairs	City of Eureka	N/A
Retail/Sales – Indoor Oriented	Medical and orthopedic appliance stores	City of Eureka	N/A
Retail/Sales – Indoor Oriented	Men's furnishing stores	City of Eureka	N/A
Retail/Sales – Indoor Oriented	Millinery shops	Humboldt County	N/A

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<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible use category</b>	<b>Jurisdiction</b>	<b>Definition</b>
Retail/Sales – Indoor Oriented	Mobile vendors	City of Eureka	N/A
Retail/Sales – Indoor Oriented	Motorcycle sales and services	City of Eureka	N/A
Retail/Sales – Indoor Oriented	Music stores	City of Eureka	N/A
Retail/Sales – Indoor Oriented	Neighborhood commercial	Humboldt County	The Neighborhood Commercial Use Type includes retail sales and services which provide convenient facilities to residential areas, such as coin operated laundries, food markets, variety stores, and automobile gas or filling stations. (County, 2019)
Retail/Sales – Indoor Oriented	Newsstands	City of Eureka	N/A
Retail/Sales – Indoor Oriented	Office and business machine stores	City of Eureka	N/A
Retail/Sales – Indoor Oriented	Paint, glass, and wallpaper shops	City of Eureka	N/A
Retail/Sales – Indoor Oriented	Pet and bird stores	City of Eureka	N/A
Retail/Sales – Indoor Oriented	Phonograph record stores	City of Eureka	N/A
Retail/Sales – Indoor Oriented	Photographic supply stores and studios	Humboldt County	N/A
Retail/Sales – Indoor Oriented	Prefabricated structure sales	City of Eureka	N/A
Retail/Sales – Indoor Oriented	Prescription pharmacies and dental and optical laboratories	City of Eureka	N/A
Retail/Sales – Indoor Oriented	Radio and television sales and services	Humboldt County	N/A
Retail/Sales – Indoor Oriented	Rental and sales of irrigation equipment and storage incidental thereto	City of Fortuna	N/A
Retail/Sales – Indoor Oriented	Rental hand tools, garden tools, power tools, trailers, and other similar equipment	City of Eureka	N/A
Retail/Sales – Indoor Oriented	Retail shopping centers with mixture of uses including restaurants	Humboldt County	N/A
Retail/Sales – Indoor Oriented	Retail Stores (stand-alone buildings <25,000 s.f.) No eating/drinking establishments	City of Eureka	N/A
Retail/Sales – Indoor Oriented	Retail Stores, no Restaurants	City of Eureka	N/A
Retail/Sales – Indoor Oriented	Sales and rental of aircraft, aviation supplies/equipment	Humboldt County	N/A
Retail/Sales – Indoor Oriented	Sales of used and secondhand goods	City of Eureka	N/A
Retail/Sales – Indoor Oriented	Scientific instrument shops	City of Eureka	N/A

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<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible use category</b>	<b>Jurisdiction</b>	<b>Definition</b>
Retail/Sales – Indoor Oriented	Shoe stores	City of Eureka	N/A
Retail/Sales – Indoor Oriented	Small general retail – indoor	City of Eureka	A general retail indoor facility that is less than 20,000 square feet in total floor area. (Eureka, 2019)
Retail/Sales – Indoor Oriented	Sporting goods stores	Humboldt County	N/A
Retail/Sales – Indoor Oriented	Stamp and coin stores	City of Eureka	N/A
Retail/Sales – Indoor Oriented	Stationery stores	City of Eureka	N/A
Retail/Sales – Indoor Oriented	Stores, agencies and services of a light commercial character	Humboldt County	N/A
Retail/Sales – Indoor Oriented	Swimming pool sales and services	City of Eureka	N/A
Retail/Sales – Indoor Oriented	Television and radio sales and repair stores	City of Eureka	N/A
Retail/Sales – Indoor Oriented	Ticket agencies	City of Eureka	N/A
Retail/Sales – Indoor Oriented	Toy stores	City of Eureka	N/A
Retail/Sales – Indoor Oriented	Truck and trailer rentals, sales, and services	City of Eureka	N/A
Retail/Sales – Indoor Oriented	Variety stores	Humboldt County	N/A
Retail/Sales – Indoor Oriented	Very large general retail – indoor	City of Eureka	A general retail indoor facility that is larger than 50,000 square feet in total floor area. (Eureka, 2019)
Retail/Sales – Indoor Oriented	Wholesale establishments	City of Eureka	N/A
Retail/Sales – Indoor Oriented	Wholesale outlet stores	City of Eureka	N/A
Retail/Sales – Indoor Oriented	Women's apparel accessory stores	City of Eureka	N/A
<b>Retail/Sales – Outdoor Oriented</b>			
Retail/Sales – Outdoor Oriented	Automobile sales	City of Eureka	N/A
Retail/Sales – Outdoor Oriented	Automotive Sales, Service and Repair:	Humboldt County	The Automotive Sales, Service and Repair Use Type includes the sales from the premises of motor vehicles, accessory parts and supplies, and the provision of services generally required in the operation and maintenance of motor vehicles; the major repair or painting of motor vehicles, including body work and installation of major accessories, as well as the washing and polishing of motor vehicles. Auto sales from the premises are also included. (County, 2019)
Retail/Sales – Outdoor Oriented	Boat sales, services, and repairs	City of Eureka	N/A
Retail/Sales – Outdoor Oriented	Christmas tree sales lots	City of Eureka	N/A
Retail/Sales – Outdoor Oriented	Fuel and Service Stations	City of Eureka	A retail business supplying fuels, oil, and minor accessories for vehicles. Includes establishments supplying gasoline, hydrogen, and electric

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			vehicle charging as a primary land use. Includes incidental food and beverage sales (maximum 3,500 square feet of convenience market), car wash facilities, and minor automotive repair and service. (Eureka, 2019)
Retail/Sales – Outdoor Oriented	General retail – outdoor	City of Eureka	A supplemental outdoor area associated with a primary use (such as General Retail – Indoor) where merchandise is prominently stored and/or displayed for sale outdoors in a designated outdoor area as a regular part of business operations. (Eureka, 2019)
Retail/Sales – Outdoor Oriented	Ice vending stations	City of Eureka	N/A
Retail/Sales – Outdoor Oriented	Lumber yards	Humboldt County	N/A
Retail/Sales – Outdoor Oriented	Nurseries and garden supply stores	City of Eureka	N/A
Retail/Sales – Outdoor Oriented	Roadside stands	Humboldt County	N/A
Retail/Sales – Outdoor Oriented	Stone and monument yards	City of Eureka	N/A
<b>Institutional</b>			
<b>Cemeteries/Mortuaries</b>			
Cemeteries/Mortuaries	Cemeteries, crematories, and columbariums	City of Eureka	N/A
Cemeteries/Mortuaries	Mortuaries	Humboldt County	N/A
Cemeteries/Mortuaries	Private institutions and cemeteries	Humboldt County	N/A
<b>Children's Schools/Daycare Centers</b>			
Children's Schools/Daycare Centers	Community care facility:	Humboldt County	Refers to any facility, place, or building which is maintained and operated to provide non-medical residential care, day care, or home finding agency services for children, adults, or children and adults, including but not limited to the physically handicapped, mentally impaired, incompetent persons and abused or neglected children. (County, 2019)
Children's Schools/Daycare Centers	Day care facility	City of Eureka	A facility that provides nonmedical care and supervision of children or adults for periods of less than 24 hours. Includes nursery schools, day nurseries, child care centers, infant day care centers, cooperative day care centers, adult day programs, and similar uses. Day care facilities may be operated in conjunction with a school or church facility, or as an independent land use. (Eureka, 2019)

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Children's Schools/Daycare Centers	Family day care center	Humboldt County	Any facility which provides, to twelve or fewer children (including children of the owner or operator of the facility who reside at the home), non-medical care, or personal services, supervision, or assistance essential for sustaining the activities of daily living or for the protection of the individual on a less than twenty-four hour basis. (County, 2019)
Children's Schools/Daycare Centers	Nursery schools	City of Eureka	N/A
Children's Schools/Daycare Centers	Schools, Public and Private	City of Eureka	Educational institutions providing instruction to minors as required by the California Education Code. Includes public and private elementary, junior high, and high schools. (Eureka, 2019)
<b>College/University/Trade Schools</b>			
College/University/Trade Schools	Arts and crafts schools and colleges	City of Eureka	N/A
College/University/Trade Schools	Business, professional, and trade schools and colleges	City of Eureka	N/A
College/University/Trade Schools	Colleges and Trade Schools.	City of Eureka	Institutions of higher education providing curricula of a general, religious or professional nature, typically granting recognized degrees or certificates. Includes junior colleges, business and computer schools, management training, vocational education, and technical and trade schools. (Eureka, 2019)
College/University/Trade Schools	Commercial instruction	Humboldt County	N/A
<b>Hospitals/Nursing Homes</b>			
Hospitals/Nursing Homes	Convalescent homes	City of Fortuna	A private or public institution where patients may recover from an illness. (Fortuna, 2019)
Hospitals/Nursing Homes	Hospitals	City of Eureka	Facilities providing medical, psychiatric, or surgical services for sick or injured persons primarily on an in-patient basis, and including ancillary facilities for outpatient and emergency treatment, diagnostic services, training, research, administration, and services to patients, employees, or visitors. May include facilities for the takeoff and landing of helicopters. (Eureka, 2019)
Hospitals/Nursing Homes	Nursing homes	City of Eureka	N/A
Hospitals/Nursing Homes	Private institution	Humboldt County	The Private Institution Use Type includes sanitariums, rest homes and convalescent homes providing for the rooming or boarding of any aged or convalescent person, whether

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			ambulatory or nonambulatory, for which a license has been acquired from county, state or federal agencies. (County, 2019)
Hospitals/Nursing Homes	Rest homes	City of Fortuna	N/A
<b>Library/Museum/Gallery</b>			
Library/Museum/Gallery	Art galleries	Humboldt County	N/A
Library/Museum/Gallery	Cultural, non-assembly	Humboldt County	The Non-Assembly Cultural Use Type includes the activities typically performed by the following institutions: <ul style="list-style-type: none"> <li>Public, parochial, and private non-profit museums and art galleries and similar organizations;</li> <li>Public, parochial, and private non-profit libraries and observatories and similar institutions. (County, 2019)</li> </ul>
Library/Museum/Gallery	Libraries	Humboldt County	N/A
Library/Museum/Gallery	Private museums	City of Eureka	N/A
<b>Public Buildings</b>			
Public Buildings	Administrative:	Humboldt County	The Administrative Use Type includes the uses performed by public, public non-profit, parochial, and public utility administrative offices. (County, 2019)
Public Buildings	Charitable institutions and social service and social welfare centers	City of Eureka	N/A
Public Buildings	Civic institution	City of Eureka	Public or non-profit institutions that support and contribute to the cultural development of the community and provide community-serving programs and services on-site. Includes libraries, museums, performing art centers (primarily nonretail), aquariums, zoos, environmental education centers, non-profit art centers and galleries, botanical gardens, and other similar uses. (Eureka, 2019)
Public Buildings	Emergency shelters	City of Eureka	Housing with minimal supportive services for homeless persons that is limited to occupancy of one year or less. No individual or household may be denied emergency shelter because of an inability to pay. Includes drop-in centers that provide food, showers, and laundry facilities, and other services to the homeless. (Eureka, 2019)
Public Buildings	Government facilities	City of Eureka	A facility operated by a governmental agency providing services to the general public. Includes governmental offices, public recreational facilities, community centers, public meeting



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			spaces, civic auditoriums, fire stations, police stations, dispatch facilities, vehicle storage, and other similar facilities. (Eureka, 2019)
Public Buildings	Hospital offices	City of Fortuna	N/A
Public Buildings	Instructional services	City of Eureka	Establishments that offer specialized programs in personal growth and development. Includes music studios/schools, drama schools, dance academies dedicated primarily to instruction, art schools, tutoring schools, and instruction in other cultural and academic pursuits. (Eureka, 2019)
Public Buildings	Post offices	City of Eureka	N/A
Public Buildings	Public buildings and grounds	City of Eureka	N/A
Public Buildings	Social services	City of Eureka	Establishments providing group outpatient assistance and aid to those persons requiring counseling, services, activities, and/or treatment for psychological problems, addictions, learning disabilities, elderly, and physical disabilities. Includes welfare offices, child/adult protective services, service centers for disabled individuals, counseling centers for individuals with substance abuse disorder, and veteran services. (Eureka, 2019)
<b>Manufacturing/Processing</b>			
Manufacturing/Processing	Agricultural and timber products processing plants.	Humboldt County	N/A
Manufacturing/Processing	Agricultural processing	City of Eureka	The processing of harvested crops to prepare them for onsite marketing, off-site sale, or processing and packaging elsewhere. Includes alfalfa cubing; corn shelling; grist mills; milling of flour, feed and grain; grain cleaning and grinding; hay baling and cubing; pre-cooling and packaging of fresh or dried fruits or vegetables; tree nut hulling and shelling; farm product warehousing and storage; drying of corn, rice, hay; and sorting, grading and packing fruits and vegetables. Includes the processing of crops grown off-site. (Eureka, 2019)
Manufacturing/Processing	Aircraft and aircraft accessories and parts manufacture	City of Eureka	N/A
Manufacturing/Processing	Animal processing	City of Eureka	A facility where the slaughtering and/or processing of animals raised off-site takes place, including rendering plants and meat cutting and packing uses. (Eureka, 2019)

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NOISE COMPATIBILITY LAND USE CATEGORY CROSSWALK TO MUNICIPAL ZONING USES**

<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible use category</b>	<b>Jurisdiction</b>	<b>Definition</b>
Manufacturing/Processing	Asphalt and asphalt products manufacture	City of Eureka	N/A
Manufacturing/Processing	Automobile, truck, and trailer accessories and parts manufacture	City of Eureka	N/A
Manufacturing/Processing	Bakeries (non-retail)	City of Eureka	N/A
Manufacturing/Processing	Battery manufacture	City of Eureka	N/A
Manufacturing/Processing	Boat building	City of Eureka	N/A
Manufacturing/Processing	Boiler works	City of Eureka	N/A
Manufacturing/Processing	Bottling works	City of Eureka	N/A
Manufacturing/Processing	Box factories and cooperages	City of Eureka	N/A
Manufacturing/Processing	Breweries and distilleries	City of Eureka	N/A
Manufacturing/Processing	Building materials manufacture and assembly, including composition wallboards, partitions, panels, and prefabricated structures	City of Eureka	N/A
Manufacturing/Processing	Business machines manufacture, including accounting machines, calculators, card-counting equipment, and typewriters	City of Eureka	N/A
Manufacturing/Processing	Can and metal container manufacture	City of Eureka	N/A
Manufacturing/Processing	Candle manufacture, not including rendering	City of Eureka	N/A
Manufacturing/Processing	Cannabis manufacturing, research and Development, and testing facilities	City of Eureka	N/A
Manufacturing/Processing	Carpenter shops	City of Eureka	N/A
Manufacturing/Processing	Carpet and rug manufacture	City of Eureka	N/A
Manufacturing/Processing	Cement products manufacture, including concrete mixing and batching	City of Eureka	N/A
Manufacturing/Processing	Cement, lime, gypsum, and plaster of paris manufacture	City of Eureka	N/A
Manufacturing/Processing	Charcoal, lampblack, and fuel briquettes manufacture	City of Eureka	N/A
Manufacturing/Processing	Chemical products manufacture provided no hazard of fire or explosion is created, including adhesives, bleaching products, bluing, calcimine, dyestuffs (except aniline dyes), essential oils, soda	City of Eureka	N/A

**TABLE D-1  
NOISE COMPATIBILITY LAND USE CATEGORY CROSSWALK TO MUNICIPAL ZONING USES**

<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible use category</b>	<b>Jurisdiction</b>	<b>Definition</b>
	and soda compounds, and vegetable gelatin, glue, and size		
Manufacturing/Processing	Clay products manufacture, including brick, fire brick, tile, and pipe	City of Eureka	N/A
Manufacturing/Processing	Cleaning and dyeing establishments	City of Fortuna	N/A
Manufacturing/Processing	Coal, coke, and tar products manufacture	City of Eureka	N/A
Manufacturing/Processing	Coastal-dependent industrial	Humboldt County	The Coastal-Dependent Use Type includes any coastal-dependent industrial use which requires a maintained navigable channel to function, including, for example: public docks, water-borne carrier import and export operations, ship building and boat repair, commercial fishing facilities, including berthing and fish receiving, and fish processing when product is for human consumption (fish waste processing and fish processing of products for other than human consumption are permitted under the Coastal-Related Use Type), marine oil terminals, Outer Continental Shelf (OCS) service or supply bases, ocean intake, outfall or discharge pipelines and pipelines serving offshore facilities, aquaculture and aquaculture support facilities. (County, 2019)
Manufacturing/Processing	Coastal-related industrial	Humboldt County	The Coastal-Related Use Type includes coastal-related industrial uses, including but not limited to fish waste processing and fish processing of products for other than human consumption, gas or oil processing and treatment facilities, electrical generating facilities or other facilities which require an ocean intake, outfall, or pipeline. (County, 2019)
Manufacturing/Processing	Cork manufacture	City of Eureka	N/A
Manufacturing/Processing	Cottage industry	Humboldt County	The Cottage Industry Use Type refers to establishments primarily engaged in the on-site production of goods by hand manufacturing which involves only the use of hand tools or domestic mechanical equipment or a single kiln, and the incidental direct sale to consumers of only those goods produced on-site. Typical uses include ceramic studios, custom jewelry or small furniture and cabinet manufacturers. (County, 2019)
Manufacturing/Processing	Cotton ginning and cotton wadding and linter manufacture	City of Eureka	N/A

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NOISE COMPATIBILITY LAND USE CATEGORY CROSSWALK TO MUNICIPAL ZONING USES**

<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible use category</b>	<b>Jurisdiction</b>	<b>Definition</b>
Manufacturing/Processing	Dairies and processing of dairy products	City of Eureka	N/A
Manufacturing/Processing	Die and pattern making	City of Eureka	N/A
Manufacturing/Processing	Distillery, craft	City of Eureka	N/A
Manufacturing/Processing	Drop forges	City of Eureka	N/A
Manufacturing/Processing	Dumps and slag piles	City of Eureka	N/A
Manufacturing/Processing	Explosive manufacture and storage	City of Eureka	N/A
Manufacturing/Processing	Extrusion of small products, such as costume jewelry, pins and needles, razor blades, bottle caps, buttons, and kitchen utensils	City of Eureka	N/A
Manufacturing/Processing	Fertilizer manufacture	City of Eureka	N/A
Manufacturing/Processing	Fertilizer plants and yards	City of Eureka	N/A
Manufacturing/Processing	Film manufacture	City of Eureka	N/A
Manufacturing/Processing	Firearms manufacture	City of Eureka	N/A
Manufacturing/Processing	Fireworks manufacture and storage	City of Eureka	N/A
Manufacturing/Processing	Fish products processing and packaging	City of Eureka	N/A
Manufacturing/Processing	Flour, feed, and grain mills	City of Eureka	N/A
Manufacturing/Processing	Furniture manufacture	City of Eureka	N/A
Manufacturing/Processing	Gas and oil wells	City of Eureka	N/A
Manufacturing/Processing	Gas manufacture or storage	City of Eureka	N/A
Manufacturing/Processing	Gelatin, glue, and size manufacture from animal or fish refuse	City of Eureka	N/A
Manufacturing/Processing	Glass and glass products manufacture	City of Eureka	N/A
Manufacturing/Processing	Graphite and graphite products manufacture	City of Eureka	N/A
Manufacturing/Processing	Hair, felt, and feathers processing	City of Eureka	N/A
Manufacturing/Processing	Handicraft manufacture	Humboldt County	N/A
Manufacturing/Processing	Hazardous industrial	Humboldt County	The Hazardous Industrial Use Type includes any industrial activity which involves the handling of toxic, highly flammable, explosive or radioactive materials in such quantities that would, if released or ignited, constitute a significant risk to adjacent human populations or development. (County, 2019)
Manufacturing/Processing	Heating and ventilating shops	City of Eureka	N/A
Manufacturing/Processing	Ice manufacture	City of Eureka	N/A

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NOISE COMPATIBILITY LAND USE CATEGORY CROSSWALK TO MUNICIPAL ZONING USES**

<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible use category</b>	<b>Jurisdiction</b>	<b>Definition</b>
Manufacturing/Processing	Incineration or reduction of garbage, offal, and dead animals	City of Eureka	N/A
Manufacturing/Processing	Industrial manufacturing uses	Humboldt County	N/A
Manufacturing/Processing	Insecticides, fungicides, disinfectants, and similar industrial and household chemical compounds manufacture	City of Eureka	N/A
Manufacturing/Processing	Jute, hemp, sisal, and oakum products manufacture	City of Eureka	N/A
Manufacturing/Processing	Laboratories	City of Eureka	N/A
Manufacturing/Processing	Lard manufacture	City of Eureka	N/A
Manufacturing/Processing	Laundry and cleaning plants	City of Eureka	N/A
Manufacturing/Processing	Leather and fur finishing and dyeing, not including tanning and curing	City of Eureka	N/A
Manufacturing/Processing	Linoleum and oil cloth manufacture	City of Eureka	N/A
Manufacturing/Processing	Machine shops not involving the use of drop hammers, automatic screw machines, or punch presses with a rated capacity of over 20 tons	City of Eureka	N/A
Manufacturing/Processing	Machine tools manufacture, including metal lathes, metal presses, metal stamping machines, and woodworking machines	City of Eureka	N/A
Manufacturing/Processing	Machinery manufacture, including heavy electrical, agricultural, construction, and mining machinery, and light machinery and equipment, such as air conditioning, commercial motion picture equipment, dishwashers, dryers, furnaces, heaters, refrigerators, ranges, stoves, ovens, and washing machines	City of Eureka	N/A
Manufacturing/Processing	Magnesium foundries	City of Eureka	N/A
Manufacturing/Processing	Manufacture and assembly of electrical supplies, such as coils, condensers, crystal holders, insulation, lamps and switches, and wire and cable assembly, provided that no noxious	City of Eureka	N/A

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NOISE COMPATIBILITY LAND USE CATEGORY CROSSWALK TO MUNICIPAL ZONING USES**

<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible use category</b>	<b>Jurisdiction</b>	<b>Definition</b>
	or offensive fumes or odors are produced		
Manufacturing/Processing	Manufacture of furniture, finished paper and paper products.	Humboldt County	N/A
Manufacturing/Processing	Manufacturing, artisan	City of Eureka	Artistic, artisan, craft-oriented, and small-scale manufacturing businesses engaged in the on-site assembly of individually fabricated parts or the fabrication of custom/craft goods, and the incidental direct sale to consumers of primarily those goods produced on site. (Eureka, 2019)
Manufacturing/Processing	Manufacturing, light	City of Eureka	The manufacture of products in a manner that produces little or no noise, odor, fumes, dust, smoke, dirt, refuse, vibration, glare, and/or air or water pollution detectable beyond the interior walls of the facility and is unlikely to cause significant impacts on surrounding land uses. Products are commonly produced from previously prepared materials, of finished products or parts, including processing, fabrication, assembly, treatment, and packaging of such products. Does not produce or utilize toxic, hazardous, or explosive materials as an integral part of the manufacturing process. (Eureka, 2019)
Manufacturing/Processing	Manufacturing, heavy	City of Eureka	A facility accommodating manufacturing processes that involve or produce basic metals, building materials, chemicals, fabricated metals, paper products, machinery, textiles, or transportation equipment, and where the use may cause significant impacts on surrounding land uses. Includes manufacturing of chemical products; concrete, gypsum, and plaster products; paving and roofing materials; plastics and other synthetics, and rubber products; lumber and other wood products; tires; mass-produced food and beverage products, paving and petroleum-based roofing materials; lime products; glass products. Also includes petroleum refining and related industries, oil and gas processing facilities, and ready-mix concrete batch plants. (Eureka, 2019)
Manufacturing/Processing	Manufacturing of electrical and electronic equipment, of household effects such as lamps, rugs and fabrics, and research and development laboratories.	Humboldt County	N/A
Manufacturing/Processing	Manufacturing, canning, and packing of food	City of Eureka	N/A

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NOISE COMPATIBILITY LAND USE CATEGORY CROSSWALK TO MUNICIPAL ZONING USES**

<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible use category</b>	<b>Jurisdiction</b>	<b>Definition</b>
	products, including fruits and vegetables, but not including meat products, pickles, sauerkraut, vinegar, or yeast, dehydrating of garlic or onions, or refining or rendering of fats or oils		
Manufacturing/Processing	Manure, peat, and topsoil processing and storage	City of Eureka	N/A
Manufacturing/Processing	Match manufacture	City of Eureka	N/A
Manufacturing/Processing	Mattress manufacture	City of Eureka	N/A
Manufacturing/Processing	Meat products processing and packaging not including slaughtering and glue and size manufacture	City of Eureka	N/A
Manufacturing/Processing	Metal alloys and foil manufacture, including solder, pewter, brass, bronze, and tin, lead, and gold foil	City of Eureka	N/A
Manufacturing/Processing	Metal-working shops	Humboldt County	N/A
Manufacturing/Processing	Metallic mineral extraction	Humboldt County	The Metallic Mineral Extraction Use Type refers to the surface or subsurface extraction of metallic minerals such as gold, copper, chromium, and zinc, and not including stationary on-site processing facilities of any type. (County, 2019)
Manufacturing/Processing	Motor and generator manufacture	City of Eureka	N/A
Manufacturing/Processing	Motor testing of internal combustion motors	City of Eureka	N/A
Manufacturing/Processing	Motor vehicle wrecking yards and scrap metal yards	City of Eureka	N/A
Manufacturing/Processing	Oil and gas drilling and processing	Humboldt County	The Oil and Gas Drilling and Processing Use Type refers to the operation and maintenance of oil and gas drilling including essential on-site processing. (County, 2019)
Manufacturing/Processing	Packing and crating	City of Eureka	N/A
Manufacturing/Processing	Paint manufacture, including enamel, lacquer, shellac, turpentine, and varnish	City of Eureka	N/A
Manufacturing/Processing	Paraffin products manufacture	City of Eureka	N/A
Manufacturing/Processing	Pickup truck camper and canopy assembly	City of Eureka	N/A
Manufacturing/Processing	Plastics manufacture	City of Eureka	N/A
Manufacturing/Processing	Porcelain products manufacture, including	City of Eureka	N/A

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<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible use category</b>	<b>Jurisdiction</b>	<b>Definition</b>
	bathroom and kitchen fixtures and equipment		
Manufacturing/Processing	Precious metals reduction, smelting, and refining	City of Eureka	N/A
Manufacturing/Processing	Processing, packing, and canning of food for human consumption	City of Eureka	N/A
Manufacturing/Processing	Processing, packing, and canning of seafood for human consumption, not including processing seafood for fish oils	City of Eureka	N/A
Manufacturing/Processing	Quarries, gravel pits, mines, and stone mills	City of Eureka	N/A
Manufacturing/Processing	Railroad equipment manufacture, including railroad car and locomotive manufacture	City of Eureka	N/A
Manufacturing/Processing	Recycling processing facility	City of Eureka	A facility that receives and processes recyclable materials. Processing means preparation of material for efficient shipment, or to an end-user's specifications, by such means as baling, briquetting, compacting, flattening, grinding, crushing, mechanical sorting, shredding, cleaning, and remanufacturing. Includes salvage yards, upcycling, and vehicle salvage and wrecking. (Eureka, 2019)
Manufacturing/Processing	Refrigeration equipment	City of Eureka	N/A
Manufacturing/Processing	Research & development	Humboldt County	N/A
Manufacturing/Processing	Rubber manufacture or processing, including natural or synthetic rubber and gutta-percha	City of Eureka	N/A
Manufacturing/Processing	Rubber products manufacture, including tires and tubes	City of Eureka	N/A
Manufacturing/Processing	Sandblasting	City of Eureka	N/A
Manufacturing/Processing	Sheet metal shops	City of Eureka	N/A
Manufacturing/Processing	Shoe polish manufacture	City of Eureka	N/A
Manufacturing/Processing	Soap manufacture, including fat rendering	City of Eureka	N/A
Manufacturing/Processing	Solid waste disposal	Humboldt County	N/A
Manufacturing/Processing	Starch and dextrin manufacture	City of Eureka	N/A
Manufacturing/Processing	Steam plants	City of Eureka	N/A
Manufacturing/Processing	Steel products manufacture and assembly, including steel	City of Eureka	N/A



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<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible use category</b>	<b>Jurisdiction</b>	<b>Definition</b>
	cabinets, lockers, doors, fencing, and furniture		
Manufacturing/Processing	Stockyards and slaughterhouses	City of Eureka	N/A
Manufacturing/Processing	Stone products manufacture and stone processing, including abrasives, asbestos, stone screening, and sand and lime products	City of Eureka	N/A
Manufacturing/Processing	Structural steel products manufacture, including bars, girders, rails, and wire rope	City of Eureka	N/A
Manufacturing/Processing	Surface mining – 1:	Humboldt County	The Surface Mining - 1 Use Type refers to surface extraction of nonmetallic minerals, such as sand, gravel and rock, and including fixed on-site processing facilities such as stationary crushers, separators, kilns, and transfer stations; or similar fixed facilities. (County, 2019)
Manufacturing/Processing	Surface mining – 2:	Humboldt County	The Surface Mining - 2 Use Type refers to surface extraction of nonmetallic minerals such as sand and gravel, but not including stationary on-site processing facilities of any type, subject to the Surface Mining and Reclamation Regulations at Title III, Division 9 of the Humboldt County Code. (County, 2019)
Manufacturing/Processing	Surface mining – 3:	Humboldt County	The Surface Mining - 3 Use Type refers to surface extraction on nonmetallic minerals such as sand and gravel, confined only to rivers and areas of wind-blown sands, and not including stationary on-site processing facilities of any type. (County, 2019)
Manufacturing/Processing	Tallow manufacture	City of Eureka	N/A
Manufacturing/Processing	Tanneries and curing and storage of rawhide	City of Eureka	N/A
Manufacturing/Processing	Textile bleaching	City of Eureka	N/A
Manufacturing/Processing	Textile, knitting and hosiery mills	City of Eureka	N/A
Manufacturing/Processing	Welding shops	City of Eureka	N/A
Manufacturing/Processing	Wire and cable manufacture	City of Eureka	N/A
Manufacturing/Processing	Wood and bones distillation	City of Eureka	N/A
Manufacturing/Processing	Woodworking shops and cabinet shops	City of Eureka	N/A
Manufacturing/Processing	Wool scouring and pulling	City of Eureka	N/A

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<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible use category</b>	<b>Jurisdiction</b>	<b>Definition</b>
<b>Warehousing/Storage</b>			
<b>Materials Storage - Hazardous</b>			
Materials Storage - Hazardous	Bulk storage of petroleum products for direct sale to consumers	City of Eureka	N/A
Materials Storage - Hazardous	Feed and fuel stores	City of Eureka	N/A
Materials Storage - Hazardous	Petroleum and petroleum products storage	City of Eureka	N/A
Materials Storage - Hazardous	Storage of fuel or flammable liquids	City of Eureka	N/A
Materials Storage - Low Hazard			
Materials Storage - Low Hazard	Beverage distributors	City of Eureka	N/A
Materials Storage - Low Hazard	Building material storage yards	City of Eureka	N/A
Materials Storage - Low Hazard	Cold storage plants	City of Eureka	N/A
Materials Storage - Low Hazard	Contractors' equipment rental or storage yards	City of Eureka	N/A
Materials Storage - Low Hazard	Corporation yard	City of Eureka	N/A
Materials Storage - Low Hazard	Equipment buildings and installations	City of Eureka	N/A
Materials Storage - Low Hazard	Food lockers	City of Eureka	N/A
Materials Storage - Low Hazard	Frozen food distributors	City of Eureka	N/A
Materials Storage - Low Hazard	Gravel, rock, and cement yards	City of Eureka	N/A
Materials Storage - Low Hazard	Ice storage houses	City of Eureka	N/A
Materials Storage - Low Hazard	Low-Hazard Storage: mini-storage, greenhouses	Humboldt County	N/A
Materials Storage - Low Hazard	Mini-storage	City of Eureka	One or more building in a controlled access and fully enclosed compound that contains separate self-storage spaces of varying size for the storage of customers' goods and possessions. (Eureka, 2019)
Materials Storage - Low Hazard	Outdoor storage, non-retail	City of Eureka	Non-retail storage of commercial goods in open lots as either a primary or second use. (Eureka, 2019)
Materials Storage - Low Hazard	Storage buildings for household goods	City of Eureka	N/A
Materials Storage - Low Hazard	Storage of logs or wood chips	City of Eureka	N/A
Materials Storage - Low Hazard	Storage of used building materials	City of Eureka	N/A
Materials Storage - Low Hazard	Storage yards for commercial vehicles	City of Eureka	N/A
Materials Storage - Low Hazard	Warehousing, storage and distribution	Humboldt County	N/A

**TABLE D-1**  
**NOISE COMPATIBILITY LAND USE CATEGORY CROSSWALK TO MUNICIPAL ZONING USES**

Compatibility Criteria Tables Land Use Categories	Permissible use category	Jurisdiction	Definition
Materials Storage - Low Hazard	Warehousing, Wholesale, and Distribution	City of Eureka	A use engaged in storage, wholesale and distribution of manufactured products, supplies, and equipment to retailers; to industrial, commercial, institutional, farm, or professional business users; or to other wholesalers; or acting as agents or brokers in buying merchandise for or selling merchandise to such persons or companies. Includes merchant wholesalers; agents, merchandise or commodity brokers, and commission merchants; assemblers, buyers and associations engaged in the cooperative marketing of farm products. (Eureka, 2019)
<b>Recreation/Parks/Open Space</b>			
<b>Open Space</b>			
Open Space	Public recreation	Humboldt County	The Public Recreation and Open Space Use Type refers to a publicly-owned and maintained parkland and low intensity uses attendant thereto, such as tent camps and picnic areas and food service and other concessions. (County, 2019)
Open Space	Coastal access facilities	Humboldt County	The Coastal Public Access Facilities Use Type includes the development of coastal access facilities consistent with the (County of Humboldt) Coastal Access Development Requirements. (County, 2019)
Open Space	Management for fish and wildlife habitat	Humboldt County	The Fish and Wildlife Habitat Management Use Type refers to the manipulation or maintenance of vegetation or streams, or construction of minor structures to yield desired results in terms of habitat suitable for designated wildlife or fishery species or groups of species. (County, 2019)
Open Space	Management for watershed	Humboldt County	N/A
Open Space	Open space	Humboldt County	N/A
Open Space	Resource Protection and Restoration	City of Eureka	Lands and management activities dedicated to the protection and conservation of natural resources, such as aquatic environments, wetland and sensitive riparian habitat, water recharge areas, and rare or endangered plant or animal habitat. (Eureka, 2019)
<b>Parks</b>			
Parks	Parks and Playgrounds	City of Eureka	Parks and playgrounds as the primary use on the site that provides open space and/or outdoor recreational opportunities to the public. Includes athletic fields, picnic areas, tennis courts, tot lots, community gardens,

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Compatibility Criteria Tables Land Use Categories	Permissible use category	Jurisdiction	Definition
			cemeteries, and other similar outdoor facilities. (Eureka, 2019)
Parks	Playgrounds	City of Fortuna	N/A
Parks	Special occupancy parks	Humboldt County	N/A
<b>Recreation</b>			
Recreation	Agriculture-related recreational:	Humboldt County	The Agriculture-Related Recreation Use Type includes recreational facilities developed in conjunction with agriculture, including hunting and duck camps, skiing and dude ranches, but not including such recreational activities as golf courses which require non-agricultural development. (County, 2019)
Recreation	Amusement parks and commercial recreational facilities	Humboldt County	N/A
Recreation	Bowling alleys	City of Eureka	N/A
Recreation	Card rooms	City of Eureka	N/A
Recreation	Circuses, carnivals, and other transient amusement enterprises	City of Eureka	N/A
Recreation	Commercial recreation	Humboldt County	The Commercial Recreation Use Type refers to facilities serving recreational needs but operated for private profit, including, for example, riding stables, chartered fishing boats, tourist attractions and amusement or marine parks, including special occupancy parks and tent camps. (County, 2019)
Recreation	Commercial and private recreation facilities	City of Eureka	N/A
Recreation	Dance halls	City of Eureka	N/A
Recreation	Fitness, Dance, or Health Facility	City of Eureka	An indoor fitness center, gymnasium, athletic club, dance studio, yoga studio, or other similar use. (Eureka, 2019)
Recreation	Golf courses	Humboldt County	N/A
Recreation	Gymnasiums	City of Eureka	N/A
Recreation	Gymnastic schools and health clubs	City of Eureka	N/A
Recreation	Incidental camping area	Humboldt County	Any area or tract of land where camping is incidental to the primary use of the land for agriculture, timber management, or water or power development purposes, and where two (2) or more campsites used for camping are rented or leased or held out for rent or lease. The density of usage shall not exceed twenty-five (25) camping parties within a radius of 265 feet from any campsite within the incidental camping area. (County, 2019)

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<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible use category</b>	<b>Jurisdiction</b>	<b>Definition</b>
Recreation	Music and dance studios	City of Eureka	N/A
Recreation	Noncommercial recreation facilities	Humboldt County	N/A
Recreation	Outdoor commercial recreation	City of Eureka	A privately-owned commercial facility providing outdoor recreation, amusement, and entertainment services. Includes commercial batting cages, outdoor swimming pools, go-cart tracks, driving ranges, tennis courts, golf courses, miniature golf, and other similar uses. (Eureka, 2019)
Recreation	Pony riding rings	City of Eureka	N/A
Recreation	Pool halls	City of Eureka	N/A
Recreation	Private recreation	Humboldt County	The Private Recreation Use Type includes clubs or recreation facilities operated by a non-profit organization and open only to members of such non-profit organizations and their guests. (County, 2019)
Recreation	Private recreation parks and swim clubs	City of Eureka	N/A
Recreation	Recreational vehicle parks	City of Eureka	Any area or tract of land, or a separate designated section within a manufactured home park where one or more lots are rented or leased or held out for rent, or lease to owners or users of recreational vehicles or tents and which are occupied for temporary purposes. (County, 2019)
Recreation	Resource-related recreational	Humboldt County	The Resource-Related Recreational Use Type includes activities such as nature study, hunting and fishing, and includes the development of hunting blinds and similar minor facilities. (County, 2019)
Recreation	Riding academies	City of Eureka	N/A
Recreation	Riding stables	City of Eureka	N/A
Recreation	Rifle ranges	City of Eureka	N/A
Recreation	Shooting galleries within buildings	City of Eureka	N/A
Recreation	Shooting ranges	Humboldt County	N/A
Recreation	Skating rinks	City of Eureka	N/A
Recreation	Temporary recreational vehicle park	Humboldt County	N/A
Recreation	Tennis clubs	City of Fortuna	N/A
Recreation	Tent camp	Humboldt County	N/A
Recreation	Zoos	City of Eureka	N/A
<b>Residential</b>			
<b>Single Family Residential</b>			
Single Family Residential	Farm dwellings	Humboldt County	N/A

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<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible use category</b>	<b>Jurisdiction</b>	<b>Definition</b>
Single Family Residential	Single family home	City of Eureka	A residential structure designed for occupancy by one household. A single-family dwelling provides complete, independent living facilities for one or more persons, including permanent provisions for living, sleeping, eating, cooking, and sanitation.
Single Family Residential	Single family residential	Humboldt County	The Single Family Residential Use Type includes the residential occupancy of a single detached main building by one family on a non-transient basis, except for rental of single family dwellings as vacation homes, where the use would not be otherwise different than the uses allowed to be made of single family dwellings. (County, 2019)
<b>Multifamily Residential</b>			
Multifamily Residential	Apartments on the upper floors of multistory structures where below are establishments engaged in commercial uses	Humboldt County	N/A
Multifamily Residential	Duplexes	City of Eureka	N/A
Multifamily Residential	Live-work uses	City of Eureka	N/A
Multifamily Residential	Multifamily residential	Humboldt County	Includes the residential occupancy of a duplex, or multiple main building or buildings by individuals or families on a non-transient basis. (County, 2019)
Multifamily Residential	Multifamily dwelling units	City of Fortuna	N/A
Multifamily Residential	Multistory apartments over commercial uses	Humboldt County	N/A
Multifamily Residential	Row houses or town houses	City of Eureka	Two or more single-family dwelling units connected by common walls along the sides with either shared or unshared foundations. (Eureka, 2019)
<b>Manufactured Home Parks</b>			
Manufactured Home Parks	Manufactured home parks	Humboldt County	The Manufactured Home Park Development Use Type refers to a tract of land where two or more manufactured home lots are rented or leased or held out for rent or lease to accommodate manufactured homes or recreational vehicles used for human habitation. The Manufactured Home Park Development Use Type includes manufactured home development constructed according to the requirements of Part 2.1 (commencing with Section 18200) of Division 13 of the (County of Humboldt) Health and Safety Code. (County, 2019)

**TABLE D-1  
NOISE COMPATIBILITY LAND USE CATEGORY CROSSWALK TO MUNICIPAL ZONING USES**

<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible use category</b>	<b>Jurisdiction</b>	<b>Definition</b>
Manufactured Home Parks	Mobile home park	City of Fortuna	Any lot, tract, or parcel of land licensed and used or offered for use, in whole or in part, with or without charge, for the parking of occupied mobile homes and travel trailers subject to a use permit and used solely for living and/or sleeping purposes. (Fortuna, 2019)
<b>Group Quarters</b>			
Group Quarters	Boarding and rooming houses	Humboldt County	N/A
Group Quarters	Farm employee housing	Humboldt County	Refers to the occupancy by four or fewer farm employees and their families of any living accommodations, without regard to duration, which occurs exclusively in association with the performance of agricultural labor. (County, 2019)
Group Quarters	Farmworker housing	City of Eureka	Housing for transient labor, such as labor cabins or camps, incidental to a permitted agricultural use. (Eureka, 2019)
Group Quarters	Group residential:	Humboldt County	Refers to the residential occupancy, for compensation, by groups of persons or individuals by pre-arrangement for definite periods. Typical uses include occupancy of sorority houses, retirement homes, and boarding houses. (County, 2019)
Group Quarters	Halfway houses	City of Eureka	N/A
Group Quarters	Micro/shared housing	City of Eureka	Shared living quarters without separate kitchen or bathroom facilities for each room or unit, offered for rent to permanent or semi-transient residents for long-term occupancy (30 days or more). Includes rooming and boarding houses, single-room occupancy housing, dormitories, convents and monasteries, and other types of organizational housing. (Eureka, 2019)
Group Quarters	Non-medical Care Housing	City of Eureka	A state-licensed residential facility that provides nonmedical social and personal care for residents. Includes community care facilities as defined in California Health and Safety Code (H&SC) Section 1500 et seq, residential care facilities for the elderly (H&SC Section 1569 et seq.), facilities for the mentally disordered or otherwise handicapped (California Welfare and Institutions Code Section 5000 et seq.), alcoholism or drug abuse recovery or treatment facilities (H&SC Section 11834.02), supportive housing (California Government Code Section 65582), transitional housing (California Government Code Section 65582), and other similar facilities. (Eureka, 2019)

**TABLE D-1  
NOISE COMPATIBILITY LAND USE CATEGORY CROSSWALK TO MUNICIPAL ZONING USES**

<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible use category</b>	<b>Jurisdiction</b>	<b>Definition</b>
Group Quarters	Single room occupancy (SRO)	City of Eureka	N/A
Group Quarters	Labor camp	Humboldt County	Refers to the occupancy of five or more farm or timber production employees and their families of any living quarters in association with the performance of agricultural or timber production labor. Labor camps shall be located on the premises where the work is performed and shall have a maximum continuous permitted duration of one year (1yr) from the effective date of the required Use Permit. (County, 2019)
Group Quarters	Supportive housing	City of Eureka	N/A
Group Quarters	Temporary labor camps	Humboldt County	N/A
Group Quarters	Transitional housing	Humboldt County	N/A
<b>Accessory Dwelling Units</b>			
Accessory Dwelling Units	Caretaker's residence	Humboldt County	N/A
Accessory Dwelling Units	Efficiency unit	City of Eureka	N/A
Accessory Dwelling Units	Guest house	Humboldt County	The Guest House Use Type refers to living quarters within a detached accessory building for the sole use of persons employed on the premises or for temporary use by guests of the occupants of the premises, which living quarters have no kitchen facilities and are not otherwise used as a separate dwelling. (County, 2019)
Accessory Dwelling Units	Junior accessory dwelling units	City of Eureka	N/A
Accessory Dwelling Units	Second residential unit	Humboldt County	The Second Residential Unit Use Type refers to a fully equipped dwelling unit which is ancillary and subordinate to a principal dwelling unit located on the same lot for occupancy by individuals or a family. (County, 2019)
Accessory Dwelling Units	Servants' quarters	Humboldt County	N/A
<b>Services - Commercial/Public</b>			
<b>Service Uses</b>			
Service Uses	Ambulance services	City of Eureka	N/A
Service Uses	Animal hospitals and kennels	City of Fortuna	A building used for the care and treatment of sick or injured dogs, cats, rabbits, birds, and similar small animals. (Fortuna, 2019)
Service Uses	Bag cleaning	City of Eureka	N/A
Service Uses	Bail bonds	City of Eureka	N/A
Service Uses	Blacksmith shops	City of Eureka	N/A



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NOISE COMPATIBILITY LAND USE CATEGORY CROSSWALK TO MUNICIPAL ZONING USES**

<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible use category</b>	<b>Jurisdiction</b>	<b>Definition</b>
Service Uses	Blueprint and photostat shops	City of Eureka	N/A
Service Uses	Bookbinding	City of Eureka	N/A
Service Uses	Business Services and Heavy Commercial	City of Eureka	Indoor commercial establishments providing goods and services to other businesses and/or engaged in heavy commercial activities that could impact neighboring properties. Includes contractor supply businesses, building contractors, large equipment repair, pipe yards, commercial dry cleaning/laundry services, security services, custodial services, business-serving printers, taxi and delivery services, private ambulance dispatch services, property maintenance contractors, plumbing supply stores, and other similar businesses. Products and services may be provided to the general public only on a limited, secondary basis. (Eureka, 2019)
Service Uses	Car share facility	City of Eureka	A formal or informal membership organization that owns motor vehicles that are parked on-site or in off-site areas. Members use the motor vehicles under the terms of their membership. (Eureka, 2019)
Service Uses	Car washes	Humboldt County	N/A
Service Uses	Carpet and rug cleaning and dyeing	City of Eureka	N/A
Service Uses	Catering establishments	City of Eureka	N/A
Service Uses	Diaper supply services	City of Eureka	N/A
Service Uses	Dry cleaning and laundry agencies	Humboldt County	N/A
Service Uses	Electrical repair shops	City of Eureka	N/A
Service Uses	Farm equipment service and repair establishments	City of Eureka	N/A
Service Uses	Glass replacement and repair shops	City of Eureka	N/A
Service Uses	Gunsmiths	City of Eureka	N/A
Service Uses	Household appliance, radio, and TV repair establishments (small scale)	City of Fortuna	N/A
Service Uses	Household repair shops	City of Eureka	N/A
Service Uses	Interior decorating shops	City of Eureka	N/A
Service Uses	Janitorial services and supplies	City of Eureka	N/A

**TABLE D-1  
NOISE COMPATIBILITY LAND USE CATEGORY CROSSWALK TO MUNICIPAL ZONING USES**

<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible use category</b>	<b>Jurisdiction</b>	<b>Definition</b>
Service Uses	Kennel-animal boarding	City of Eureka	A commercial facility for the keeping, boarding, training, breeding or maintaining of four or more dogs (four months of age or older), cats, or other household pet not owned by the facility owner or operator. Includes kennels, pet day care, and animal shelters. (Eureka, 2019)
Service Uses	Linen supply services	City of Eureka	N/A
Service Uses	Locksmiths	City of Eureka	N/A
Service Uses	Massage and physical culture studios	City of Eureka	N/A
Service Uses	Mattress repair shops	City of Eureka	N/A
Service Uses	Messengers' offices	City of Eureka	N/A
Service Uses	Musical instrument repair shops	City of Eureka	N/A
Service Uses	Painting, enameling, and lacquering shops	City of Eureka	N/A
Service Uses	Parcel delivery services, including repair shop facilities	City of Eureka	N/A
Service Uses	Picture framing shops	City of Eureka	N/A
Service Uses	Plumbing shops	City of Eureka	N/A
Service Uses	Pressing establishments	City of Eureka	N/A
Service Uses	Printing, including lithographing and engraving	City of Eureka	N/A
Service Uses	Private kennels	City of Eureka	N/A
Service Uses	Safe and vault repairing	City of Eureka	N/A
Service Uses	Septic tanks and cesspool installation and service	City of Eureka	N/A
Service Uses	Shoe repair shops	City of Eureka	N/A
Service Uses	Sign painting shops	City of Eureka	N/A
Service Uses	Stenographic services	City of Eureka	N/A
Service Uses	Tailor and dressmaking shops	City of Eureka	N/A
Service Uses	Taxidermists	City of Eureka	N/A
Service Uses	Telegraph offices	City of Eureka	N/A
Service Uses	Temporary subdivision sales offices	City of Eureka	N/A
Service Uses	Tool and cutlery sharpening or grinding	City of Eureka	N/A
Service Uses	Umbrella repair shops	City of Eureka	N/A
Service Uses	Vehicle Towing and Impound	City of Eureka	Establishments primarily engaged in towing light or heavy motor vehicles,

**TABLE D-1  
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<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible use category</b>	<b>Jurisdiction</b>	<b>Definition</b>
			both local and long distance, and the on-site storage of towed vehicle. May provide incidental services, such as vehicle storage and emergency road repair services. (Eureka, 2019)
Service Uses	Vending machine services	City of Eureka	N/A
Service Uses	Watch and clock repair shops	City of Eureka	N/A
Service Uses			
Service Uses	Banks	Humboldt County	N/A
Service Uses	Barber and beauty shops	City of Fortuna	N/A
Service Uses	Beauty salons	Humboldt County	N/A
Service Uses	Check cashing	City of Eureka	A retail business owned or operated by a "check casher" as that term is defined in California Civil Code section 1789.31. (Eureka, 2019)
Service Uses	Employment agencies	City of Eureka	N/A
Service Uses	Finance companies	City of Eureka	N/A
Service Uses	Financial institutions	City of Fortuna	An establishment or office offering financial service or counsel and includes banks, savings and loan institutions, stockbrokers' offices, bonding companies, finance company offices, and any other institution of a similar nature. (Fortuna, 2019)
Service Uses	Gasoline service stations	City of Fortuna	N/A
Service Uses	General services	City of Eureka	An indoor commercial establishment that provides services to the general public, involves frequent visits by customers, and which may involve limited product sales related to the service provided. Includes banks, funeral parlors, indoor commercial recreation establishments that do not sell alcohol (e.g., video arcades, indoor mini-golf, indoor batting cages), laundromats, photocopy stores, customer serving dry cleaners, household item repairs, veterinary clinics, tattoo/piercing parlors, customer-serving printers, animal grooming with no overnight boarding, recording studios, and other similar uses that provide on-site services to customers.
Service Uses	Laundries, self-service type	City of Eureka	N/A
Service Uses	Personal services	City of Eureka	An indoor commercial establishment that typically provides one-on-one body-care related services that involve frequent visits by customers and that are typically scheduled on an appointment-basis. May involve limited product sales related to the

**TABLE D-1  
NOISE COMPATIBILITY LAND USE CATEGORY CROSSWALK TO MUNICIPAL ZONING USES**

Compatibility Criteria Tables Land Use Categories	Permissible use category	Jurisdiction	Definition
			service provided. Includes hair salons, nail salons, make-up application studios, skincare treatment salons, non-therapeutic massage, health spas, and other similar nonmedical personal service uses. (Eureka, 2019)
Service Uses	Professional services	Humboldt County	The Office and Professional Services Use Type includes administrative activities of private, profit-oriented administrative firms; radio and television broadcasting stations and offices; medical, dental and related services; professional, consultative, and financial services. (County, 2019)
Service Uses	Realtors and real estate offices	City of Eureka	N/A
Service Uses	Savings and loan offices	City of Eureka	N/A
Service Uses	Studios	Humboldt County	N/A
Service Uses	Travel agencies and bureaus	City of Eureka	N/A
Service Uses	Travelers' aid societies	City of Eureka	N/A
Service Uses	Vehicle repair	City of Eureka	An establishment for the repair, alteration, restoration, or finishing of any vehicle, including body repair, collision repair, painting, tire and battery sales and installation, motor rebuilding, tire recapping and retreading, and towing. (Eureka, 2019)
Service Uses	Veterinarians' offices	City of Eureka	N/A
Service Uses			
Service Uses	Health care facilities	City of Fortuna	N/A
Service Uses	Health care services	Humboldt County	<p>The Health Care Services Use Type includes the uses typically performed by the following institutions:</p> <ul style="list-style-type: none"> <li>• Health and medical clinics;</li> <li>• Hospitals;</li> <li>• Nursing homes, convalescent hospitals, rest homes, and homes for the aged with seven or more patients, or with mental, drug addict, or alcohol addict cases;</li> <li>• Medical centers for observation or rehabilitation, with full-time supervision or care. (County, 2019)</li> </ul>
Service Uses	Medical and dental offices and clinics, including offices of physicians, dentists, podiatrists, osteopaths, chiropractors, optometrists, and physical therapists	City of Eureka	Facilities where medical, mental, dental, vision, or other personal health services are provided on an outpatient basis using specialized equipment. Includes offices for physicians, dentists, physical therapists, optometrists, diagnostic centers, blood banks and plasma centers, and

**TABLE D-1  
NOISE COMPATIBILITY LAND USE CATEGORY CROSSWALK TO MUNICIPAL ZONING USES**

Compatibility Criteria Tables Land Use Categories	Permissible use category	Jurisdiction	Definition
			emergency medical clinics offered exclusively on an out-patient basis. Includes mental health services such as marriage/family therapists, counselors, psychologists, psychiatrists, and other similar uses. Also includes alternative medicine facilities such as acupuncture, chiropractors, state-licensed therapeutic massage, nutritional consultation, herbalists, and other similar facilities. May include educational aspects such as medical instruction and/or training as well as house a laboratory, radiology/imaging, pharmacy, rehabilitation and other similar services as accessory uses. (Eureka, 2019)
Service Uses	Optician and optometrical shops	City of Eureka	N/A
<b>Transportation/Utilities/Emergency Services</b>			
Critical Community Infrastructure			
Critical Community Infrastructure	Essential services	Humboldt County	<p>The Essential Services Use Type includes uses which are necessary to support principal development. Typical Essential Services uses include:</p> <ul style="list-style-type: none"> <li>• Fire and police stations;</li> <li>• Ambulance services;</li> <li>• Post offices, excluding major processing centers;</li> <li>• Dumpster sites, solid waste transfer stations, and road maintenance yards;</li> <li>• Community wells, water storage tanks, and associated water treatment facilities.</li> <li>• Public, parochial and private day-care centers, family day care centers, nursery schools, elementary, junior high, and high schools.</li> <li>• Public and parochial parks, playgrounds and playing fields. (County, 2019)</li> </ul>
Critical Community Infrastructure	Power stations	City of Eureka	N/A
Critical Community Infrastructure	Sewage treatment plants	City of Fortuna	N/A
Transportation (right-of-way, parking, transit lines)			
Transportation (right-of-way, parking, transit lines)	Parking Lots and Structures	City of Eureka	Surface lots and structures for use of occupants, employees, or patrons on the subject site or offering parking to the public for a fee when such use is the primary use on the lot and not

**TABLE D-1  
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<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible use category</b>	<b>Jurisdiction</b>	<b>Definition</b>
			incidental to another on-site activity. (Eureka, 2019)
Transportation (right-of-way, parking, transit lines)	Parking facilities, fee parking facilities, or off-street parking facilities	City of Eureka	N/A
Transportation (passenger and freight terminals and stations)			
Transportation (passenger and freight terminals and stations)	Airports	City of Eureka	Facilities for the takeoff and landing of airplanes, including runways, aircraft storage buildings, public terminal building and parking, air freight terminal, baggage handling facilities, aircraft hangars, and related support activities. (Eureka, 2019)
Transportation (passenger and freight terminals and stations)	Airports, heliports and landing strips for aircraft	Humboldt County	N/A
Transportation (passenger and freight terminals and stations)	Boat harbors and wharves	City of Eureka	N/A
Transportation (passenger and freight terminals and stations)	Boating facilities:	Humboldt County	Includes the maintenance, improvement, and minor alteration of existing boating facilities in estuaries. (County, 2019)
Transportation (passenger and freight terminals and stations)	Bus depots	City of Eureka	N/A
Transportation (passenger and freight terminals and stations)	Freight Terminals and Transfer	City of Eureka	Facilities for transfer and movement of freight, courier, and postal services by truck, rail, or sea. (Eureka, 2019)
Transportation (passenger and freight terminals and stations)	Public agency corporation yard	City of Eureka	Governmental facilities that primarily provide storage, maintenance and repair of vehicles, equipment, and supplies. (Eureka, 2019)
Transportation (passenger and freight terminals and stations)	Railroad freight stations, repair shops, and yards	City of Eureka	N/A
Transportation (passenger and freight terminals and stations)	Railroad stations	City of Eureka	N/A
Transportation (passenger and freight terminals and stations)	Storage, service, fueling, freight and passenger service, lighting, and radio and radar facilities	Humboldt County	N/A
Transportation (passenger and freight terminals and stations)	Taxicab stands	City of Eureka	N/A
Transportation (passenger and freight terminals and stations)	Truck scales	City of Eureka	N/A
Transportation (passenger and freight terminals and stations)	Trucking terminals	City of Eureka	N/A
Utilities (communication, power, and water transmission facilities and infrastructure)			
Utilities (communication, power, and water transmission facilities and infrastructure)	Antennas	City of Eureka	N/A

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NOISE COMPATIBILITY LAND USE CATEGORY CROSSWALK TO MUNICIPAL ZONING USES**

<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible use category</b>	<b>Jurisdiction</b>	<b>Definition</b>
Utilities (communication, power, and water transmission facilities and infrastructure)	Cell phone towers	Humboldt County	N/A
Utilities (communication, power, and water transmission facilities and infrastructure)	Commercial satellite dishes	City of Eureka	N/A
Utilities (communication, power, and water transmission facilities and infrastructure)	Drainage ways and structures	City of Eureka	N/A
Utilities (communication, power, and water transmission facilities and infrastructure)	Electrical distribution lines, major:	Humboldt County	This use type includes electrical utility wires, 60 kilovolt or larger, either above ground or underground, including supporting towers, poles and appurtenances, which are used for distributing, conveying or transmitting electrical energy. (County, 2019)
Utilities (communication, power, and water transmission facilities and infrastructure)	Generation and Distribution Facilities, Minor	Humboldt County	The Minor Generation and Distribution Facilities Use Type includes wind generators and accessory structures; small hydroelectric generators (less than 5 megawatt) and accessory structures and utility lines; and communication transmission facilities, including radio and television transmission antennae, communication equipment installations and exchanges, and substations. (County, 2019)
Utilities (communication, power, and water transmission facilities and infrastructure)	Minor utilities	Humboldt County	N/A
Utilities (communication, power, and water transmission facilities and infrastructure)	Oil and Gas Pipelines	Humboldt County	The Oil and Gas Pipelines Use Type includes any gas pipeline, carrying 60 PSI pressure or above, distribution line, above or below ground, used to transport, convey, or distribute oil, petroleum, petroleum products, natural gas, or other flammable or hazardous substances. (County, 2019)
Utilities (communication, power, and water transmission facilities and infrastructure)	Public utility stations	City of Eureka	A permanent structure or facility providing a utility service to the general public. Includes generating plants, electric substations, solid waste collection, solid waste treatment and disposal, water or wastewater treatment plants, and similar facilities. Excludes electrical distribution lines, underground water/sewer lines, and similar utilities. (Eureka, 2019)
Utilities (communication, power, and water transmission facilities and infrastructure)	Pumping station	City of Eureka	N/A
Utilities (communication, power, and water transmission facilities and infrastructure)	Recycling collection facility	City of Eureka	An incidental use that serves as a drop-off point for the temporary storage of recyclable materials but where the processing and sorting of

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<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible use category</b>	<b>Jurisdiction</b>	<b>Definition</b>
			such items is not conducted on site. (Eureka, 2019)
Utilities (communication, power, and water transmission facilities and infrastructure)	Reservoirs	City of Eureka	N/A
Utilities (communication, power, and water transmission facilities and infrastructure)	Solid waste disposal	Humboldt County	The Solid Waste Disposal Use Type includes: <ul style="list-style-type: none"> <li>the disposal of all putrescible and non-putrescible solid and semi-solid wastes, such as refuse, garbage, rubbish, paper, ashes, industrial wastes, demolition and construction wastes, abandoned vehicles and parts thereof, discarded home and industrial appliances, manure, vegetable or animal solid and semi-solid wastes, and other discarded solid and semi-solid wastes; and</li> <li>liquid wastes disposed of in conjunction with solid wastes at solid waste transfer stations, processing facilities or disposal sites. (County, 2019)</li> </ul>
Utilities (communication, power, and water transmission facilities and infrastructure)	Storage tanks	City of Eureka	N/A
Utilities (communication, power, and water transmission facilities and infrastructure)	Telegraph towers and other support structures	City of Eureka	N/A
Utilities (communication, power, and water transmission facilities and infrastructure)	Utility substations	City of Fortuna	N/A
Utilities (communication, power, and water transmission facilities and infrastructure)	Utility transmission lines	City of Eureka	N/A
Utilities (communication, power, and water transmission facilities and infrastructure)	Wireless telecommunication facilities	City of Eureka	N/A

Source: City of Eureka, *City of Eureka Zoning Code*, May 21, 2019; City of Fortuna, *Fortuna Municipal Code*, June 7, 2019; County of Humboldt, *Humboldt County Code Title III, Land Use and Development*, April 2, 2019.



**TABLE D-2**  
**SAFETY COMPATIBILITY LAND USE CATEGORY CROSSWALK TO MUNICIPAL ZONING USES**

<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible Use Category</b>	<b>Jurisdiction</b>	<b>Definition</b>
<b>Agriculture</b>			
<b>Agriculture (except residences and livestock)</b>			
Agriculture (except residences and livestock)	Agriculture	City of Eureka	The use of the land for commercial farming, crop production, horticulture, floriculture, viticulture, and animal raising and production, including dairies. May include accessory uses for packing, processing, treating, and storing crops grown on site provided such accessory uses are secondary to crop production activities. (Eureka, 2019)
Agriculture (except residences and livestock)	Aquaculture	City of Eureka	Facilities or areas for the cultivation of marine or freshwater fish, shellfish, or plants under controlled conditions. Includes aquaponics that integrates aquaculture with hydroponics by recycling the waste products from fish to fertilize hydroponically growing plants. Includes cultured oyster beds and similar uses. (Eureka, 2019)
Agriculture (except residences and livestock)	Aquaculture	Humboldt County	The Aquaculture Use Type refers to aquaculture operations, including but not limited to oyster and mussel culturing, crab holding facilities and including support facilities such as earthen impoundments, steel or concrete holding tanks and raceways. (County, 2019)
Agriculture (except residences and livestock)	Cannabis cultivation	City of Eureka	N/A
Agriculture (except residences and livestock)	Cannabis cultivation	Humboldt County	N/A
Agriculture (except residences and livestock)	Commercial fishing	City of Eureka	The activity of catching fish and other seafood for commercial profit, mostly from wild fisheries. Includes ancillary fish and seafood processing; fish and seafood storage and distribution; and fish and seafood sales. (Eureka, 2019)
Agriculture (except residences and livestock)	Commercial nursery growing grounds	City of Eureka	N/A
Agriculture (except residences and livestock)	Field and truck crops	City of Eureka	N/A
Agriculture (except residences and livestock)	General agriculture	Humboldt County	N/A
Agriculture (except residences and livestock)	Growing, harvesting and processing of forest products	Humboldt County	N/A
Agriculture (except residences and livestock)	Nurseries and greenhouses	Humboldt County	N/A
Agriculture (except residences and livestock)	Orchards	City of Eureka	N/A

**TABLE D-2**  
**SAFETY COMPATIBILITY LAND USE CATEGORY CROSSWALK TO MUNICIPAL ZONING USES**

<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible Use Category</b>	<b>Jurisdiction</b>	<b>Definition</b>
Agriculture (except residences and livestock)	Raising of fruit and nut trees, vegetables, and horticultural specialties	City of Eureka	N/A
<b>Livestock/Animal Husbandry</b>			
Livestock/Animal Husbandry	Animal breeding	City of Eureka	N/A
Livestock/Animal Husbandry	Animal sales and feed yards	Humboldt County	N/A
Livestock/Animal Husbandry	Apiaries	City of Eureka	N/A
Livestock/Animal Husbandry	Barns	City of Eureka	N/A
Livestock/Animal Husbandry	Feed lot/slaughter house	Humboldt County	The Feed Lot/Slaughter House Use Type includes large on-site yard(s) with pens or stables and other structures, other than those which are a part of a typical livestock ranch, where cattle, sheep, and similar animals are kept for finishing, shipment or slaughter. (County, 2019)
Livestock/Animal Husbandry	Frog farms	Humboldt County	N/A
Livestock/Animal Husbandry	Fur farms and rabbit raising	City of Eureka	N/A
Livestock/Animal Husbandry	Grazing and other agricultural uses	Humboldt County	N/A
Livestock/Animal Husbandry	Hog farms	Humboldt County	The Hog Farming Use Type refers to any premises used solely or primarily for the raising or keeping of three (3) or more hogs, when raised, fed or fattened for the purposes of sale and consumption by other than the owner or resident of the site. (County, 2019)
Livestock/Animal Husbandry	Intensive agriculture	Humboldt County	Any premises used solely or primarily for the raising or keeping of animals such as fur bearers, frogs, or turkeys, when raised, fed or fattened for the purpose of sale and/or consumption by other than the owner of the site. (County, 2019)
Livestock/Animal Husbandry	Keeping horses, rabbits, poultry, and bees	City of Eureka	N/A
Livestock/Animal Husbandry	Live storage, killing, or dressing of poultry or rabbits for retail sale	City of Eureka	N/A
Livestock/Animal Husbandry	Livestock raising	City of Eureka	N/A
Livestock/Animal Husbandry	Poultry raising, egg processing, and hatcheries	City of Eureka	N/A
Livestock/Animal Husbandry	Stables and kennels	Humboldt County	The Stables and Kennels Use Type refers to raising and keeping of dogs or horses (or similar hoofed animals) for hire or animals boarded and fed for compensation. (County, 2019)
Livestock/Animal Husbandry	Turkey farms	Humboldt County	N/A
Livestock/Animal Husbandry	Dairies and processing of dairy products	City of Eureka	N/A

**TABLE D-2**  
**SAFETY COMPATIBILITY LAND USE CATEGORY CROSSWALK TO MUNICIPAL ZONING USES**

<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible Use Category</b>	<b>Jurisdiction</b>	<b>Definition</b>
<b>Assembly - Public, Fraternal, Other</b>			
<b>Major Assembly Facilities - Indoor</b>			
Major Assembly Facilities - Indoor	Sports arenas within buildings	City of Eureka	N/A
Major Assembly Facilities - Indoor	Stadiums	City of Eureka	N/A
Major Assembly Facilities - Indoor	Sports arenas	City of Eureka	N/A
<b>Large Assembly Facilities – Indoor</b>			
Large Assembly Facilities – Indoor	Assembly halls	City of Fortuna	N/A
Large Assembly Facilities – Indoor	Auction rooms	City of Eureka	N/A
Large Assembly Facilities – Indoor	Auditoriums	City of Eureka	N/A
Large Assembly Facilities – Indoor	Non-Commercial Places of Assembly	City of Eureka	Facilities that provides space for public or private meetings or gatherings. Includes places of worship, fraternal lodges, meeting space for clubs and other membership organizations, social halls, union halls, non-profit banquet centers, and other similar facilities. (Eureka, 2019)
Large Assembly Facilities – Indoor	Churches, synagogues, temples and other institutions of worship	City of Eureka	N/A
Large Assembly Facilities – Indoor	Theaters and auditoriums within buildings	City of Eureka	N/A
Large Assembly Facilities – Indoor	Enclosed theaters	Humboldt County	N/A
Large Assembly Facilities – Indoor	Community assembly	Humboldt County	The Community Assembly Use Type includes the activities typically performed by, or at, the following institutions or installations: <ul style="list-style-type: none"> <li>• Churches, temples, synagogues, and other places of worship;</li> <li>• Public parochial, and private non-profit clubs, lodges, meeting halls, and recreation centers;</li> <li>• Public swimming pools. (County, 2019)</li> </ul>
Large Assembly Facilities – Indoor	Bowling alleys	City of Eureka	N/A
Large Assembly Facilities – Indoor	Commercial and private recreation facilities	City of Eureka	N/A
Large Assembly Facilities – Indoor	Dance halls	City of Eureka	N/A

**TABLE D-2**  
**SAFETY COMPATIBILITY LAND USE CATEGORY CROSSWALK TO MUNICIPAL ZONING USES**

<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible Use Category</b>	<b>Jurisdiction</b>	<b>Definition</b>
Large Assembly Facilities – Indoor	Fitness, Dance, or Health Facility	City of Eureka	An indoor fitness center, gymnasium, athletic club, dance studio, yoga studio, or other similar use. (Eureka, 2019)
Large Assembly Facilities – Indoor	Gymnasiums	City of Eureka	N/A
Large Assembly Facilities – Indoor	Noncommercial recreation facilities	Humboldt County	N/A
Large Assembly Facilities – Indoor	Skating rinks	City of Eureka	N/A
<b>Small Assembly Facilities – Indoor</b>			
Small Assembly Facilities – Indoor	Banquet rooms	City of Eureka	N/A
Small Assembly Facilities – Indoor	Meeting halls	City of Eureka	N/A
Small Assembly Facilities – Indoor	Private clubs and lodges	City of Eureka	N/A
Small Assembly Facilities – Indoor	Social halls, fraternal and social organizations, and clubs.	Humboldt County	N/A
Small Assembly Facilities – Indoor	Pool halls	City of Eureka	N/A
Small Assembly Facilities – Indoor	Card rooms	City of Eureka	N/A
Small Assembly Facilities – Indoor	Music and dance studios	City of Eureka	N/A
Small Assembly Facilities – Indoor	Gymnastic schools and health clubs	City of Eureka	N/A
<b>Major Assembly Facilities – Outdoor</b>			
Major Assembly Facilities – Outdoor	Drive-in theaters	City of Eureka	N/A
Major Assembly Facilities – Outdoor	Racetracks	City of Eureka	N/A
Major Assembly Facilities – Outdoor	Sports areas or stadiums	City of Eureka	N/A
Major Assembly Facilities – Outdoor	Stadiums	City of Eureka	N/A
Major Assembly Facilities – Outdoor	Amusement parks and commercial recreational facilities	Humboldt County	N/A
Major Assembly Facilities – Outdoor	Circuses, carnivals, and other transient amusement enterprises	City of Eureka	N/A
Major Assembly Facilities – Outdoor	Zoos	City of Eureka	N/A
<b>Large Assembly Facilities – Outdoor</b>			
Large Assembly Facilities – Outdoor	Drive-in theaters	City of Eureka	N/A

**TABLE D-2  
SAFETY COMPATIBILITY LAND USE CATEGORY CROSSWALK TO MUNICIPAL ZONING USES**

<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible Use Category</b>	<b>Jurisdiction</b>	<b>Definition</b>
Large Assembly Facilities – Outdoor	Outdoor commercial recreation	City of Eureka	A privately-owned commercial facility providing outdoor recreation, amusement, and entertainment services. Includes commercial batting cages, outdoor swimming pools, go-cart tracks, driving ranges, tennis courts, golf courses, miniature golf, and other similar uses. (Eureka, 2019)
Large Assembly Facilities – Outdoor	Private recreation parks and swim clubs	City of Eureka	N/A
Large Assembly Facilities – Outdoor	Tennis clubs	City of Fortuna	N/A
<b>Small Assembly Facilities – Outdoor</b>			
Small Assembly Facilities – Outdoor	Private recreation	Humboldt County	The Private Recreation Use Type includes clubs or recreation facilities operated by a non-profit organization and open only to members of such non-profit organizations and their guests. (County, 2019)
<b>Commercial - Lodging/Retail/Office</b>			
<b>Eating/Drinking Establishments</b>			
Eating/Drinking Establishments	Bars and nightclubs	City of Eureka	Businesses devoted to serving alcoholic beverages for consumption by guests on the premises and in which the serving of food is only incidental to the consumption of such beverages. Includes cocktail lounges, taverns, dance clubs, and other similar uses. Excludes tasting rooms ancillary to breweries, wineries, and other alcoholic beverage production uses. (Eureka, 2019)
Eating/Drinking Establishments	Restaurants, cafes, and beverage sales	City of Eureka	A business selling prepared food and/or beverages for on- or off-premise consumption. Includes full service, fast-food and carryout restaurants, cafes, coffee shops, juice/smoothie bars, retail bakeries, and other similar eating and drinking establishments. Includes outdoor seating/service areas which are permitted by right. (Eureka, 2019)
Eating/Drinking Establishments – Medium	Restaurants and licensed premises appurtenant thereto	Humboldt County	N/A
Eating/Drinking Establishments – Small	Restaurants and soda fountains, including drive-in establishments	City of Eureka	N/A
Eating/Drinking Establishments – Small	Retail bakeries	Humboldt County	N/A
<b>Lodging</b>			
Lodging	Commercial lodging	City of Eureka	A commercial establishment in a non-residential zoning district providing overnight accommodations to guests for 30 consecutive calendar days or less.

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**SAFETY COMPATIBILITY LAND USE CATEGORY CROSSWALK TO MUNICIPAL ZONING USES**

Compatibility Criteria Tables Land Use Categories	Permissible Use Category	Jurisdiction	Definition
			Commercial lodging establishments may provide additional services, such as conference and meeting rooms, restaurants, bars, or recreation facilities available to guests and the general public. Includes hotels, motels, hostels, and other similar commercial establishments. Also includes dwelling units or portions thereof located in a nonresidential zoning district rented to guests for 30 consecutive calendar days or less. (Eureka, 2019)
Lodging	Hotel	City of Eureka	N/A
Lodging	Hotels and motels	Humboldt County	N/A
Lodging	Motel	City of Eureka	N/A
Lodging	Resorts	City of Eureka	N/A
Lodging	Bed and breakfast establishments	Humboldt County	The Bed and Breakfast Establishment Use Type refers to a residential structure with one family in permanent residence where a maximum of four (4) bedrooms without individual cooking facilities are rented for overnight lodging, and where at least one meal daily is provided. (County, 2019)
Lodging	Residential lodging	City of Eureka	A dwelling unit or portions thereof located in a residential zoning district that is rented to guests for 30 consecutive calendar days or less. (Eureka, 2019)
Lodging	Vacation dwelling units	City of Eureka	N/A
<b>Professional Office</b>			
Professional Office	Administrative, business and professional offices	Humboldt County	N/A
Professional Office	Offices	City of Eureka	place of employment occupied by businesses providing professional services. Includes offices for accountants, architects, insurance agents, attorneys, engineers, real estate agents, travel agents, artist studios, and other similar professions. (Eureka, 2019)
Professional Office	Radio and television broadcasting studios	City of Eureka	N/A
<b>Retail/Sales – Outdoor Oriented</b>			
Retail/Sales - Larger Format (≥20,000 sq. ft. - <50,000 sq. ft.)	Heavy equipment sales and service	City of Eureka	Indoor retail establishments selling or renting industrial, construction, farm, or other heavy equipment for commercial use, including cranes, earth moving equipment, tractors, tractor trailers, combines, and heavy trucks. Outdoor display, storage, and sales is a second use subject to separate regulations and restrictions. (Eureka, 2019)

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**SAFETY COMPATIBILITY LAND USE CATEGORY CROSSWALK TO MUNICIPAL ZONING USES**

<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible Use Category</b>	<b>Jurisdiction</b>	<b>Definition</b>
Retail/Sales – Outdoor Oriented	Boat sales, services, and repairs	City of Eureka	N/A
Retail/Sales – Outdoor Oriented	Marine sales, services, and repairs	City of Eureka	N/A
Retail/Sales – Outdoor Oriented	Nurseries and garden supply stores	City of Eureka	N/A
Retail/Sales – Outdoor Oriented	Stone and monument yards	City of Eureka	N/A
Retail/Sales – Outdoor Oriented	Boat sales, services, and repairs	City of Eureka	N/A
Retail/Sales – Outdoor Oriented	Mobile vendors	City of Eureka	N/A
Retail/Sales – Outdoor Oriented	Stone and monument yards	City of Eureka	N/A
Retail/Sales – Outdoor Oriented	Automotive sales, service and repair	Humboldt County	The Automotive Sales, Service and Repair Use Type includes the sales from the premises of motor vehicles, accessory parts and supplies, and the provision of services generally required in the operation and maintenance of motor vehicles; the major repair or painting of motor vehicles, including body work and installation of major accessories, as well as the washing and polishing of motor vehicles. Auto sales from the premises are also included. (County, 2019)
Retail/Sales – Outdoor Oriented	General retail – outdoor	City of Eureka	A supplemental outdoor area associated with a primary use (such as General Retail – Indoor) where merchandise is prominently stored and/or displayed for sale outdoors in a designated outdoor area as a regular part of business operations. (Eureka, 2019)
Retail/Sales – Outdoor Oriented	Lumber yards	Humboldt County	N/A
Retail/Sales – Outdoor Oriented	Christmas tree sales lots	City of Eureka	N/A
Retail/Sales – Outdoor Oriented	Automobile sales	City of Eureka	N/A
Retail/Sales – Outdoor Oriented	Prefabricated structure sales	City of Eureka	N/A
<b>Retail/Sales - Service Uses</b>			
Retail/Sales - Service Uses	Machinery sales and rentals	City of Eureka	N/A
Retail/Sales - Service Uses	Animal hospitals and kennels	City of Fortuna	A building used for the care and treatment of sick or injured dogs, cats, rabbits, birds, and similar small animals. (Fortuna, 2019)
Retail/Sales - Service Uses	Bag cleaning	City of Eureka	N/A
Retail/Sales - Service Uses	Bail bonds	City of Eureka	N/A
Retail/Sales - Service Uses	Blacksmith shops	City of Eureka	N/A
Retail/Sales - Service Uses	Blueprint and photostat shops	City of Eureka	N/A
Retail/Sales - Service Uses	Bookbinding	City of Eureka	N/A

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<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible Use Category</b>	<b>Jurisdiction</b>	<b>Definition</b>
Retail/Sales - Service Uses	Business services and heavy commercial	City of Eureka	Indoor commercial establishments providing goods and services to other businesses and/or engaged in heavy commercial activities that could impact neighboring properties. Includes contractor supply businesses, building contractors, large equipment repair, pipe yards, commercial dry cleaning/laundry services, security services, custodial services, business-serving printers, taxi and delivery services, private ambulance dispatch services, property maintenance contractors, plumbing supply stores, and other similar businesses. Products and services may be provided to the general public only on a limited, secondary basis. (Eureka, 2019)
Retail/Sales - Service Uses	Car washes	Humboldt County	N/A
Retail/Sales - Service Uses	Carpet and rug cleaning and dyeing	City of Eureka	N/A
Retail/Sales - Service Uses	Catering establishments	City of Eureka	N/A
Retail/Sales - Service Uses	Diaper supply services	City of Eureka	N/A
Retail/Sales - Service Uses	Dry cleaning and laundry agencies	Humboldt County	N/A
Retail/Sales - Service Uses	Electrical repair shops	City of Eureka	N/A
Retail/Sales - Service Uses	Farm equipment service and repair establishments	City of Eureka	N/A
Retail/Sales - Service Uses	Glass replacement and repair shops	City of Eureka	N/A
Retail/Sales - Service Uses	Gunsmiths	City of Eureka	N/A
Retail/Sales - Service Uses	Household appliance, radio, and TV repair establishments (small scale)	City of Fortuna	N/A
Retail/Sales - Service Uses	Household repair shops	City of Eureka	N/A
Retail/Sales - Service Uses	Interior decorating shops	City of Eureka	N/A
Retail/Sales - Service Uses	Janitorial services and supplies	City of Eureka	N/A
Retail/Sales - Service Uses	Kennel-animal boarding	City of Eureka	A commercial facility for the keeping, boarding, training, breeding or maintaining of four or more dogs (four months of age or older), cats, or other household pet not owned by the facility owner or operator. Includes kennels, pet day care, and animal shelters. (Eureka, 2019)
Retail/Sales - Service Uses	Linen supply services	City of Eureka	N/A
Retail/Sales - Service Uses	Locksmiths	City of Eureka	N/A
Retail/Sales - Service Uses	Massage and physical culture studios	City of Eureka	N/A



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**SAFETY COMPATIBILITY LAND USE CATEGORY CROSSWALK TO MUNICIPAL ZONING USES**

<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible Use Category</b>	<b>Jurisdiction</b>	<b>Definition</b>
Retail/Sales - Service Uses	Mattress repair shops	City of Eureka	N/A
Retail/Sales - Service Uses	Messengers' offices	City of Eureka	N/A
Retail/Sales - Service Uses	Musical instrument repair shops	City of Eureka	N/A
Retail/Sales - Service Uses	Painting, enameling, and lacquering shops	City of Eureka	N/A
Retail/Sales - Service Uses	Parcel delivery services, including repair shop facilities	City of Eureka	N/A
Retail/Sales - Service Uses	Picture framing shops	City of Eureka	N/A
Retail/Sales - Service Uses	Plumbing shops	City of Eureka	N/A
Retail/Sales - Service Uses	Pressing establishments	City of Eureka	N/A
Retail/Sales - Service Uses	Printing, including lithographing and engraving	City of Eureka	N/A
Retail/Sales - Service Uses	Private kennels	City of Eureka	N/A
Retail/Sales - Service Uses	Safe and vault repairing	City of Eureka	N/A
Retail/Sales - Service Uses	Septic tanks and cesspool installation and service	City of Eureka	N/A
Retail/Sales - Service Uses	Shoe repair shops	City of Eureka	N/A
Retail/Sales - Service Uses	Sign painting shops	City of Eureka	N/A
Retail/Sales - Service Uses	Stenographic services	City of Eureka	N/A
Retail/Sales - Service Uses	Tailor and dressmaking shops	City of Eureka	N/A
Retail/Sales - Service Uses	Taxidermists	City of Eureka	N/A
Retail/Sales - Service Uses	Telegraph offices	City of Eureka	N/A
Retail/Sales - Service Uses	Temporary subdivision sales offices	City of Eureka	N/A
Retail/Sales - Service Uses	Tool and cutlery sharpening or grinding	City of Eureka	N/A
Retail/Sales - Service Uses	Umbrella repair shops	City of Eureka	N/A
Retail/Sales - Service Uses	Vehicle Towing and Impound	City of Eureka	Establishments primarily engaged in towing light or heavy motor vehicles, both local and long distance, and the on-site storage of towed vehicle. May provide incidental services, such as vehicle storage and emergency road repair services. (Eureka, 2019)
Retail/Sales - Service Uses	Vending machine services	City of Eureka	N/A
Retail/Sales - Service Uses	Watch and clock repair shops	City of Eureka	N/A
Retail/Sales - Service Uses			
Retail/Sales - Service Uses	Banks	Humboldt County	N/A
Retail/Sales - Service Uses	Barber and beauty shops	City of Fortuna	N/A
Retail/Sales - Service Uses	Beauty salons	Humboldt County	N/A

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**SAFETY COMPATIBILITY LAND USE CATEGORY CROSSWALK TO MUNICIPAL ZONING USES**

<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible Use Category</b>	<b>Jurisdiction</b>	<b>Definition</b>
Retail/Sales - Service Uses	Check cashing	City of Eureka	A retail business owned or operated by a "check casher" as that term is defined in California Civil Code section 1789.31. (Eureka, 2019)
Retail/Sales - Service Uses	Employment agencies	City of Eureka	N/A
Retail/Sales - Service Uses	Finance companies	City of Eureka	N/A
Retail/Sales - Service Uses	Financial institutions	City of Fortuna	An establishment or office offering financial service or counsel and includes banks, savings and loan institutions, stockbrokers' offices, bonding companies, finance company offices, and any other institution of a similar nature. (Fortuna, 2019)
Retail/Sales - Service Uses	Gasoline service stations	City of Fortuna	N/A
Retail/Sales - Service Uses	General Services	City of Eureka	An indoor commercial establishment that provides services to the general public, involves frequent visits by customers, and which may involve limited product sales related to the service provided. Includes banks, funeral parlors, indoor commercial recreation establishments that do not sell alcohol (e.g., video arcades, indoor mini-golf, indoor batting cages), laundromats, photocopy stores, customer serving dry cleaners, household item repairs, veterinary clinics, tattoo/piercing parlors, customer-serving printers, animal grooming with no overnight boarding, recording studios, and other similar uses that provide on-site services to customers.
Retail/Sales - Service Uses	Laundries, self-service type	City of Eureka	N/A
Retail/Sales - Service Uses	Personal services	City of Eureka	An indoor commercial establishment that typically provides one-on one body-care related services that involve frequent visits by customers and that are typically scheduled on an appointment-basis. May involve limited product sales related to the service provided. Includes hair salons, nail salons, make-up application studios, skincare treatment salons, non-therapeutic massage, health spas, and other similar nonmedical personal service uses. (Eureka, 2019)
Retail/Sales - Service Uses	Professional services	Humboldt County	The Office and Professional Services Use Type includes administrative activities of private, profit-oriented administrative firms; radio and television broadcasting stations and offices; medical, dental and related services; professional, consultative, and financial services. (County, 2019)
Retail/Sales - Service Uses	Realtors and real estate offices	City of Eureka	N/A

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<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible Use Category</b>	<b>Jurisdiction</b>	<b>Definition</b>
Retail/Sales - Service Uses	Savings and loan offices	City of Eureka	N/A
Retail/Sales - Service Uses	Studios	Humboldt County	N/A
Retail/Sales - Service Uses	Travel agencies and bureaus	City of Eureka	N/A
Retail/Sales - Service Uses	Travelers' aid societies	City of Eureka	N/A
Retail/Sales - Service Uses	Vehicle Repair	City of Eureka	An establishment for the repair, alteration, restoration, or finishing of any vehicle, including body repair, collision repair, painting, tire and battery sales and installation, motor rebuilding, tire recapping and retreading, and towing. (Eureka, 2019)
Retail/Sales - Service Uses	Veterinarians' offices	City of Eureka	N/A
Retail/Sales - Service Uses	Retail Service	Humboldt County	The Retail Service Use Type includes the provision of services other than those classified as Civic Uses, including personal service, business service, eating and drinking establishments, automobile gas or filling station, minor automotive repair, group assembly for entertainment or athletic events, animal care and treatment, and undertaking services.
Retail/Sales - Service Uses	Health care facilities	City of Fortuna	N/A
Retail/Sales - Service Uses	Health care services	Humboldt County	The Health Care Services Use Type includes the uses typically performed by the following institutions: <ul style="list-style-type: none"> <li>• Health and medical clinics;</li> <li>• Hospitals;</li> <li>• Nursing homes, convalescent hospitals, rest homes, and homes for the aged with seven or more patients, or with mental, drug addict, or alcohol addict cases;</li> <li>• Medical centers for observation or rehabilitation, with full-time supervision or care. (County, 2019)</li> </ul>
Retail/Sales - Service Uses	Medical and dental offices and clinics, including offices of physicians, dentists, podiatrists, osteopaths, chiropractors, optometrists, and physical therapists	City of Eureka	Facilities where medical, mental, dental, vision, or other personal health services are provided on an outpatient basis using specialized equipment. Includes offices for physicians, dentists, physical therapists, optometrists, diagnostic centers, blood banks and plasma centers, and emergency medical clinics offered exclusively on an out-patient basis. Includes mental health services such as marriage/family therapists, counselors, psychologists, psychiatrists, and other similar uses. Also includes alternative medicine facilities such as acupuncture, chiropractors, state-licensed therapeutic massage, nutritional

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Compatibility Criteria Tables Land Use Categories	Permissible Use Category	Jurisdiction	Definition
			consultation, herbalists, and other similar facilities. May include educational aspects such as medical instruction and/or training as well as house a laboratory, radiology/imaging, pharmacy, rehabilitation and other similar services as accessory uses. (Eureka, 2019)
Retail/Sales - Service Uses	Optician and optometrical shops	City of Eureka	N/A
Retail/Sales - Service Uses	Mobile vendors	City of Eureka	N/A
Retail/Sales - Service Uses	Cabinet shops	City of Eureka	N/A
Retail/Sales - Service Uses	Ice vending stations	City of Eureka	N/A
Retail/Sales - Service Uses	Rental and sales of irrigation equipment and storage incidental thereto	City of Fortuna	N/A
Retail/Sales - Service Uses	Rental hand tools, garden tools, power tools, trailers, and other similar equipment	City of Eureka	N/A
Retail/Sales - Service Uses	Sales and rental of aircraft, aviation supplies/equipment	Humboldt County	N/A
Retail/Sales - Service Uses	Swimming pool sales and services	City of Eureka	N/A
Retail/Sales - Service Uses	Truck and trailer rentals, sales, and services	City of Eureka	N/A
Retail/Sales - Service Uses	Fuel and service stations	City of Eureka	A retail business supplying fuels, oil, and minor accessories for vehicles. Includes establishments supplying gasoline, hydrogen, and electric vehicle charging as a primary land use. Includes incidental food and beverage sales (maximum 3,500 square feet of convenience market), car wash facilities, and minor automotive repair and service. (Eureka, 2019)
Retail/Sales - Service Uses	Photographic supply stores and studios	Humboldt County	N/A
Retail/Sales - Service Uses	Heavy equipment sales and service	City of Eureka	Indoor retail establishments selling or renting industrial, construction, farm, or other heavy equipment for commercial use, including cranes, earth moving equipment, tractors, tractor trailers, combines, and heavy trucks. Outdoor display, storage, and sales is a second use subject to separate regulations and restrictions. (Eureka, 2019)
Retail/Sales - Service Uses	Cleaning and dyeing establishments	City of Fortuna	N/A
<b>Retail/Sales – Stand Alone Retail</b>			
Retail/Sales – Stand Alone Retail	Florists	Humboldt County	N/A
Retail/Sales – Stand Alone Retail	Liquor stores	City of Eureka	N/A

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<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible Use Category</b>	<b>Jurisdiction</b>	<b>Definition</b>
Retail/Sales – Stand Alone Retail	Pet and bird stores	City of Eureka	N/A
Retail/Sales – Stand Alone Retail	Phonograph record stores	City of Eureka	N/A
Retail/Sales – Stand Alone Retail	Prescription pharmacies and dental and optical laboratories	City of Eureka	N/A
Retail/Sales – Stand Alone Retail	Women’s apparel accessory stores	City of Eureka	N/A
Retail/Sales – Stand Alone Retail	Radio and television sales and services	Humboldt County	N/A
Retail/Sales – Stand Alone Retail	Television and radio sales and repair stores	City of Eureka	N/A
Retail/Sales – Stand Alone Retail	Florists	Humboldt County	N/A
Retail/Sales – Stand Alone Retail	Dry goods stores	City of Eureka	N/A
Retail/Sales – Stand Alone Retail	Furniture sales	Humboldt County	N/A
Retail/Sales – Stand Alone Retail	Medical and orthopedic appliance stores	City of Eureka	N/A
Retail/Sales – Stand Alone Retail	Motorcycle sales and services	City of Eureka	N/A
Retail/Sales – Stand Alone Retail	Newsstands	City of Eureka	N/A
Retail/Sales – Stand Alone Retail	Roadside stands	Humboldt County	N/A
Retail/Sales – Stand Alone Retail	Scientific instrument shops	City of Eureka	N/A
Retail/Sales – Stand Alone Retail	Stamp and coin stores	City of Eureka	N/A
Retail/Sales – Stand Alone Retail	Stationery stores	City of Eureka	N/A
Retail/Sales – Stand Alone Retail	Stores, agencies and services of a light commercial character	Humboldt County	N/A
Retail/Sales – Stand Alone Retail	Ticket agencies	City of Eureka	N/A
Retail/Sales – Stand Alone Retail	Antique shops	Humboldt County	N/A
Retail/Sales – Stand Alone Retail	Arts and artists’ supply stores	City of Eureka	N/A
Retail/Sales – Stand Alone Retail	Bicycle shops	City of Eureka	N/A
Retail/Sales – Stand Alone Retail	Book stores	Humboldt County	N/A
Retail/Sales – Stand Alone Retail	Candy stores	City of Eureka	N/A
Retail/Sales – Stand Alone Retail	Cannabis retail	City of Eureka	N/A
Retail/Sales – Stand Alone Retail	Cigar stores	City of Eureka	N/A
Retail/Sales – Stand Alone Retail	Clothing and apparel stores	Humboldt County	N/A
Retail/Sales – Stand Alone Retail	Clothing and costume rental establishments	City of Eureka	N/A
Retail/Sales – Stand Alone Retail	Drug stores	City of Eureka	N/A
Retail/Sales – Stand Alone Retail	Electrical appliance sales and repair stores, provided repair services shall be incidental to retail sales	City of Eureka	N/A

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**SAFETY COMPATIBILITY LAND USE CATEGORY CROSSWALK TO MUNICIPAL ZONING USES**

<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible Use Category</b>	<b>Jurisdiction</b>	<b>Definition</b>
Retail/Sales – Stand Alone Retail	Fur shops	City of Eureka	N/A
Retail/Sales – Stand Alone Retail	Furniture stores	Humboldt County	N/A
Retail/Sales – Stand Alone Retail	Gift shops	City of Eureka	N/A
Retail/Sales – Stand Alone Retail	Hardware and appliance stores	City of Eureka	N/A
Retail/Sales – Stand Alone Retail	Hobby shops	City of Eureka	N/A
Retail/Sales – Stand Alone Retail	Jewelry stores	City of Eureka	N/A
Retail/Sales – Stand Alone Retail	Leather goods and luggage stores	City of Eureka	N/A
Retail/Sales – Stand Alone Retail	Men's furnishing stores	City of Eureka	N/A
Retail/Sales – Stand Alone Retail	Millinery shops	Humboldt County	N/A
Retail/Sales – Stand Alone Retail	Music stores	City of Eureka	N/A
Retail/Sales – Stand Alone Retail	Neighborhood commercial	Humboldt County	The Neighborhood Commercial Use Type includes retail sales and services which provide convenient facilities to residential areas, such as coin operated laundries, food markets, variety stores, and automobile gas or filling stations. (County, 2019)
Retail/Sales – Stand Alone Retail	Office and business machine stores	City of Eureka	N/A
Retail/Sales – Stand Alone Retail	Paint, glass, and wallpaper shops	City of Eureka	N/A
Retail/Sales – Stand Alone Retail	Retail Stores (stand-alone buildings <25,000 s.f.) no eating/drinking establishments	City of Eureka	N/A
Retail/Sales – Stand Alone Retail	Retail Stores, no Restaurants	City of Eureka	N/A
Retail/Sales – Stand Alone Retail	Sales of used and secondhand goods	City of Eureka	N/A
Retail/Sales – Stand Alone Retail	Shoe stores	City of Eureka	N/A
Retail/Sales – Stand Alone Retail	Small general retail – indoor	City of Eureka	A general retail indoor facility that is less than 20,000 square feet in total floor area. (Eureka, 2019)
Retail/Sales – Stand Alone Retail	Sporting goods stores	Humboldt County	N/A
Retail/Sales – Stand Alone Retail	Toy stores	City of Eureka	N/A
Retail/Sales – Stand Alone Retail	Variety stores	Humboldt County	N/A
Retail/Sales – Stand Alone Retail	Art galleries	Humboldt County	N/A
<b>Retail/Sales - Larger Format (≥20,000 sq. ft. - &lt;50,000 sq. ft.)</b>			
Retail/Sales - Larger Format (≥20,000 sq. ft. - <50,000 sq. ft.)	Department stores	Humboldt County	N/A
Retail/Sales - Larger Format (≥20,000 sq. ft. - <50,000 sq. ft.)	Food stores and supermarkets	Humboldt County	N/A

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SAFETY COMPATIBILITY LAND USE CATEGORY CROSSWALK TO MUNICIPAL ZONING USES**

<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible Use Category</b>	<b>Jurisdiction</b>	<b>Definition</b>
Retail/Sales - Larger Format (≥20,000 sq. ft. - <50,000 sq. ft.)	Large general retail – indoor		A general retail indoor facility that is between 20,000 square feet and 50,000 square feet. (Eureka, 2019)
Retail/Sales - Larger Format (≥20,000 sq. ft. - <50,000 sq. ft.)	Wholesale establishments	City of Eureka	N/A
Retail/Sales - Larger Format (≥20,000 sq. ft. - <50,000 sq. ft.)	Wholesale outlet stores	City of Eureka	N/A
<b>Retail/Sales - Big-Box/Shopping Centers (≥50,000 sq. ft.)</b>			
Retail/Sales - Big-Box/Shopping Centers (≥50,000 sq. ft.)	Very large general retail – indoor	City of Eureka	A general retail indoor facility that is larger than 50,000 square feet in total floor area. (Eureka, 2019)
Retail/Sales - Big-Box/Shopping Centers (≥50,000 sq. ft.)	Retail shopping centers with mixture of uses including restaurants	Humboldt County	N/A
<b>Institutional</b>			
<b>Cemeteries/Mortuaries</b>			
Cemeteries/Mortuaries	Cemeteries, crematories, and columbariums	City of Eureka	N/A
Cemeteries/Mortuaries	Mortuaries	Humboldt County	N/A
Cemeteries/Mortuaries	Private institutions and cemeteries	Humboldt County	N/A
<b>Children's Schools/Daycare Centers</b>			
Children's Schools/Daycare Centers	Community care facility:	Humboldt County	Refers to any facility, place, or building which is maintained and operated to provide non-medical residential care, day care, or home finding agency services for children, adults, or children and adults, including but not limited to the physically handicapped, mentally impaired, incompetent persons and abused or neglected children. (County, 2019)
Children's Schools/Daycare Centers	Day care facility	City of Eureka	A facility that provides nonmedical care and supervision of children or adults for periods of less than 24 hours. Includes nursery schools, day nurseries, child care centers, infant day care centers, cooperative day care centers, adult day programs, and similar uses. Day care facilities may be operated in conjunction with a school or church facility, or as an independent land use. (Eureka, 2019)
Children's Schools/Daycare Centers	Family day care center	Humboldt County	Any facility which provides, to twelve or fewer children (including children of the owner or operator of the facility who reside at the home), non-medical care, or personal services, supervision, or assistance essential for sustaining the activities of daily living or for the protection of the individual on a less

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**SAFETY COMPATIBILITY LAND USE CATEGORY CROSSWALK TO MUNICIPAL ZONING USES**

<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible Use Category</b>	<b>Jurisdiction</b>	<b>Definition</b>
			than twenty-four hour basis. (County, 2019)
Children's Schools/Daycare Centers	Nursery schools	City of Eureka	N/A
Children's Schools/Daycare Centers	Schools, public and private	City of Eureka	Educational institutions providing instruction to minors as required by the California Education Code. Includes public and private elementary, junior high, and high schools. (Eureka, 2019)
<b>College/University/Trade Schools</b>			
College/University/Trade Schools	Arts and crafts schools and colleges	City of Eureka	N/A
College/University/Trade Schools	Business, professional, and trade schools and colleges	City of Eureka	N/A
College/University/Trade Schools	Colleges and Trade Schools.	City of Eureka	Institutions of higher education providing curricula of a general, religious or professional nature, typically granting recognized degrees or certificates. Includes junior colleges, business and computer schools, management training, vocational education, and technical and trade schools. (Eureka, 2019)
College/University/Trade Schools	Commercial instruction	Humboldt County	N/A
College/University/Trade Schools	Instructional services	City of Eureka	Establishments that offer specialized programs in personal growth and development. Includes music studios/schools, drama schools, dance academies dedicated primarily to instruction, art schools, tutoring schools, and instruction in other cultural and academic pursuits. (Eureka, 2019)
<b>Hospitals/Nursing Homes</b>			
Hospitals/Nursing Homes	Convalescent homes	City of Fortuna	A private or public institution where patients may recover from an illness. (Fortuna, 2019)
Hospitals/Nursing Homes	Hospitals	City of Eureka	Facilities providing medical, psychiatric, or surgical services for sick or injured persons primarily on an in-patient basis, and including ancillary facilities for outpatient and emergency treatment, diagnostic services, training, research, administration, and services to patients, employees, or visitors. May include facilities for the takeoff and landing of helicopters. (Eureka, 2019)
Hospitals/Nursing Homes	Nursing homes	City of Eureka	N/A
Hospitals/Nursing Homes	Private institution	Humboldt County	The Private Institution Use Type includes sanitariums, rest homes and convalescent homes providing for the rooming or boarding of any aged or convalescent person, whether ambulatory or nonambulatory, for which a license has been acquired from



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<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible Use Category</b>	<b>Jurisdiction</b>	<b>Definition</b>
			county, state or federal agencies. (County, 2019)
Hospitals/Nursing Homes	Rest homes	City of Fortuna	N/A
Hospitals/Nursing Homes	Hospital offices	City of Fortuna	N/A
<b>Library/Museum</b>			
Library/Museum	Cultural, non-assembly	Humboldt County	The Non-Assembly Cultural Use Type includes the activities typically performed by the following institutions: <ul style="list-style-type: none"> <li>• Public, parochial, and private non-profit museums and art galleries and similar organizations;</li> <li>• Public, parochial, and private non-profit libraries and observatories and similar institutions. (County, 2019)</li> </ul>
Library/Museum	Libraries	Humboldt County	N/A
Library/Museum	Private museums	City of Eureka	N/A
<b>Public Buildings</b>			
Public Buildings	Administrative:	Humboldt County	The Administrative Use Type includes the uses performed by public, public non-profit, parochial, and public utility administrative offices. (County, 2019)
Public Buildings	Charitable institutions and social service and social welfare centers	City of Eureka	
Public Buildings	Civic Institution	City of Eureka	Public or non-profit institutions that support and contribute to the cultural development of the community and provide community-serving programs and services on-site. Includes libraries, museums, performing art centers (primarily nonretail), aquariums, zoos, environmental education centers, non-profit art centers and galleries, botanical gardens, and other similar uses. (Eureka, 2019)
Public Buildings	Emergency shelters	City of Eureka	Housing with minimal supportive services for homeless persons that is limited to occupancy of one year or less. No individual or household may be denied emergency shelter because of an inability to pay. Includes drop-in centers that provide food, showers, and laundry facilities, and other services to the homeless. (Eureka, 2019)
Public Buildings	Government facilities	City of Eureka	A facility operated by a governmental agency providing services to the general public. Includes governmental offices, public recreational facilities, community centers, public meeting spaces, civic auditoriums, fire stations, police stations, dispatch facilities, vehicle storage, and other similar facilities. (Eureka, 2019)

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<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible Use Category</b>	<b>Jurisdiction</b>	<b>Definition</b>
Public Buildings	Post offices	City of Eureka	N/A
Public Buildings	Public buildings and grounds	City of Eureka	N/A
Public Buildings	Social Services	City of Eureka	Establishments providing group outpatient assistance and aid to those persons requiring counseling, services, activities, and/or treatment for psychological problems, addictions, learning disabilities, elderly, and physical disabilities. Includes welfare offices, child/adult protective services, service centers for disabled individuals, counseling centers for individuals with substance abuse disorder, and veteran services. (Eureka, 2019)
<b>Manufacturing/Processing</b>			
<b>Manufacturing/Processing - Hazardous</b>			
Manufacturing/Processing - Hazardous	Coal, coke, and tar products manufacture	City of Eureka	N/A
Manufacturing/Processing - Hazardous	Explosive manufacture and storage	City of Eureka	N/A
Manufacturing/Processing - Hazardous	Fertilizer manufacture	City of Eureka	N/A
Manufacturing/Processing - Hazardous	Fertilizer plants and yards	City of Eureka	N/A
Manufacturing/Processing - Hazardous	Fireworks manufacture and storage	City of Eureka	N/A
Manufacturing/Processing - Hazardous	Gas and oil wells	City of Eureka	N/A
Manufacturing/Processing - Hazardous	Gas manufacture or storage	City of Eureka	N/A
Manufacturing/Processing - Hazardous	Hazardous industrial	Humboldt County	The Hazardous Industrial Use Type includes any industrial activity which involves the handling of toxic, highly flammable, explosive or radioactive materials in such quantities that would, if released or ignited, constitute a significant risk to adjacent human populations or development. (County, 2019)
Manufacturing/Processing - Hazardous	Incineration or reduction of garbage, offal, and dead animals	City of Eureka	N/A
Manufacturing/Processing - Hazardous	Insecticides, fungicides, disinfectants, and similar industrial and household chemical compounds manufacture	City of Eureka	N/A
Manufacturing/Processing - Hazardous	Linoleum and oil cloth manufacture	City of Eureka	N/A

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<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible Use Category</b>	<b>Jurisdiction</b>	<b>Definition</b>
Manufacturing/Processing - Hazardous	Manufacturing, heavy	City of Eureka	A facility accommodating manufacturing processes that involve or produce basic metals, building materials, chemicals, fabricated metals, paper products, machinery, textiles, or transportation equipment, and where the use may cause significant impacts on surrounding land uses. Includes manufacturing of chemical products; concrete, gypsum, and plaster products; paving and roofing materials; plastics and other synthetics, and rubber products; lumber and other wood products; tires; mass-produced food and beverage products, paving and petroleum-based roofing materials; lime products; glass products. Also includes petroleum refining and related industries, oil and gas processing facilities, and ready-mix concrete batch plants. (Eureka, 2019)
Manufacturing/Processing - Hazardous	Match manufacture	City of Eureka	N/A
Manufacturing/Processing - Hazardous	Oil and gas drilling and processing	Humboldt County	The Oil and Gas Drilling and Processing Use Type refers to the operation and maintenance of oil and gas drilling including essential on-site processing. (County, 2019)
Manufacturing/Processing - Hazardous	Paint manufacture, including enamel, lacquer, shellac, turpentine, and varnish	City of Eureka	N/A
Manufacturing/Processing - Hazardous	Paraffin products manufacture	City of Eureka	N/A
Manufacturing/Processing - Hazardous	Soap manufacture, including fat rendering	City of Eureka	N/A
Manufacturing/Processing - Hazardous	Solid waste disposal	Humboldt County	N/A
Manufacturing/Processing - Hazardous	Steam plants	City of Eureka	N/A
Manufacturing/Processing - Hazardous	Tallow manufacture	City of Eureka	N/A
Manufacturing/Processing - Hazardous	Textile bleaching	City of Eureka	N/A
Manufacturing/Processing - Hazardous	Wood and bones distillation	City of Eureka	N/A
<b>Manufacturing/Processing - Low Hazard</b>			
Manufacturing/Processing - Low Hazard	Timber production	Humboldt County	N/A
Manufacturing/Processing - Low Hazard	Timber Production and Harvesting	City of Eureka	The cutting and removal of timber or other solid wood forest products for commercial purposes together with all of the work incidental to the harvest including construction and maintenance of roads, fuel breaks, fire breaks,

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**SAFETY COMPATIBILITY LAND USE CATEGORY CROSSWALK TO MUNICIPAL ZONING USES**

Compatibility Criteria Tables Land Use Categories	Permissible Use Category	Jurisdiction	Definition
			stream crossings, landings, skid trails, beds for the falling of trees, and fire hazard abatement. (Eureka, 2019)
Manufacturing/Processing - Low Hazard	Timber harvest	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Timber production	Humboldt County	N/A
Manufacturing/Processing - Low Hazard	Timber Production and Harvesting	City of Eureka	The cutting and removal of timber or other solid wood forest products for commercial purposes together with all of the work incidental to the harvest including construction and maintenance of roads, fuel breaks, fire breaks, stream crossings, landings, skid trails, beds for the falling of trees, and fire hazard abatement. (Eureka, 2019)
Manufacturing/Processing - Low Hazard	Agricultural and timber products processing plants.	Humboldt County	N/A
Manufacturing/Processing - Low Hazard	Agricultural Processing	City of Eureka	The processing of harvested crops to prepare them for onsite marketing, off-site sale, or processing and packaging elsewhere. Includes alfalfa cubing; corn shelling; grist mills; milling of flour, feed and grain; grain cleaning and grinding; hay baling and cubing; pre-cooling and packaging of fresh or dried fruits or vegetables; tree nut hulling and shelling; farm product warehousing and storage; drying of corn, rice, hay; and sorting, grading and packing fruits and vegetables. Includes the processing of crops grown off-site. (Eureka, 2019)
Manufacturing/Processing - Low Hazard	Aircraft and aircraft accessories and parts manufacture	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Animal processing	City of Eureka	A facility where the slaughtering and/or processing of animals raised off-site takes place, including rendering plants and meat cutting and packing uses. (Eureka, 2019)
Manufacturing/Processing - Low Hazard	Asphalt and asphalt products manufacture	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Automobile, truck, and trailer accessories and parts manufacture	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Bakeries (non-retail)	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Battery manufacture	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Boat building	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Boiler works	City of Eureka	N/A

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**SAFETY COMPATIBILITY LAND USE CATEGORY CROSSWALK TO MUNICIPAL ZONING USES**

<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible Use Category</b>	<b>Jurisdiction</b>	<b>Definition</b>
Manufacturing/Processing - Low Hazard	Bottling works	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Box factories and cooperages	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Breweries and distilleries	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Building materials manufacture and assembly, including composition wallboards, partitions, panels, and prefabricated structures	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Business machines manufacture, including accounting machines, calculators, card-counting equipment, and typewriters	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Can and metal container manufacture	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Candle manufacture, not including rendering	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Cannabis manufacturing, research and development, and testing facilities	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Carpenter shops	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Carpet and rug manufacture	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Cement products manufacture, including concrete mixing and batching	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Cement, lime, gypsum, and plaster of paris manufacture	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Charcoal, lampblack, and fuel briquettes manufacture	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Chemical products manufacture provided no hazard of fire or explosion is created, including adhesives, bleaching products, bluing, calcimine, dyestuffs (except aniline dyes), essential oils, soda and soda compounds, and vegetable gelatin, glue, and size	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Clay products manufacture, including brick, fire brick, tile, and pipe	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Coastal-dependent industrial	Humboldt County	The Coastal-Dependent Use Type includes any coastal-dependent industrial use which requires a maintained navigable channel to function, including, for example: public

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SAFETY COMPATIBILITY LAND USE CATEGORY CROSSWALK TO MUNICIPAL ZONING USES**

Compatibility Criteria Tables Land Use Categories	Permissible Use Category	Jurisdiction	Definition
			docks, water-borne carrier import and export operations, ship building and boat repair, commercial fishing facilities, including berthing and fish receiving, and fish processing when product is for human consumption (fish waste processing and fish processing of products for other than human consumption are permitted under the Coastal-Related Use Type), marine oil terminals, Outer Continental Shelf (OCS) service or supply bases, ocean intake, outfall or discharge pipelines and pipelines serving offshore facilities, aquaculture and aquaculture support facilities. (County, 2019)
Manufacturing/Processing - Low Hazard	Coastal-related industrial	Humboldt County	The Coastal-Related Use Type includes coastal-related industrial uses, including but not limited to fish waste processing and fish processing of products for other than human consumption, gas or oil processing and treatment facilities, electrical generating facilities or other facilities which require an ocean intake, outfall, or pipeline. (County, 2019)
Manufacturing/Processing - Low Hazard	Cork manufacture	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Cottage Industry	Humboldt County	The Cottage Industry Use Type refers to establishments primarily engaged in the on-site production of goods by hand manufacturing which involves only the use of hand tools or domestic mechanical equipment or a single kiln, and the incidental direct sale to consumers of only those goods produced on-site. Typical uses include ceramic studios, custom jewelry or small furniture and cabinet manufacturers. (County, 2019)
Manufacturing/Processing - Low Hazard	Cotton ginning and cotton wadding and linter manufacture	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Die and pattern making	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Distillery, craft	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Drop forges	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Dumps and slag piles	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Extrusion of small products, such as costume jewelry, pins and needles, razor blades, bottle caps, buttons, and kitchen utensils	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Film manufacture	City of Eureka	N/A

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<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible Use Category</b>	<b>Jurisdiction</b>	<b>Definition</b>
Manufacturing/Processing - Low Hazard	Firearms manufacture	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Fish products processing and packaging	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Flour, feed, and grain mills	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Furniture manufacture	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Gelatin, glue, and size manufacture from animal or fish refuse	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Glass and glass products manufacture	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Graphite and graphite products manufacture	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Hair, felt, and feathers processing	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Handicraft manufacture	Humboldt County	N/A
Manufacturing/Processing - Low Hazard	Heating and ventilating shops	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Ice manufacture	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Industrial manufacturing uses	Humboldt County	N/A
Manufacturing/Processing - Low Hazard	Jute, hemp, sisal, and oakum products manufacture	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Laboratories	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Lard manufacture	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Laundry and cleaning plants	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Leather and fur finishing and dyeing, not including tanning and curing	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Machine shops not involving the use of drop hammers, automatic screw machines, or punch presses with a rated capacity of over 20 tons	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Machine tools manufacture, including metal lathes, metal presses, metal stamping machines, and woodworking machines	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Machinery manufacture, including heavy electrical, agricultural, construction,	City of Eureka	N/A

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**SAFETY COMPATIBILITY LAND USE CATEGORY CROSSWALK TO MUNICIPAL ZONING USES**

Compatibility Criteria Tables Land Use Categories	Permissible Use Category	Jurisdiction	Definition
	and mining machinery, and light machinery and equipment, such as air conditioning, commercial motion picture equipment, dishwashers, dryers, furnaces, heaters, refrigerators, ranges, stoves, ovens, and washing machines		
Manufacturing/Processing - Low Hazard	Magnesium foundries	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Manufacture and assembly of electrical supplies, such as coils, condensers, crystal holders, insulation, lamps and switches, and wire and cable assembly, provided that no noxious or offensive fumes or odors are produced	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Manufacture of furniture, finished paper and paper products.	Humboldt County	N/A
Manufacturing/Processing - Low Hazard	Manufacturing, artisan	City of Eureka	Artistic, artisan, craft-oriented, and small-scale manufacturing businesses engaged in the on-site assembly of individually fabricated parts or the fabrication of custom/craft goods, and the incidental direct sale to consumers of primarily those goods produced on site. (Eureka, 2019)
Manufacturing/Processing - Low Hazard	Manufacturing, light	City of Eureka	The manufacture of products in a manner that produces little or no noise, odor, fumes, dust, smoke, dirt, refuse, vibration, glare, and/or air or water pollution detectable beyond the interior walls of the facility and is unlikely to cause significant impacts on surrounding land uses. Products are commonly produced from previously prepared materials, of finished products or parts, including processing, fabrication, assembly, treatment, and packaging of such products. Does not produce or utilize toxic, hazardous, or explosive materials as an integral part of the manufacturing process. (Eureka, 2019)
Manufacturing/Processing - Low Hazard	Manufacturing of electrical and electronic equipment, of household effects such as lamps, rugs and fabrics, and research and development laboratories.	Humboldt County	N/A
Manufacturing/Processing - Low Hazard	Manufacturing, canning, and packing of: food products, including fruits	City of Eureka	N/A



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SAFETY COMPATIBILITY LAND USE CATEGORY CROSSWALK TO MUNICIPAL ZONING USES**

<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible Use Category</b>	<b>Jurisdiction</b>	<b>Definition</b>
	and vegetables, but not including meat products, pickles, sauerkraut, vinegar, or yeast, dehydrating of garlic or onions, or refining or rendering of fats or oils		
Manufacturing/Processing - Low Hazard	Manure, peat, and topsoil processing and storage	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Mattress manufacture	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Meat products processing and packaging not including slaughtering and glue and size manufacture	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Metal alloys and foil manufacture, including solder, pewter, brass, bronze, and tin, lead, and gold foil	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Metal-working shops	Humboldt County	N/A
Manufacturing/Processing - Low Hazard	Metallic mineral extraction	Humboldt County	The Metallic Mineral Extraction Use Type refers to the surface or subsurface extraction of metallic minerals such as gold, copper, chromium, and zinc, and not including stationary on-site processing facilities of any type. (County, 2019)
Manufacturing/Processing - Low Hazard	Motor and generator manufacture	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Motor testing of internal combustion motors	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Motor vehicle wrecking yards and scrap metal yards	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Packing and crating	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Pickup truck camper and canopy assembly	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Plastics manufacture	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Porcelain products manufacture, including bathroom and kitchen fixtures and equipment	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Precious metals reduction, smelting, and refining	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Processing, packing, and canning of food for human consumption	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Processing, packing, and canning of seafood for human consumption, not	City of Eureka	N/A

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**SAFETY COMPATIBILITY LAND USE CATEGORY CROSSWALK TO MUNICIPAL ZONING USES**

<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible Use Category</b>	<b>Jurisdiction</b>	<b>Definition</b>
	including processing seafood for fish oils		
Manufacturing/Processing - Low Hazard	Quarries, gravel pits, mines, and stone mills	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Railroad equipment manufacture, including railroad car and locomotive manufacture	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Recycling processing facility	City of Eureka	A facility that receives and processes recyclable materials. Processing means preparation of material for efficient shipment, or to an end-user's specifications, by such means as baling, briquetting, compacting, flattening, grinding, crushing, mechanical sorting, shredding, cleaning, and remanufacturing. Includes salvage yards, upcycling, and vehicle salvage and wrecking. (Eureka, 2019)
Manufacturing/Processing - Low Hazard	Refrigeration equipment	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Research & development	Humboldt County	N/A
Manufacturing/Processing - Low Hazard	Rubber manufacture or processing, including natural or synthetic rubber and gutta-percha	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Rubber products manufacture, including tires and tubes	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Sandblasting	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Sheet metal shops	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Shoe polish manufacture	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Starch and dextrin manufacture	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Steel products manufacture and assembly, including steel cabinets, lockers, doors, fencing, and furniture	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Stockyards and slaughterhouses	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Stone products manufacture and stone processing, including abrasives, asbestos, stone screening, and sand and lime products	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Structural steel products manufacture, including bars, girders, rails, and wire rope	City of Eureka	N/A

**TABLE D-2**  
**SAFETY COMPATIBILITY LAND USE CATEGORY CROSSWALK TO MUNICIPAL ZONING USES**

<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible Use Category</b>	<b>Jurisdiction</b>	<b>Definition</b>
Manufacturing/Processing - Low Hazard	Surface Mining – 1:	Humboldt County	The Surface Mining - 1 Use Type refers to surface extraction of nonmetallic minerals, such as sand, gravel and rock, and including fixed on-site processing facilities such as stationary crushers, separators, kilns, and transfer stations; or similar fixed facilities. (County, 2019)
Manufacturing/Processing - Low Hazard	Surface Mining – 2:	Humboldt County	The Surface Mining - 2 Use Type refers to surface extraction of nonmetallic minerals such as sand and gravel, but not including stationary on-site processing facilities of any type, subject to the Surface Mining and Reclamation Regulations at Title III, Division 9 of the Humboldt County Code. (County, 2019)
Manufacturing/Processing - Low Hazard	Surface Mining – 3:	Humboldt County	The Surface Mining - 3 Use Type refers to surface extraction on nonmetallic minerals such as sand and gravel, confined only to rivers and areas of wind-blown sands, and not including stationary on-site processing facilities of any type. (County, 2019)
Manufacturing/Processing - Low Hazard	Tanneries and curing and storage of rawhide	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Textile, knitting and hosier mills	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Welding shops	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Wire and cable manufacture	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Woodworking shops and cabinet shops	City of Eureka	N/A
Manufacturing/Processing - Low Hazard	Wool scouring and pulling	City of Eureka	N/A
<b>Warehousing/Storage</b>			
Materials Storage - Hazardous			
Materials Storage - Hazardous	Bulk storage of petroleum products for direct sale to consumers	City of Eureka	N/A
Materials Storage - Hazardous	Feed and fuel stores	City of Eureka	N/A
Materials Storage - Hazardous	Petroleum and petroleum products storage	City of Eureka	N/A
Materials Storage - Hazardous	Storage of fuel or flammable liquids	City of Eureka	N/A
<b>Materials Storage - Low Hazard</b>			
Materials Storage - Low Hazard	Beverage distributors	City of Eureka	N/A
Materials Storage - Low Hazard	Building material storage yards	City of Eureka	N/A

**TABLE D-2**  
**SAFETY COMPATIBILITY LAND USE CATEGORY CROSSWALK TO MUNICIPAL ZONING USES**

<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible Use Category</b>	<b>Jurisdiction</b>	<b>Definition</b>
Materials Storage - Low Hazard	Cold storage plants	City of Eureka	N/A
Materials Storage - Low Hazard	Contractors' equipment rental or storage yards	City of Eureka	N/A
Materials Storage - Low Hazard	Corporation yard	City of Eureka	N/A
Materials Storage - Low Hazard	Equipment buildings and installations	City of Eureka	N/A
Materials Storage - Low Hazard	Food lockers	City of Eureka	N/A
Materials Storage - Low Hazard	Frozen food distributors	City of Eureka	N/A
Materials Storage - Low Hazard	Gravel, rock, and cement yards	City of Eureka	N/A
Materials Storage - Low Hazard	Ice storage houses	City of Eureka	N/A
Materials Storage - Low Hazard	Low-Hazard Storage: mini-storage, greenhouses	Humboldt County	N/A
Materials Storage - Low Hazard	Mini-Storage	City of Eureka	One or more building in a controlled access and fully enclosed compound that contains separate self-storage spaces of varying size for the storage of customers' goods and possessions. (Eureka, 2019)
Materials Storage - Low Hazard	Outdoor Storage, Non-Retail	City of Eureka	Non-retail storage of commercial goods in open lots as either a primary or second use. (Eureka, 2019)
Materials Storage - Low Hazard	Storage buildings for household goods	City of Eureka	N/A
Materials Storage - Low Hazard	Storage of logs or wood chips	City of Eureka	N/A
Materials Storage - Low Hazard	Storage of used building materials	City of Eureka	N/A
Materials Storage - Low Hazard	Storage yards for commercial vehicles	City of Eureka	N/A
Materials Storage - Low Hazard	Warehousing, storage and distribution	Humboldt County	N/A
Materials Storage - Low Hazard	Warehousing, wholesale, and distribution	City of Eureka	A use engaged in storage, wholesale and distribution of manufactured products, supplies, and equipment to retailers; to industrial, commercial, institutional, farm, or professional business users; or to other wholesalers; or acting as agents or brokers in buying merchandise for or selling merchandise to such persons or companies. Includes merchant wholesalers; agents, merchandise or commodity brokers, and commission merchants; assemblers, buyers and associations engaged in the cooperative marketing of farm products. (Eureka, 2019)
<b>Recreation/Parks/Open Space</b>			
<b>Open Space</b>			

**TABLE D-2**  
**SAFETY COMPATIBILITY LAND USE CATEGORY CROSSWALK TO MUNICIPAL ZONING USES**

<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible Use Category</b>	<b>Jurisdiction</b>	<b>Definition</b>
Open Space	Coastal access facilities	Humboldt County	The Coastal Public Access Facilities Use Type includes the development of coastal access facilities consistent with the (County of Humboldt) Coastal Access Development Requirements. (County, 2019)
Open Space	Management for fish and wildlife habitat	Humboldt County	The Fish and Wildlife Habitat Management Use Type refers to the manipulation or maintenance of vegetation or streams, or construction of minor structures to yield desired results in terms of habitat suitable for designated wildlife or fishery species or groups of species. (County, 2019)
Open Space	Management for watershed	Humboldt County	N/A
Open Space	Open space	Humboldt County	N/A
Open Space	Resource protection and restoration	City of Eureka	Lands and management activities dedicated to the protection and conservation of natural resources, such as aquatic environments, wetland and sensitive riparian habitat, water recharge areas, and rare or endangered plant or animal habitat. (Eureka, 2019)
<b>Parks</b>			
Parks	Parks and Playgrounds	City of Eureka	Parks and playgrounds as the primary use on the site that provides open space and/or outdoor recreational opportunities to the public. Includes athletic fields, picnic areas, tennis courts, tot lots, community gardens, cemeteries, and other similar outdoor facilities. (Eureka, 2019)
Parks	Playgrounds	City of Fortuna	N/A
Parks	Special occupancy parks	Humboldt County	N/A
<b>Recreation</b>			
Recreation	Agriculture-Related Recreational:	Humboldt County	The Agriculture-Related Recreation Use Type includes recreational facilities developed in conjunction with agriculture, including hunting and duck camps, skiing and dude ranches, but not including such recreational activities as golf courses which require non-agricultural development. (County, 2019)
Recreation	Commercial Recreation	Humboldt County	The Commercial Recreation Use Type refers to facilities serving recreational needs but operated for private profit, including, for example, riding stables, chartered fishing boats, tourist attractions and amusement or marine parks, including special occupancy parks and tent camps. (County, 2019)
Recreation	Golf courses	Humboldt County	N/A

**TABLE D-2**  
**SAFETY COMPATIBILITY LAND USE CATEGORY CROSSWALK TO MUNICIPAL ZONING USES**

<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible Use Category</b>	<b>Jurisdiction</b>	<b>Definition</b>
Recreation	Incidental camping area	Humboldt County	Any area or tract of land where camping is incidental to the primary use of the land for agriculture, timber management, or water or power development purposes, and where two (2) or more campsites used for camping are rented or leased or held out for rent or lease. The density of usage shall not exceed twenty-five (25) camping parties within a radius of 265 feet from any campsite within the incidental camping area. (County, 2019)
Recreation	Pony riding rings	City of Eureka	N/A
Recreation	Public recreation	Humboldt County	The Public Recreation and Open Space Use Type refers to a publicly-owned and maintained parkland and low intensity uses attendant thereto, such as tent camps and picnic areas and food service and other concessions. (County, 2019)
Recreation	Recreational vehicle parks	City of Eureka	Any area or tract of land, or a separate designated section within a manufactured home park where one or more lots are rented or leased or held out for rent, or lease to owners or users of recreational vehicles or tents and which are occupied for temporary purposes. (County, 2019)
Recreation	Resource-Related Recreational	Humboldt County	The Resource-Related Recreational Use Type includes activities such as nature study, hunting and fishing, and includes the development of hunting blinds and similar minor facilities. (County, 2019)
Recreation	Riding academies	City of Eureka	N/A
Recreation	Riding stables	City of Eureka	N/A
Recreation	Rifle ranges	City of Eureka	N/A
Recreation	Shooting galleries within buildings	City of Eureka	N/A
Recreation	Shooting ranges	Humboldt County	N/A
Recreation	Temporary recreational vehicle park	Humboldt County	N/A
Recreation	Tent camp	Humboldt County	N/A
<b>Residential</b>			
<b>Single Family Residential</b>			
Single Family Residential	Farm dwellings	Humboldt County	N/A
Single Family Residential	Single family home	City of Eureka	A residential structure designed for occupancy by one household. A single-family dwelling provides complete, independent living facilities for one or more persons, including permanent

**TABLE D-2  
SAFETY COMPATIBILITY LAND USE CATEGORY CROSSWALK TO MUNICIPAL ZONING USES**

<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible Use Category</b>	<b>Jurisdiction</b>	<b>Definition</b>
			provisions for living, sleeping, eating, cooking, and sanitation.
Single Family Residential	Single family residential	Humboldt County	The Single Family Residential Use Type includes the residential occupancy of a single detached main building by one family on a non-transient basis, except for rental of single family dwellings as vacation homes, where the use would not be otherwise different than the uses allowed to be made of single family dwellings. (County, 2019)
<b>Multifamily Residential</b>			
Multifamily Residential	Apartments on the upper floors of multistory structures where below are establishments engaged in commercial uses	Humboldt County	N/A
Multifamily Residential	Duplexes	City of Eureka	N/A
Multifamily Residential	Live-work uses	City of Eureka	N/A
Multifamily Residential	Multifamily residential	Humboldt County	Includes the residential occupancy of a duplex, or multiple main building or buildings by individuals or families on a non-transient basis. (County, 2019)
Multifamily Residential	Multifamily dwelling units	City of Fortuna	N/A
Multifamily Residential	Multistory apartments over commercial uses	Humboldt County	N/A
Multifamily Residential	Row houses or town houses	City of Eureka	Two or more single-family dwelling units connected by common walls along the sides with either shared or unshared foundations. (Eureka, 2019)
<b>Manufactured Home Parks</b>			
Manufactured Home Parks	Manufactured home parks	Humboldt County	The Manufactured Home Park Development Use Type refers to a tract of land where two or more manufactured home lots are rented or leased or held out for rent or lease to accommodate manufactured homes or recreational vehicles used for human habitation. The Manufactured Home Park Development Use Type includes manufactured home development constructed according to the requirements of Part 2.1 (commencing with Section 18200) of Division 13 of the (County of Humboldt) Health and Safety Code. (County, 2019)
Manufactured Home Parks	Mobile home park	City of Fortuna	Any lot, tract, or parcel of land licensed and used or offered for use, in whole or in part, with or without charge, for the parking of occupied mobile homes and travel trailers subject to a use permit and used solely for living and/or sleeping purposes. (Fortuna, 2019)
<b>Group Quarters</b>			

**TABLE D-2**  
**SAFETY COMPATIBILITY LAND USE CATEGORY CROSSWALK TO MUNICIPAL ZONING USES**

<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible Use Category</b>	<b>Jurisdiction</b>	<b>Definition</b>
Group Quarters	Boarding and rooming houses	Humboldt County	N/A
Group Quarters	Farm Employee Housing	Humboldt County	Refers to the occupancy by four or fewer farm employees and their families of any living accommodations, without regard to duration, which occurs exclusively in association with the performance of agricultural labor. (County, 2019)
Group Quarters	Farmworker housing	City of Eureka	Housing for transient labor, such as labor cabins or camps, incidental to a permitted agricultural use. (Eureka, 2019)
Group Quarters	Group residential:	Humboldt County	Refers to the residential occupancy, for compensation, by groups of persons or individuals by pre-arrangement for definite periods. Typical uses include occupancy of sorority houses, retirement homes, and boarding houses. (County, 2019)
Group Quarters	Halfway houses	City of Eureka	N/A
Group Quarters	Micro/shared housing	City of Eureka	Shared living quarters without separate kitchen or bathroom facilities for each room or unit, offered for rent to permanent or semi-transient residents for long-term occupancy (30 days or more). Includes rooming and boarding houses, single-room occupancy housing, dormitories, convents and monasteries, and other types of organizational housing. Excludes hotels, motels, bed and breakfast inns, and vacation rentals (see "Commercial Lodging" and "Residential Lodging") and State licensed facilities providing social and personal care to residents. (Eureka, 2019)
Group Quarters	Non-medical care housing	City of Eureka	A state-licensed residential facility that provides nonmedical social and personal care for residents. Includes community care facilities as defined in California Health and Safety Code (H&SC) Section 1500 et seq, residential care facilities for the elderly (H&SC Section 1569 et seq.), facilities for the mentally disordered or otherwise handicapped (California Welfare and Institutions Code Section 5000 et seq.), alcoholism or drug abuse recovery or treatment facilities (H&SC Section 11834.02), supportive housing (California Government Code Section 65582), transitional housing (California Government Code Section 65582), and other similar facilities. (Eureka, 2019)
Group Quarters	Single room occupancy (SRO)	City of Eureka	N/A



**TABLE D-2**  
**SAFETY COMPATIBILITY LAND USE CATEGORY CROSSWALK TO MUNICIPAL ZONING USES**

<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible Use Category</b>	<b>Jurisdiction</b>	<b>Definition</b>
Group Quarters	Labor Camp	Humboldt County	Refers to the occupancy of five or more farm or timber production employees and their families of any living quarters in association with the performance of agricultural or timber production labor. Labor camps shall be located on the premises where the work is performed and shall have a maximum continuous permitted duration of one year (1yr) from the effective date of the required Use Permit. (County, 2019)
Group Quarters	Supportive housing	City of Eureka	N/A
Group Quarters	Temporary labor camps	Humboldt County	N/A
Group Quarters	Transitional housing	Humboldt County	N/A
<b>Accessory Dwelling Units</b>			
Accessory Dwelling Units	Caretaker's residence	Humboldt County	N/A
Accessory Dwelling Units	efficiency unit	City of Eureka	N/A
Accessory Dwelling Units	Guest house	Humboldt County	The Guest House Use Type refers to living quarters within a detached accessory building for the sole use of persons employed on the premises or for temporary use by guests of the occupants of the premises, which living quarters have no kitchen facilities and are not otherwise used as a separate dwelling. (County, 2019)
Accessory Dwelling Units	Junior accessory dwelling units	City of Eureka	
Accessory Dwelling Units	Second residential unit	Humboldt County	The Second Residential Unit Use Type refers to a fully equipped dwelling unit which is ancillary and subordinate to a principal dwelling unit located on the same lot for occupancy by individuals or a family. (County, 2019)
Accessory Dwelling Units	Servants' quarters	Humboldt County	N/A
<b>Transportation/Utilities/Emergency Services</b>			
<b>Critical Community Infrastructure</b>			
Critical Community Infrastructure	Essential services	Humboldt County	The Essential Services Use Type includes uses which are necessary to support principal development. Typical Essential Services uses include: <ul style="list-style-type: none"> <li>• Fire and police stations;</li> <li>• Ambulance services;</li> <li>• Post offices, excluding major processing centers;</li> <li>• Dumpster sites, solid waste transfer stations, and road maintenance yards;</li> </ul>

**TABLE D-2**  
**SAFETY COMPATIBILITY LAND USE CATEGORY CROSSWALK TO MUNICIPAL ZONING USES**

Compatibility Criteria Tables Land Use Categories	Permissible Use Category	Jurisdiction	Definition
			<ul style="list-style-type: none"> <li>Community wells, water storage tanks, and associated water treatment facilities.</li> <li>Public, parochial and private day-care centers, family day care centers, nursery schools, elementary, junior high, and high schools.</li> <li>Public and parochial parks, playgrounds and playing fields. (County, 2019)</li> </ul>
Critical Community Infrastructure	Power stations	City of Eureka	N/A
Critical Community Infrastructure	Sewage treatment plants	City of Fortuna	N/A
<b>Transportation (right-of-way, parking, transit lines)</b>			
Transportation (right-of-way, parking, transit lines)	Parking lots and structures	City of Eureka	Surface lots and structures for use of occupants, employees, or patrons on the subject site or offering parking to the public for a fee when such use is the primary use on the lot and not incidental to another on-site activity. (Eureka, 2019)
Transportation (right-of-way, parking, transit lines)	Parking facilities, fee parking facilities, or off-street parking facilities	City of Eureka	N/A
<b>Transportation (passenger and freight terminals and stations)</b>			
Transportation (passenger and freight terminals and stations)	Airports	City of Eureka	Facilities for the takeoff and landing of airplanes, including runways, aircraft storage buildings, public terminal building and parking, air freight terminal, baggage handling facilities, aircraft hangars, and related support activities. (Eureka, 2019)
Transportation (passenger and freight terminals and stations)	Airports, heliports and landing strips for aircraft	Humboldt County	N/A
Transportation (passenger and freight terminals and stations)	Boat harbors and wharves	City of Eureka	N/A
Transportation (passenger and freight terminals and stations)	Boating Facilities:	Humboldt County	Includes the maintenance, improvement, and minor alteration of existing boating facilities in estuaries. (County, 2019)
Transportation (passenger and freight terminals and stations)	Bus depots	City of Eureka	N/A
Transportation (passenger and freight terminals and stations)	Freight Terminals and Transfer	City of Eureka	Facilities for transfer and movement of freight, courier, and postal services by truck, rail, or sea. (Eureka, 2019)
Transportation (passenger and freight terminals and stations)	Public agency corporation yard	City of Eureka	Governmental facilities that primarily provide storage, maintenance and repair of vehicles, equipment, and supplies. (Eureka, 2019)

**TABLE D-2  
SAFETY COMPATIBILITY LAND USE CATEGORY CROSSWALK TO MUNICIPAL ZONING USES**

<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible Use Category</b>	<b>Jurisdiction</b>	<b>Definition</b>
Transportation (passenger and freight terminals and stations)	Railroad freight stations, repair shops, and yards	City of Eureka	N/A
Transportation (passenger and freight terminals and stations)	Railroad stations	City of Eureka	N/A
Transportation (passenger and freight terminals and stations)	Storage, service, fueling, freight and passenger service, lighting, and radio and radar facilities	Humboldt County	N/A
Transportation (passenger and freight terminals and stations)	Taxicab stands	City of Eureka	N/A
Transportation (passenger and freight terminals and stations)	Truck scales	City of Eureka	N/A
Transportation (passenger and freight terminals and stations)	Trucking terminals	City of Eureka	N/A
<b>Utilities (communication, power, and water transmission facilities and infrastructure)</b>			
Utilities (communication, power, and water transmission facilities and infrastructure)	Antennas	City of Eureka	N/A
Utilities (communication, power, and water transmission facilities and infrastructure)	Cell phone towers	Humboldt County	N/A
Utilities (communication, power, and water transmission facilities and infrastructure)	Commercial satellite dishes	City of Eureka	N/A
Utilities (communication, power, and water transmission facilities and infrastructure)	Drainage ways and structures	City of Eureka	N/A
Utilities (communication, power, and water transmission facilities and infrastructure)	Electrical distribution lines, major:	Humboldt County	This use type includes electrical utility wires, 60 kilovolt or larger, either above ground or underground, including supporting towers, poles and appurtenances, which are used for distributing, conveying or transmitting electrical energy. (County, 2019)
Utilities (communication, power, and water transmission facilities and infrastructure)	Generation and distribution facilities, minor	Humboldt County	The Minor Generation and Distribution Facilities Use Type includes wind generators and accessory structures; small hydroelectric generators (less than 5 megawatt) and accessory structures and utility lines; and communication transmission facilities, including radio and television transmission antennae, communication equipment installations and exchanges, and substations. (County, 2019)
Utilities (communication, power, and water transmission facilities and infrastructure)	Minor utilities	Humboldt County	N/A

**TABLE D-2  
SAFETY COMPATIBILITY LAND USE CATEGORY CROSSWALK TO MUNICIPAL ZONING USES**

<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible Use Category</b>	<b>Jurisdiction</b>	<b>Definition</b>
Utilities (communication, power, and water transmission facilities and infrastructure)	Oil and gas pipelines	Humboldt County	The Oil and Gas Pipelines Use Type includes any gas pipeline, carrying 60 PSI pressure or above, distribution line, above or below ground, used to transport, convey, or distribute oil, petroleum, petroleum products, natural gas, or other flammable or hazardous substances. (County, 2019)
Utilities (communication, power, and water transmission facilities and infrastructure)	Public utility stations	City of Eureka	A permanent structure or facility providing a utility service to the general public. Includes generating plants, electric substations, solid waste collection, solid waste treatment and disposal, water or wastewater treatment plants, and similar facilities. Excludes electrical distribution lines, underground water/sewer lines, and similar utilities. (Eureka, 2019)
Utilities (communication, power, and water transmission facilities and infrastructure)	Pumping station	City of Eureka	N/A
Utilities (communication, power, and water transmission facilities and infrastructure)	Recycling collection facility	City of Eureka	An incidental use that serves as a drop-off point for the temporary storage of recyclable materials but where the processing and sorting of such items is not conducted on site. (Eureka, 2019)
Utilities (communication, power, and water transmission facilities and infrastructure)	Reservoirs	City of Eureka	N/A
Utilities (communication, power, and water transmission facilities and infrastructure)	Solid waste disposal	Humboldt County	The Solid Waste Disposal Use Type includes: <ul style="list-style-type: none"> <li>the disposal of all putrescible and non-putrescible solid and semi-solid wastes, such as refuse, garbage, rubbish, paper, ashes, industrial wastes, demolition and construction wastes, abandoned vehicles and parts thereof, discarded home and industrial appliances, manure, vegetable or animal solid and semi-solid wastes, and other discarded solid and semi-solid wastes; and</li> <li>liquid wastes disposed of in conjunction with solid wastes at solid waste transfer stations, processing facilities or disposal sites. (County, 2019)</li> </ul>
Utilities (communication, power, and water transmission facilities and infrastructure)	Storage tanks	City of Eureka	N/A
Utilities (communication, power, and water transmission facilities and infrastructure)	Telegraph towers and other support structures	City of Eureka	N/A

**TABLE D-2  
SAFETY COMPATIBILITY LAND USE CATEGORY CROSSWALK TO MUNICIPAL ZONING USES**

<b>Compatibility Criteria Tables Land Use Categories</b>	<b>Permissible Use Category</b>	<b>Jurisdiction</b>	<b>Definition</b>
Utilities (communication, power, and water transmission facilities and infrastructure)	Utility substations	City of Fortuna	N/A
Utilities (communication, power, and water transmission facilities and infrastructure)	Utility transmission lines	City of Eureka	N/A
Utilities (communication, power, and water transmission facilities and infrastructure)	Wireless telecommunication facilities	City of Eureka	N/A

Source: City of Eureka, *City of Eureka Zoning Code*, May 21, 2019; City of Fortuna, *Fortuna Municipal Code*, June 7, 2019; County of Humboldt, *Humboldt County Code Title III, Land Use and Development*, April 2, 2019.

# Appendix E

## **Implementation Checklists**

# APPENDIX E

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## Post Implementation Checklists

### Project Worksheet for ALUCP Compliance

1. What AIA review area is the project in? (See AIA maps in Chapter 1, Figures 1-2–1-9.)  
Check all that apply:
  - Review Area 1
  - Review Area 2
  - None
  
2. What CNEL range is the project in? (See noise compatibility maps in Chapters 4–11, Figures 4-1, 5-1, 6-1, 7-1, 8-1, 9-1, 10-1, 11-1) Check all that apply:
  - 50-55 dB
  - 55-60 dB
  - 60-65 dB
  - 65-70 dB
  - 70-75 dB
  - 75+ dB
  
3. What is the level of compatibility identified for your project’s land use type in Table 3-1?  
(Land use types are identified in the left hand column in Table 3-1)
  - Compatible (proceed to Question 4)
  - Conditionally Compatible; Please list the letter and number (if shown) in the applicable cell in Table 3-1 (e.g. CC 45):  

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  - Incompatible

4. What safety zone is the project in? (See safety compatibility maps in Chapters 4–11, Figures 4-2, 5-2, 6-2, 7-2, 8-2, 9-2, 10-2, 11-2) Check all that apply:

- Safety Zone 1
- Safety Zone 2
- Safety Zone 3
- Safety Zone 4
- Safety Zone 5
- Safety Zone 6

5. What is the level of compatibility identified for your project’s land use type in Table 3-2? (Land use types are identified in the left hand column in Table 3-2)

- Compatible (proceed to question 4)
- Conditionally Compatible; Please list the applicable “Criteria for Conditionally Compatible Uses” as provided in the right hand column in Table 3-2:

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- Incompatible



## Post Adoption Checklist

- County of Humboldt to update general plan, applicable specific plans, and zoning regulations.
- City of Eureka to update general plan, applicable specific plans, and zoning regulations.
- City of Fortuna to update general plan, applicable specific plans, and zoning regulations.
- City of Rio Dell to update general plan, applicable specific plans, and zoning regulations.
- Review airport master plan updates
- Review airport layout plan (ALP) updates
- Review any updates to local general plan(s) for jurisdictions within the AIA
- Review any proposed local plans other than general plans (specific plans, precise plans, etc.)

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Appendix F  
**Methods for Determining  
Concentrations of People**

## APPENDIX F

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# Methods for Calculating Concentrations of People

One criterion used in many compatibility plans is the maximum number of people per acre that can be present in a given area at any one time. If a proposed use exceeds the maximum density, it is considered inconsistent with compatibility planning policies. This appendix provides some guidance on how the people-per-acre determination can be made.

The most difficult part about making a people-per-acre determination is estimating the number of people likely to use a particular facility. There are several methods which can be utilized, depending upon the nature of the proposed use:

- **Parking Ordinance** - The number of people present in a given area can be calculated based upon the number of parking spaces provided. Some assumption regarding the number of people per vehicle needs to be developed to calculate the number of people on-site. The number of people per acre can then be calculated by dividing the number of people on-site by the size of the parcel in acres. This approach is appropriate where the use is expected to be dependent upon access by vehicles. Depending upon the specific assumptions utilized, this methodology typically results in a number in the low end of the likely intensity for a given land use.
- **Maximum Occupancy** - The Uniform or California Building Code (CBC) can be used as a standard for determining the maximum occupancy of certain uses. **Table F-1** indicates the required number of square feet per occupant. The number of people on the site can be calculated by dividing the total floor area of a proposed use by the minimum square feet per occupant requirement listed in the table. The maximum occupancy can then be divided by the size of the parcel in acres to determine the people per acre. Surveys of actual occupancy levels conducted by various agencies have indicated that many retail and office uses are generally occupied at no more than 50 percent of their maximum occupancy levels, even at the busiest times of day. Therefore, the number of people calculated for office and retail uses should usually be adjusted (50 percent) to reflect the actual occupancy levels before making the final people-per-acre determination. Even with this adjustment, the CBC-based methodology typically produces intensities at the high end of the likely range.
- **Survey of Similar Uses** - Certain uses may require an estimate based upon a survey of similar uses. This approach is more difficult, but is appropriate for uses which, because of the nature of the use, cannot be reasonably estimated based upon parking or square footage.

Table F-1 shows sample calculations.

**TABLE F-1**  
**MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT<sup>1</sup>**

<b>Function of Space</b>	<b>Occupant Load Factor<sup>2</sup></b>
Accessory storage areas, mechanical equipment room	300 gross
Agricultural building	300 gross
Aircraft hangars	500 gross
<b>Airport Terminal</b>	
Baggage Claim	20 gross
Baggage Handling	300 gross
Concourse	100 gross
Waiting Areas	15 gross
<b>Assembly</b>	
Gaming floors (keno, slots, etc.)	11 gross
Exhibit Gallery and Museum	30 net
Assembly with fixed seats	See Section 1004.4 <sup>3</sup>
<b>Assembly without fixed seats</b>	
Concentrated (chairs only—not fixed)	7 net
Standing space	5 net
Unconcentrated (tables and chairs)	15 net
Business areas	100 gross
Courtrooms	40 net
Day care	35 net
Dormitories	50 gross
<b>Educational</b>	
Classroom area	20 net
Shops and other vocational room areas	50 net
Exercise rooms	50 gross
Group H-5 fabrication and manufacturing areas	200 gross
Industrial areas	100 gross
<b>Institutional Areas</b>	
Inpatient treatment areas	240 gross
Outpatient areas	100 gross
Sleeping areas	100 gross
Kitchens, commercial	200 gross
<b>Laboratory</b>	
Educational	50 net
Laboratories, non-educational	100 net
Laboratory suite <sup>4</sup>	200 gross
<b>Library</b>	
Reading rooms	50 net
Stack area	100 gross
Mall buildings – covered and open	See Section 402.8.2 <sup>5</sup>

**TABLE F-1**  
**MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT<sup>1</sup>**

Function of Space	Occupant Load Factor <sup>2</sup>
<b>Mercantile</b>	
Areas on other floors	60 gross
Basement and grade floor areas	30 gross
Storage, stock, shipping areas	300 gross
Parking garages	200 gross
Residential	200 gross
<b>Skating rinks, swimming pools</b>	
Rink and pool	50 gross
Decks	15 gross
Stages and platforms	15 net
Warehouses	500 gross

## NOTES:

- 1 For SI: 1 square foot = 0.929 m<sup>2</sup>
- 2 Floor area in square feet per occupant.
- 3 **Section 1004.4 Fixed seating.** For areas having fixed seats and aisles, the occupant load shall be determined by the number of fixed seats installed therein. The occupant load for areas in which fixed seating is not installed, such as waiting spaces, shall be determined in accordance with Section 1004.1.2 and added to the number of fixed seats. The occupant load of wheelchair spaces and the associated companion seat shall be based on one occupant for each wheelchair space and one occupant for the associated companion seat provided in accordance with Section 1108.2.3. For areas having fixed seating without dividing arms, the occupant load shall not be less than the number of seats based on the number of seats based on one person for each 18 inches (457 mm) of seating length. The occupant load of seating booths shall be based on one person for each 24 inches (610 mm) of booth seat length measured at the backrest of the seating booth.
- 4 **Section 443.2 Definitions.** The following terms are defined in Chapter 2 [of the CBC]:  
Laboratory suite.  
[F] Liquid tight floor.
- 5 **Section 402.8.2 Determination of occupant load.** The occupant load permitted in any individual tenant space in a covered or open mall building shall be determined by this code. Means of egress requirements for individual tenant spaces shall be based on the occupant load thus determined.

**402.8.2.1 Occupant formula**

In determining required means of egress of the mall, the number of occupants for whom means of egress are to be provided shall be based on gross leasable area of the covered or open mall building (excluding anchor buildings) and the occupant load factor as determined by Equation 4-1.

$$OLF = (0.00007) (GLA) + 25$$

**Equation 4-1**

where:

OLF = The occupant load factor (square feet per person)

GLA = The gross leasable area (square feet).

**Exception:** Tenant spaces attached to a covered or open mall building but with a means of egress system that is totally independent of the open mall of an open mall building or of a covered mall building shall not be considered as gross leasable area for determining the required means of egress for the mall building.

**402.8.2.2 OLF range.** The occupant load factor (OLF) is not required to be less than 30 and shall not exceed 50.

**402.8.2.3 Anchor buildings.** The occupant load of anchor buildings opening into the mall shall not be included in computing the total number of occupants for the mall.

**402.8.2.4 Food courts.** The occupant load of a food court shall be determined in accordance with Section 1004. For the purposes of determining the means of egress requirements for the mall, the food court occupant load shall be added to the occupant load of the covered or open mall building as calculated above.

SOURCE: California Airport Land Use Compatibility Planning handbook, 2011; California Building Code (2013), Table 1004.1.2 (p. 372).

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# Appendix G

## **Airport Background Data and Maps**



# APPENDIX G

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## Airport Background Data and Maps

### G.1 Introduction

This document provides background data on the eight airports included in the Humboldt County Airport Land Use Compatibility Plan (ALUCP). These airports include California Redwood Coast-Humboldt County Airport, Dinsmore Airport, Garberville Airport, Kneeland Airport, Murray Field Airport, Rohnerville Airport, Samoa Field Airport, and Shelter Cove Airport. The information provided includes a description of airport locations, existing and planned airport facilities, surrounding land uses, and existing and projected operational activity at the airports.

### G.2 California Redwood Coast – Humboldt County Airport

The following sections describe California Redwood Coast – Humboldt County Airport (ACV, or the Airport) and the surrounding area. This information is derived from the 2018 Airport Layout Plan (ALP), the 2005 Airport Master Plan Report, and airport records maintained by the Federal Aviation Administration (FAA).

#### G.2.1 Airport Background

ACV is located approximately seven miles north of the City of Arcata, and 15 miles north of the City of Eureka. The Airport lies on a 200-foot plateau overlooking the Pacific Ocean in the unincorporated community of McKinleyville. Highway 101 and the Pacific Ocean border the Airport property to the west. **Figure G-1** presents an aerial view of the Airport, and the immediate surrounding area.

The Airport was established in 1942 by the United States Navy as Arcata-Eureka Airport. The facility was developed for use as an Auxiliary Naval Air Station to train naval fliers. Between 1946 and 1950, the naval training center was converted into the Landing Aids Experiment Station, which conducted experiments in fog dissipation. When Congress discontinued appropriations for the Landing Aids Experiment Station, the Airport was turned over to the County of Humboldt. The Airport continues to be owned and operated by the County.

The Airport Master Plan was last updated in September 2005, and provides a forecast of Airport activity through 2025. The Master Plan anticipates that the Airport will continue to primarily serve as a commercial service airport accommodating general aviation (GA) and that its role in this

capacity will not significantly change in the future. In addition, with the U.S. Coast Guard Search and Rescue Base located at the Airport, the Airport has an essential role in providing emergency services to the community and outlying rural areas. The Airport will continue to include significant use by scheduled passenger airliners, dedicated cargo aircraft, business/corporate GA aircraft, and personal GA aircraft. It is anticipated that with future development of the Airport facilities that the Airport will experience moderate growth over the long run. The future role of the Airport will be defined not by the introduction of new uses, but by changes of the existing uses, changes in the volume of activity, and the types of aircraft (i.e., fleet mix). The recommended facility improvements depicted on the Airport Layout Plan (ALP) and included in the Master Plan are focused on satisfying this role, and include extending Runway 14-32 from 5,998 feet to 6,046 feet (completed in 2009). Also planned are construction of box and executive hangars, Precision Approach Path Indicators (PAPI) at the Runway 1 and Runway 19 ends, a corporate hangar area, Aircraft Rescue and Fire Fighting (ARFF) facilities, electrical vault, a relocated airport beacon, an air traffic control tower, and Runway 14 touchdown zone lights.

**Table G-1** provides a summary of Airport background information.

**TABLE G-1**  
**AIRPORT BACKGROUND SUMMARY – CALIFORNIA REDWOOD COAST – HUMBOLDT COUNTY AIRPORT**

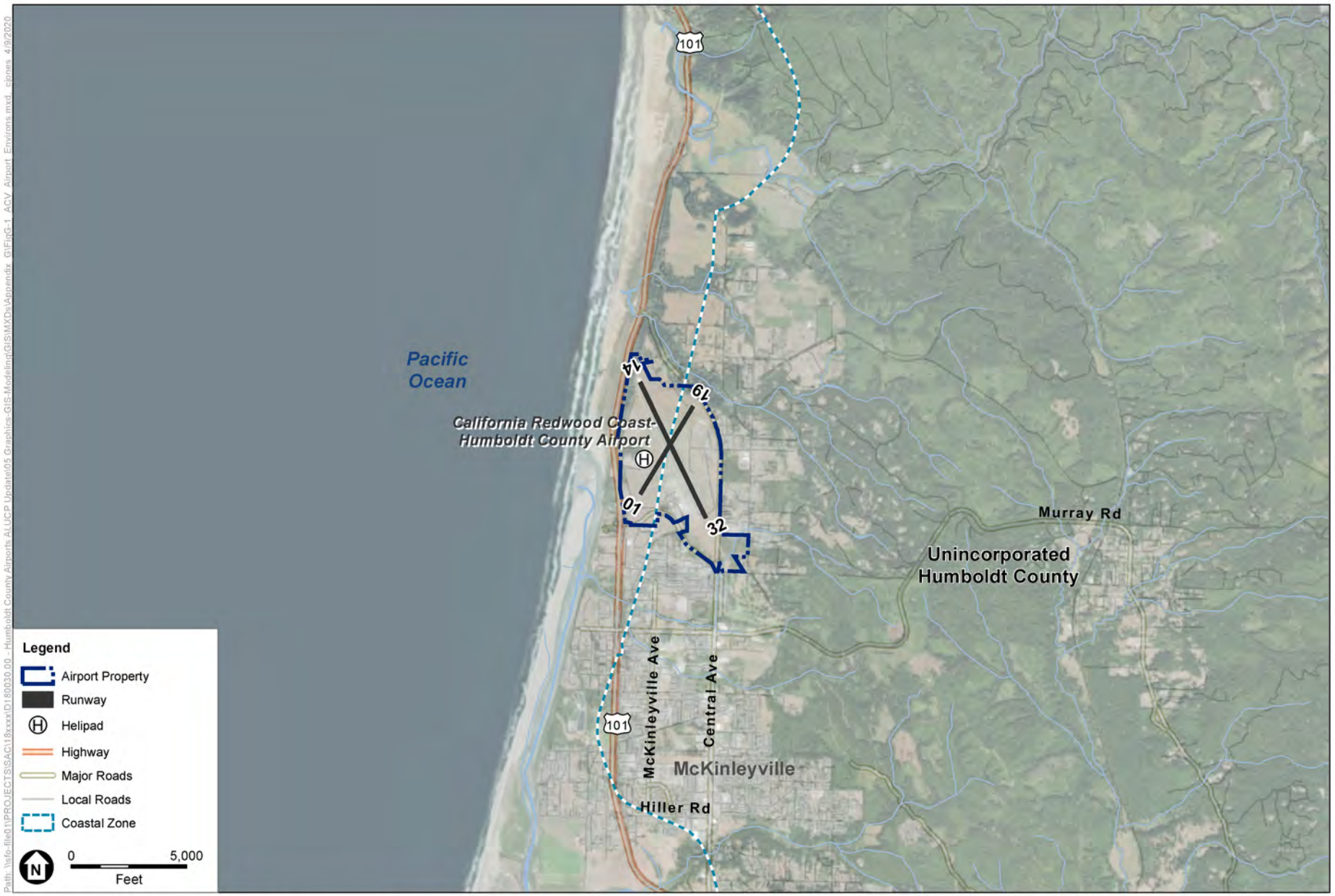
<b>General Information</b>	<b>Description</b>
Airport Ownership	Public
Year Opened	1942
Airport Property Size	745 Acres
Airport Classification	Non-hub Primary Commercial Service
Airport Elevation	221.30 feet MSL
<b>Airport Planning Documents</b>	<b>Description</b>
Airport Master Plan	Arcata-Eureka Airport Master Plan Report, September 2005
Airport Layout Plan	April 2018
<b>Planned Facility Improvements</b>	<b>Description</b>
Airside	<ul style="list-style-type: none"> <li>• Box Hangars</li> <li>• Executive Hangars</li> <li>• Runway 1 PAPI</li> <li>• Runway 19 PAPI</li> <li>• Corporate Hangar Area</li> <li>• Aircraft Rescue and Fire Fighting (ARFF)</li> <li>• Electrical Vault</li> <li>• Relocated Beacon</li> <li>• Air Traffic Control Tower (ATCT)</li> <li>• Runway 14 Touchdown Zone Lights</li> </ul>
Landside	n/a

NOTES:

MSL = Mean Sea Level

PAPI = Precision Approach Path Indicator

Source: FAA Airport Master Record, Arcata-Eureka Airport Master Plan Report, September 2005.



SOURCE: ESA, 2018; DigitalGlobe, October 2017; US Census Bureau, Geography Division, September 2018; County of Humboldt, February 2019. Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-1**  
 Airport Environs  
 California Redwood Coast-Humboldt County Airport



## G.2.2 Airport Characteristics

ACV is classified as a non-hub primary commercial service airport in the National Plan of Integrated Airport Systems (NPIAS) and as a primary regional airport in the California Aviation System Plan (CASP). The Master Plan identified ACV as an Airport Reference Code (ARC) C-III facility with the critical aircraft in terms of aircraft approach speed being the Bombardier CRJ 200, and the critical design aircraft being the Bombardier Q400. The Airport property is 745 acres in size and the Airport has two runways, Runway 14-32 and Runway 1-19. Runway 14-32 is 6,046 feet long, and Runway 1-19 is 4,501 feet long. Both runways are 150 feet wide each. The pavement strength for Runway 14-32 is 60,000 pounds for single wheel landing gear, 155,000 for dual-wheel landing gear, and 280,000 for dual-tandem landing gear. The pavement strength for Runway 1-19 is 60,000 pounds for single wheel landing gear, 95,000 for dual-wheel landing gear, and 170,000 for dual-tandem landing gear.

Runway 14-32 is served by the full-length parallel taxiway (Taxiway A), and Runway 1-19 served by the mid-length parallel taxiway (Taxiway B). The Master Plan states that the taxiways at the Airport vary in width between 40 and 60 feet with planned taxiway width requirements to be updated, and runs approximately the full length of the Runway 14-32 distance. The parallel taxiway to Runway 1-19 has four exit taxiways, and Runway 14-32 has five exit taxiways; one each at each runway end, one or two each close to the Runway 1-19 and 14-32 thresholds, and one each at the middle of each runway.

The ALP is depicted on **Figure G-2**. Table G-1 presents a summary of the Airport's planned airside and landside facilities.

The Airport does not operate an Air Traffic Control Tower (ATCT); however, plans for a future ATCT are included on the 2018 ALP. Visual aids at the Airport include a rotating beacon, VHF Omnidirectional Range (VOR), distance marking equipment (DME), non-directional beacon (NDB), global positioning system (GPS), segmented circle, instrument landing system (ILS), and approach lighting system (ALS). Runway lights for Runway 14-32 include high intensity runway lights (HIRL), and runway lights for Runway 1-19 include medium intensity runway lights (MIRL).

Because ACV is situated on a bluff overlooking the Pacific Ocean, fog is a common occurrence. Fog is often dense enough to reduce visibility below instrument approach minimums. When visibility is below minimums, the Airport is effectively closed to commercial flights.

Five instrument approach procedures serve the Airport: LS OR LOC RWY 32, RNAV (GPS) RWY 01, RNAV (GPS) RWY 14, RNAV (GPS) RWY 32, and VOR RWY 14. The Airport is served by one departure procedure, the HOCUT FIVE. Runway 32 is served by an ILS, which enables approach visibility to 200 feet above ground level (AGL) and 1,800 feet of forward visibility (200-18), the lowest minimums authorized for a Category-I (CAT I) precision approach. However, due to the prevalence of low fog, the air carriers have expressed interest in obtaining a special CAT II authorization from the FAA.

Aircraft parking aprons are limited to the most restrictive of the following areas located:

- 500 feet from the centerline of Runway 14-32—The appropriate setback distance from a runway centerline to a parked aircraft based upon the Runway 14-32 ARC of C-III.
- 250 feet from the centerline of Runway 1-19—The appropriate setback distance from a runway centerline to parked aircraft based upon the Runway 1-19 ARC of B-II with approach visibility minimums no lower than ¾-statute miles.
- 93 feet from the centerline of unrestricted taxiways—The appropriate setback distance from a taxiway centerline to a parked aircraft is based upon the taxiway’s object free area (OFA). Similar in concept to the runway OFA, the taxiway OFA defines an area that should be clear of objects that rise above the level of the taxiway safety area. The size of the taxiway OFA is related to the airport design group.
- 66 feet from the centerline of restricted-use taxiways—Based upon the taxiway OFA for Airport Design Group II, taxiways serving aircraft with wingspans less than 79 feet.

The Airport’s principal building area is located west of Runway 32 and east of Runway 1. Currently, the building area consists of one corporate hangar. In addition, the Airport maintains one T-hangar, and one “nose” hangar. Fifteen aircraft are currently based at the Airport. There is one aircraft box hangar and 25 tie-down positions currently available at the Airport. Of the 25 available tie-downs, between 5 to 12 spaces are regularly occupied. New storage hangars will be built to accommodate the additional aircraft that are projected to be added to the Airport’s based aircraft fleet over the next 20 years. The main apron contains 12 marked tie down spaces, 3 airline gate positions, and a 55,000 square-foot apron used for both transient and based aircraft. Based on the Master Plan, there is space to adequately accommodate a full service fixed-base operator (FBO) facility in the future.

The airport’s terminal building fronts the main airline apron. The 1,400-square foot terminal building consists of the Humboldt County Airports Division offices, an FAA Federal Service Station (FSS), three car rental companies, a conference room, and a restaurant. The Airport’s automobile parking area provides approximately 296 parking spaces in the long-term section and 55 spaces in the short-term section. One section of this parking lot is reserved for employees; there are 27 spaces in this section.

The County last updated the Airport’s Master Plan in September 2005. The ALP was last updated in 2018. Information provided on the current ALP and the 2005 Airport Master Plan was used to prepare this document. The planned improvements to the Airport shown in the Master Plan and on the ALP include a 20-year plan that discusses sites for future aircraft storage hangars, a site for a future fixed base operator, and the acquisition of property to accommodate long-term needs of the airline terminal area. Recommended facility improvements included in the Master Plan include extending Runway 14-32 from 5,998 feet to 6,046 feet (completed in 2009). Also planned are construction of box and executive hangars, Precision Approach Path Indicators (PAPI) at the Runway 1 and Runway 19 ends, a corporate hangar area, Aircraft Rescue and Fire Fighting (ARFF) facilities, electrical vault, a relocated airport beacon, an air traffic control tower, and Runway 14 touchdown zone lights.

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FAA APPROVAL SPACE

APPROVED CONDITIONALLY  
FEDERAL AVIATION ADMINISTRATION  
AIRPORTS DISTRICT OFFICE  
SAN FRANCISCO, CALIFORNIA

Date: 4/19/2018  
Subject to Letter dated April 19, 2018

1360 19th Hole Drive, Suite 200  
Woodside, CA 94095  
(707) 526-5010

REVISIONS

DATE	BY	DESCRIPTION	APPD	DATE
July 1993	HBS	Airport Master Plan Report / Update to reflect recent construction		
Dec 2003	MDG	Updated Airport Layout Plan to reflect changes since July 1993		
Apr 2004	MDG	Revised to reflect current Airport Data and Property lines		
June 2004	M&H	Revised to show Animal Shelter and Eastside general aviation uses		
Jan 2006	M&H	Updated for Master Plan recommendations		
Sept 2008	M&H	Future runway ends modified per RSA Study recommendations		
Nov 2012	M&H	Updated for recent runway end construction and AGIS survey		
2017	M&H	AGIS survey integration / obstruction ID and 13a/SOP 2.00 and 3.00 update		

SUBMITTED BY:  
COUNTY OF HUMBOLDT

APPROVED:  
*Thomas K. Mattson* 3/23/18  
THOMAS K. MATTSO  
DIRECTOR OF PUBLIC WORKS

COUNTY OF HUMBOLDT  
"The Home of the Redwoods"

AVIATION DIVISION  
THOMAS K. MATTSO

DRAWN BY: TE  
REVIEWED BY: BM  
DRAWING DATE: MARCH 2018  
DRAWING FILE NAME:

COUNTY OF HUMBOLDT  
DEPARTMENT OF PUBLIC WORKS  
CALIFORNIA REDWOOD COAST  
HUMBOLDT COUNTY AIRPORT  
AIRPORT LAYOUT PLAN

SHEET  
2  
OF  
16

**EXISTING FACILITY LEGEND**

- 1 Airline Terminal
- 2 Airline Parking Apron (180,000 SF)
- 3 Kodak Hangar
- 4 Rental Car Return and Pickup
- 5 Transient Aircraft Parking Apron (100,000 SF)
- 6 Fuel Farm
- 7 County Storage
- 8 ARFF Facility
- 9 General Storage
- 10 County Storage
- 11 Terminal Auto Parking
- 12 U.S. Coast Guard S.A.R. Base
- 13 Trap and Sheet Club
- 14 County Animal Shelter
- 15 T-Hangers (17,42 doors)
- 16 Box Hanger (1,50x50)
- 17 County Corporation Yard
- 18 Localizer
- 19 Localizer Equipment Building
- 20 PAPI (4 Light) Runway 14
- 21 Runway Visual Range (RVR), Runway 32 Rollout
- 22 VOR
- 23 Segmented Circle & Wind Cone
- 24 Automated Surface Observing System (ASOS)
- 25 Lightning Strike Detector
- 26 Runway Visual Range (RVR), Runway 32 Touchdown
- 27 Glide Slope Antenna
- 28 PAPI (4 Light) Runway 32
- 29 MALSR Runway 32
- 30 VASI (4 Box) Runway 1
- 31 Retaining Wall
- 32 Runway 1 REILs
- 33 MALSR Runway 32: Middle Marker

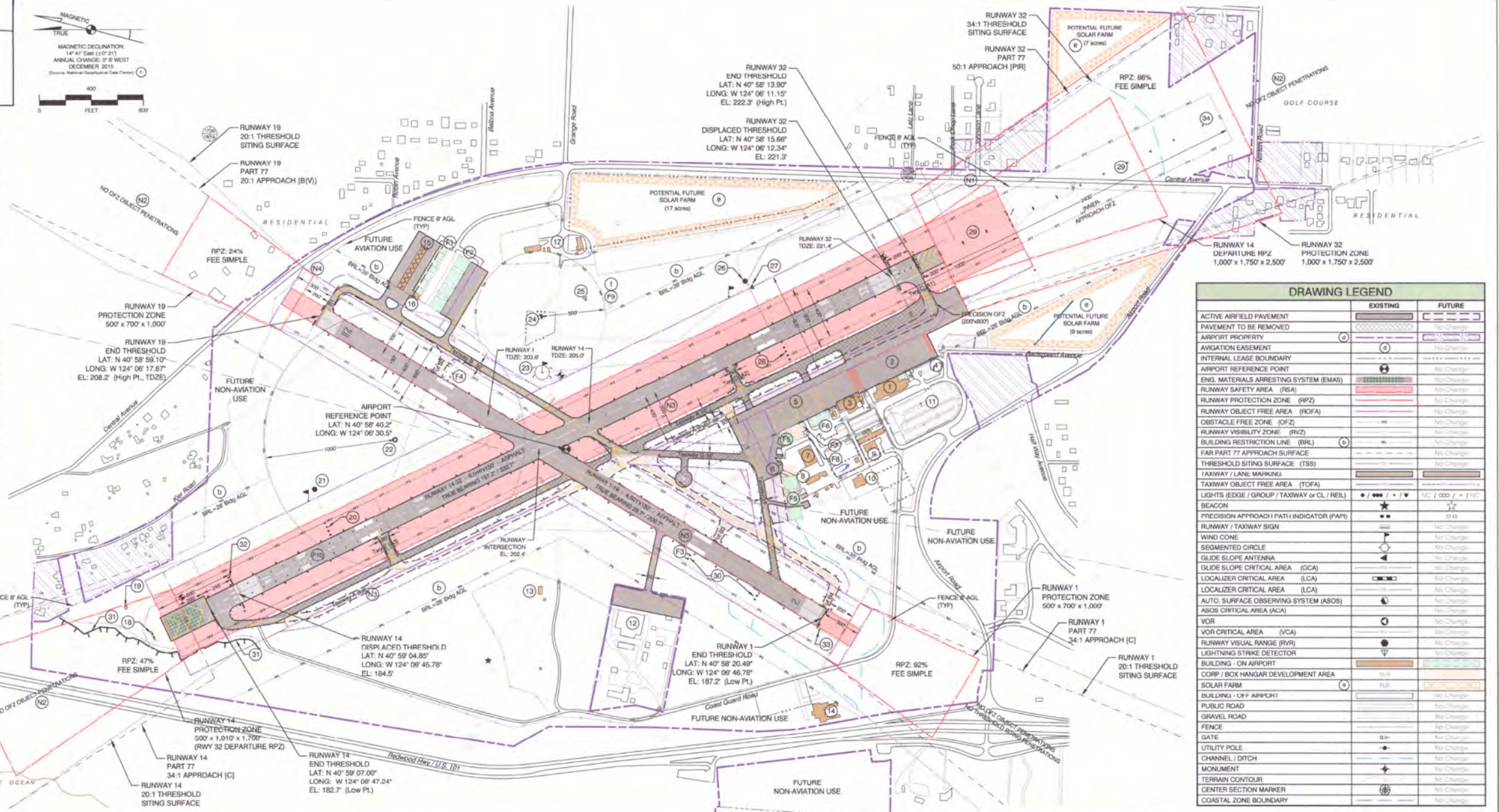
For facility elevations see Sheet 13, Terminal Area Plan

**FUTURE FACILITY LEGEND**

- 1 Box Hangers (50x50)
- 2 Executive Hangars (100x100)
- 3 Runway 1 PAPI
- 4 Runway 19 PAPI
- 5 Corporate Hangar Area
- 6 Aircraft Rescue and Fire Fighting (ARFF)
- 7 Electrical Vault
- 8 Relocated Beacon
- 9 Air Traffic Control Tower
- 10 Runway 14 Touchdown Zone Lights

**ALP NOTES**

- ALP prepared using design criteria from FAA Advisory Circulars 150/5300-13A Change 1, "Airport Design"; 150/5070-6A, FAA Standard Operating Procedures 2.00 and 3.00, and Part 77 of the Federal Aviation Regulations ("FAR", "Safe, Efficient Use, and Preservation of the Navigable Airspace").
- Taxiways to be renamed in accordance with FAA Engineering Brief No. 86.
- All coordinates NAD83 and all elevations NAVD83. Horizontal and vertical datum source: AGIS Survey, Woodport, March 2012.
- Building restriction line (BRL) based on composite of Part 77 transitional surfaces, taxiway object free areas (TOFA) and NAVAID critical areas. Allowable building heights above runway elevation lateral to BRL provided.
- Magnetic Declination source: National Geophysical Data Center, Runway 1-19 will be re-designated as 2-20 during next runway rehabilitation.
- Property and easement calculations based on property lines provided by Humboldt County. To view all future property and easements, see Exhibit 'A' Property Map and Airport Easements, Sheets 15 and 16.
- Future solar farm areas are conceptual sites, outside of runway design surfaces, approach areas, and clear of Part 77 transitional surface. Environmental review and FAA land use approval required.
- Aircraft control tower site selection conceptual. Full site selection analysis with line-of-sight evaluation recommended.



**DRAWING LEGEND**

	EXISTING	FUTURE
ACTIVE AIRFIELD PAVEMENT		
PAVEMENT TO BE REMOVED		
AIRPORT PROPERTY		
AVIATION EASEMENT		
INTERNAL LEASE BOUNDARY		
AIRPORT REFERENCE POINT		
ENG. MATERIALS ARRESTING SYSTEM (EMAS)		
RUNWAY SAFETY AREA (RSA)		
RUNWAY PROTECTION ZONE (RPZ)		
RUNWAY OBJECT FREE AREA (ROFA)		
OBSTACLE FREE ZONE (OFZ)		
RUNWAY VISIBILITY ZONE (RVZ)		
BUILDING RESTRICTION LINE (BRL)		
FAR PART 77 APPROACH SURFACE		
THRESHOLD SITING SURFACE (TSS)		
TAXIWAY / LANE MARKINGS		
TAXIWAY OBJECT FREE AREA (TOFA)		
LIGHTS EDGE / GROUP / TAXIWAY or CL / REIL		
BEACON		
PRECISION APPROACH (PAPI) INDICATOR (PAPI)		
RUNWAY / TAXIWAY SIGN		
WIND CONE		
SEGMENTED CIRCLE		
GLIDE SLOPE ANTENNA		
GLIDE SLOPE CRITICAL AREA (GCA)		
LOCALIZER CRITICAL AREA (LCA)		
LOCALIZER CRITICAL AREA (LCA)		
AUTO. SURFACE OBSERVING SYSTEM (ASOS)		
ASOS CRITICAL AREA (ACA)		
VOR		
VOR CRITICAL AREA (VCA)		
RUNWAY VISUAL RANGE (RVR)		
LIGHTNING STRIKE DETECTOR		
BUILDING - ON AIRPORT		
CORP / BOX HANGAR DEVELOPMENT AREA		
SOLAR FARM		
BUILDING - OFF AIRPORT		
PUBLIC ROAD		
GRAVEL ROAD		
FENCE		
GATE		
UTILITY POLE		
CHANNEL / DITCH		
MONUMENT		
TERRAIN CONTOUR		
CENTER SECTION MARKER		
COASTAL ZONE BOUNDARY		

**NON-STANDARD CONDITIONS**

EXISTING CONDITION	DISPOSITION
10 Runway object free area (ROFA) at approach end of Runway 32 is substandard in length due to fence and Central Avenue.	No change proposed. As part of Runway 14-32 runway safety area (RSA) improvement project (2008) EMAS was installed at the approach end of Runway 14 and declared distances were established to maintain runway length for commercial operations.
20 Threshold siting surface (TSS) penetrations exist in approaches for Runways 14, 19 and 32. See Airspace Plan (Sheets 4 through 9) for more information on objects and penetrations.	All obstructions to be lowered or removed; no runway threshold displacement proposed. Succeeding "Obstruction Removal Plan" will provide more detail on scope and timeline of obstruction removal.
30 Taxiway A centerline to runway centerline separation equals 300 feet.	Realign Taxiway A to C-III design standard of 400 feet centerline separation.
40 Fence located within ROFA at approach end of Runway 19.	Fence to be realigned outside of ROFA. No change in Runway threshold proposed.
50 Runway 1-19 is 150 feet wide, greater than standard for B-II RDC.	No change proposed. At an isolated Part 139 airport, retaining the width helps keep airline service active when Runway 14-32 is closed due to accident or construction.

SOURCE: Mead & Hunt, 2018

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-2**  
Airport Layout Plan  
California Redwood Coast – Humboldt County Airport



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## G.2.3 Airport Activity

**Table G-2** summarizes existing airport activity at the Airport as identified in the 2005 Master Plan and characterized on the ALP. There are currently 15 aircraft based at the Airport, including single-engine propeller aircraft, multi-engine propeller aircraft, turbine aircraft, and helicopters. Historically, only a small number of aircraft have been based at the Airport. As of 2005, the Coast Guard has four Aerospatiale Dauphin helicopters based at their facility at the Airport. Although technically not a part of the Airport, Coast Guard operations are an integral part of the aeronautical role of the Airport. There were approximately 42,074 operations at the Airport in 2017, roughly split 55 percent to 45 percent between local and itinerant operations.

As stated in Section G.2.2, the Airport is situated on a bluff overlooking the Pacific Ocean. Fog is a common occurrence and is often dense enough to reduce visibility below instrument approach minimums. When visibility is below minimums, the Airport is effectively closed to commercial flights. Prevailing winds are from the northwest. Ideally, an airport's runway orientation will provide maximum headwind and minimum crosswind components. FAA guidelines establish that the orientation of an airport's runway or runways should provide at least 95 percent wind coverage. The majority of arrivals and departures are to/from Runway 32. Helicopter traffic is typically with the Coast Guard and operates from the Runway 19 for takeoffs, and Runway 1 for landings.

**TABLE G-2**  
**AIRPORT FACILITIES SUMMARY – HUMBOLDT COUNTY AIRPORT**

<b>Airside Facilities</b>	
<b>Runways</b>	<b>Description</b>
Runway Designation	Runway 14-32
Airport Reference Code (ARC)	C-III
Critical Design Aircraft	CRJ-200 / Q-400
Runway Dimensions	6,046 feet x 150 feet
Pavement Strength (1,000 lbs.) – S / D / DT	60 / 155 / 280 lbs.
Runway Lighting / Visual Approach Aids	HIRL / CL, Beacon, TVOR, DME, NDB, GPS, Seg, Circle ILS, ALS
Taxiways	Full-length parallel taxiway (Taxiway A)  The parallel taxiway to Runway 14-32 has five exit taxiways one at each runway end, two towards the middle of the runway, and one close to where Runway 1-19 crosses the runway.  Widths between 40 and 60 feet
<b>Runway Designation</b>	<b>Runway 1-19</b>
Airport Reference Code (ARC)	B-II
Critical Design Aircraft	King Air
Runway Dimensions	4,501 feet x 150 feet
Pavement Strength (1,000 lbs.) – S / D / DT	60 / 95 / 170 lbs.
Runway Lighting / Visual Approach Aids	MIRL, Beacon, VOR, DME, NDB, GPS, Seg, Circle ILS, ALS

**TABLE G-2  
AIRPORT FACILITIES SUMMARY – HUMBOLDT COUNTY AIRPORT**

<b>Runway Designation</b>	<b>Runway 1-19</b>				
Taxiways	Mid-length parallel taxiway (Taxiway B) The parallel taxiway to Runway 1-19 has one exit taxiway at the Runway 19 end and one exit taxiway at the middle of the runway. Widths between 40 and 60 feet				
Heliport/Helipad	None				
<b>Approach Protection</b>	<b>Description</b>				
Runway Protection Zones (RPZs)	<ul style="list-style-type: none"> <li>Runway 14 500' x 1,010' x 1,700', 34:1 Approach Slope</li> <li>Runway 32 1,000' x 2,500' x 1,750', 50:1 Approach Slope</li> </ul>				
Approach Obstacles	None				
<ul style="list-style-type: none"> <li>Runway 1 500' x 1,000' x 700', 34:1 Approach Slope</li> <li>Runway 19 500' x 1,000' x 700', 20:1 Approach Slope</li> </ul>					
Approach Obstacles	None				
<b>Traffic Patterns and Approach Procedures</b>	<b>Description</b>				
Aircraft Traffic Patterns	<ul style="list-style-type: none"> <li>Runway 14 Right</li> <li>Runway 32 Left</li> </ul>				
Pattern Altitude	1,200 feet above airport elevation				
<ul style="list-style-type: none"> <li>Runway 1 Left</li> <li>Runway 19 Right</li> </ul>					
<b>Instrument Approach Procedures</b>	<b>Type</b>	<b>Navigational Aids</b>	<b>Aircraft Category</b>	<b>Minimums</b>	
Runway 32 – ILS/DME precision approach	ILS	GPS	All	220'	1/2 mile
	Circling	GPS/NDB	A, B	658'	1 mile
Runway 01 – VOR/GPS/DME non-precision approach	LPV/VNAV	GPS	All	666'	1 mile
	Circling	GPS/NDB	A, B	858'	1 mile
Runway 14 – VOR/GPS non-precision approach	LPV/VNAV	GPS	All	250'	1 mile
GPS/NDB nonprecision (circle-to-land) approach	Circling	GPS	A, B	598'	1 mile
<b>Landside Facilities</b>					
<b>Building Area</b>	<b>Description</b>				
Aircraft Parking Location	South side				
Hangar Spaces	3 hangars on the south side				
Tie-Down Spaces	12 on the south side				

**TABLE G-2**  
**AIRPORT FACILITIES SUMMARY – HUMBOLDT COUNTY AIRPORT**

<b>Services</b>	<b>Description</b>
Fuel	100LL, Jet A

## NOTES:

AGL = Above Ground Level  
DME= Distance Measuring Equipment  
S = Single Wheel Landing Gear  
D = Dual Wheel Landing Gear  
DT = Dual Tandem Landing Gear  
GPS = Global Positioning System  
LOC = Localizer  
MIRL= Medium Intensity Runway Lights  
MSL = Mean Sea Level

REIL = Runway Edge Indicator Lights  
RNAV = Area Navigation  
VASI = Visual Approach Slope Indicator  
VOR = Very High Frequency Omnidirectional Radio Range

Source: California Redwood Coast – Humboldt County Airport Layout Plan, 2018.

## G.2.4 Forecast Airport Activity

California state law requires that the Airport Land Use Compatibility Plans (ALUCPs) must be based on a long-range Airport Master Plan or an ALP that forecasts anticipated growth at an airport for the next 20 years. For purposes of this ALUCP update, the 2005 Airport Master Plan 20-year (2024) forecast, the FAA’s Terminal Area Forecast (TAF), and input from County staff were used to characterize future airport activity. A total of 40 aircraft were forecast to be based at the Airport over the 20-year forecast period of the Master Plan, including 15 single-engine propeller aircraft, five multi-engine propeller aircraft, sixteen turbine aircraft, and 4 helicopters. Approximately 62,600 annual operations were forecasted at the Airport in 2024.

**Table G-3** summarizes forecasted airport activity at the Airport, including the Master Plan forecast for 2024 and the updated assumptions for 2039. The total amount of based aircraft is assumed to remain similar to existing conditions over the 20-year forecast period. However, there was a reduction on the estimated operations from the Master Plan, with approximately 42,074 annual operations in 2017, and approximately 42,312 annual operations forecasted at the Airport in 2039.

**TABLE G-3**  
**AIRPORT ACTIVITY DATA – CALIFORNIA REDWOOD COAST –HUMBOLDT COUNTY AIRPORT**

<b>Based Aircraft</b>	<b>Master Plan Conditions (2005)</b>	<b>Master Plan Future Conditions (2024)</b>
Single-engine prop	4	15
Multi-engine prop	0	5
<b>Based Aircraft</b>	<b>Master Plan Conditions (2005)</b>	<b>Master Plan Future Conditions (2024)</b>
Turbine/Jet	1	16
Helicopter	4	4
Other <sup>1</sup>	0	0
<b>Total</b>	<b>9</b>	<b>40</b>

**TABLE G-3**  
**AIRPORT ACTIVITY DATA – CALIFORNIA REDWOOD COAST –HUMBOLDT COUNTY AIRPORT**

Aircraft Operations	Existing Conditions (2017)		Future Conditions (2039)	
	Number of Operations	Percentage by Aircraft Type	Number of Operations	Percentage by Aircraft Type
Single-engine prop	4,830	11.5%	4,830	11.4%
Multi-engine prop	5,754	13.7%	5,754	13.6%
Turbine/Jet	5,740	13.6%	5,978	14.1%
Helicopter	27,750	61.2%	25,750	60.9%
Other <sup>1</sup>	0	0.00%	0	0.00%
<b>Total</b>	<b>42,074</b>	<b>100.00%</b>	<b>42,312</b>	<b>100.00%</b>

Aircraft Type	Existing Conditions (2017)				Future Conditions (2039)			
	Percentage of Takeoffs				Percentage of Landings			
	Rwy 14	Rwy 32	Rwy 1	Rwy 19	Rwy 14	Rwy 32	Rwy 1	Rwy 19
Single-engine prop	5.0	80.0	10.0	5.0	5.0	80.0	10.0	5.0
Multi-engine prop	5.0	85.0	5.0	5.0	5.0	85.0	5.0	5.0
Turbine/Jet	5.0	92.0	--	3.0	5.0	92.0	--	3.0
Helicopter	--	--	--	100.0	--	25.0	75.0	--
Other <sup>1</sup>	5.0	95.0	--	--	--	--	5.0	95.0

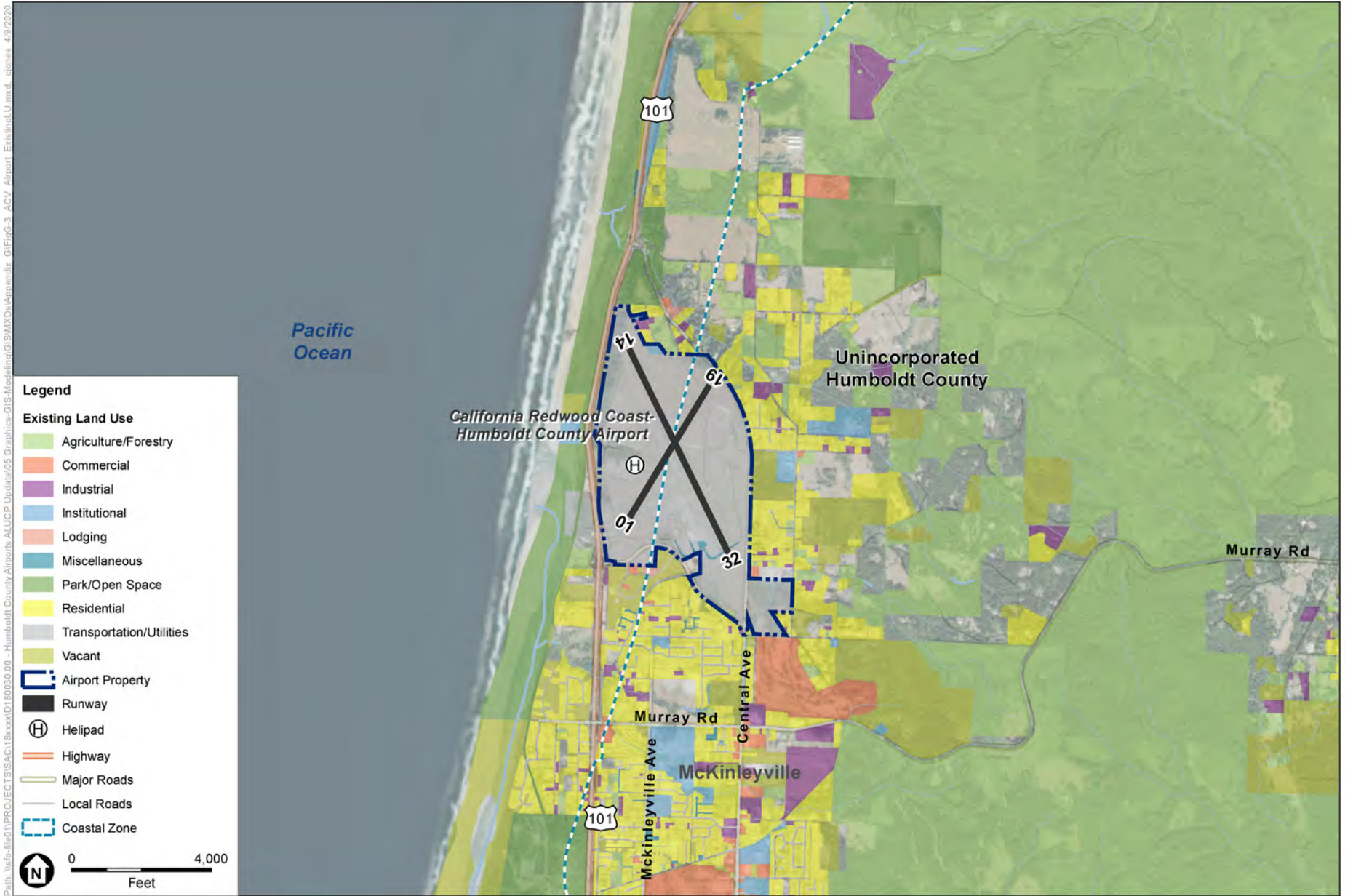
## NOTES:

<sup>1</sup> Other = lighter than air, gliders, or home-built aircraft.

Source: FAA TAF, 2018; Arcata-Eureka Airport Master Plan Report, 2005; California Redwood Coast – Humboldt County Airport Layout Plan, 2018.

## G.2.5 Airport Environs

**Figure G-3** depicts existing land use in the area surrounding the Airport. **Figure G-4** depicts general plan land use in the area surrounding the Airport. Land use around the Airport is varied.

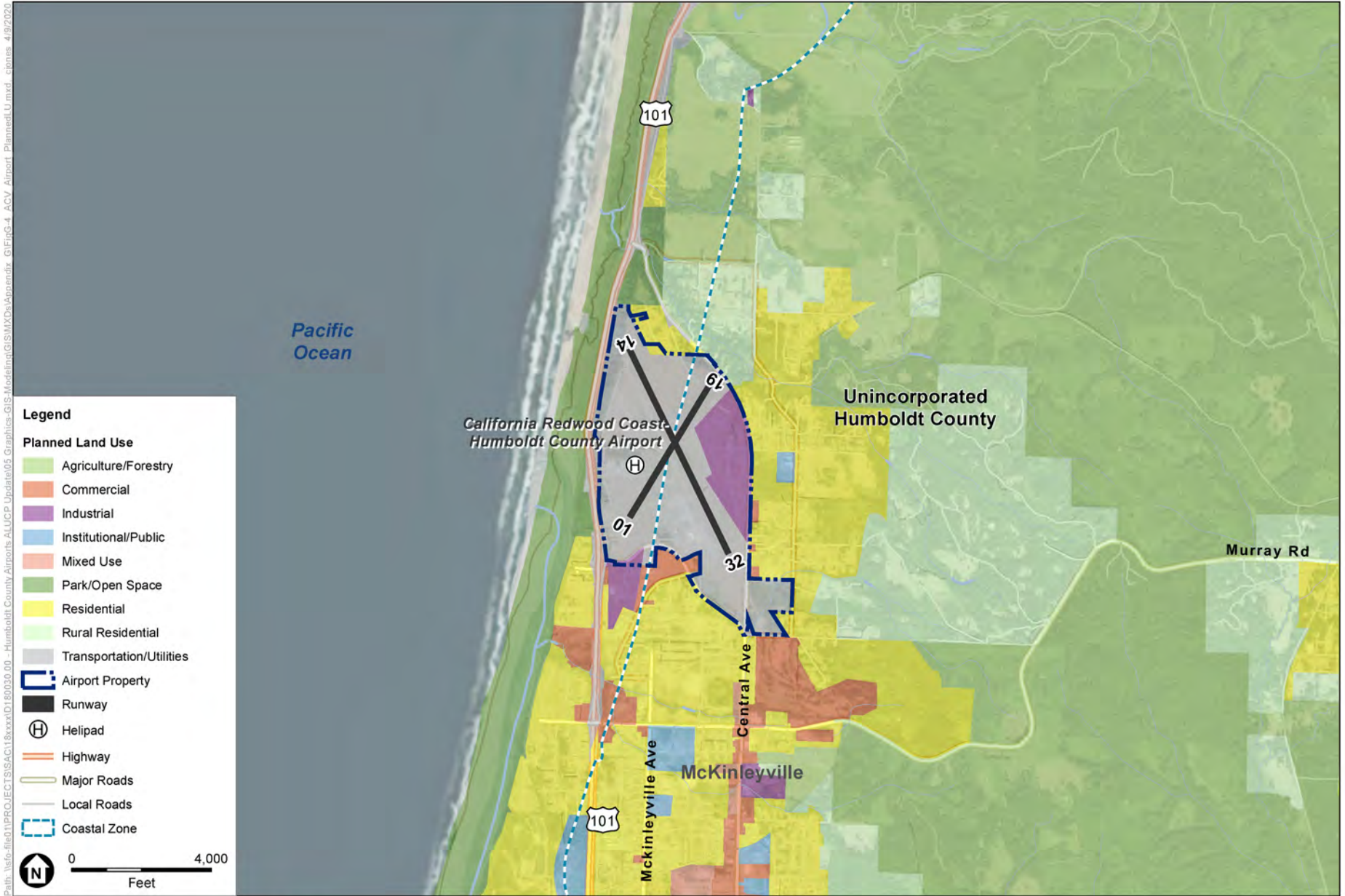


SOURCE: ESA, 2018; DigitalGlobe, October 2017; County of Humboldt, January 2019; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-3**  
Existing Land Use  
California Redwood Coast-Humboldt County Airport





SOURCE: ESA, 2018; DigitalGlobe, October 2017; County of Humboldt, June 2019; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-4**  
**Planned Land Use**  
 California Redwood Coast-Humboldt County Airport



To the west, between the Pacific Ocean and the Airport property are areas designated for open space and natural resource uses. General commercial uses are predominantly found to the south, with rural and low-density residential uses to the north and east. The Trinidad Rancheria owns a parcel designated as Off-Reservation Trust Land west of the Airport. The US Coast Guard Sector Humboldt Bay Air Station is located on Airport, as is the Humboldt County Animal Shelter.

## G.2.6 Compatibility Factors

The four compatibility factors depicted on the following figures were developed following guidance provided in the California Department of Transportation’s (Caltrans) Division of Aeronautics Airport Land Use Compatibility Handbook (Caltrans Handbook) and represent operating conditions specific to the Airport. Each compatibility factor is further discussed below.

### Noise Compatibility Data

**Figure G-5** shows future conditions noise contours and generalized flight paths by operation type. As discussed above, the updated forecast estimates 42,312 annual operations, or approximately 116 annual average daily operations under 2039 conditions.

### Safety Compatibility Data

**Figure G-6** shows the proposed safety zones and generalized flight paths by operation type for the Airport. The safety zones were developed based on guidance provided in the Caltrans Handbook, which includes dimensions for “generic” safety zones. These generic safety zones are geometric shapes representing areas of progressive degree of risk for aircraft accident based on statistical analysis of accident locations. Typically, the closer to the runway end, the higher the risk for an accident. While the number of safety zones at an airport may vary based on the Airport’s unique operating conditions, the Handbook provides guidance for up to six safety zones, which are defined as follows:

- Safety Zone 1 (Runway Protection Zone)
- Safety Zone 2 (Inner Approach/Departure Zone)
- Safety Zone 3 (Inner Turning Zone)
- Safety Zone 4 (Outer Approach/Departure Zone)
- Safety Zone 5 (Sideline Zone) and
- Safety Zone 6 (Airport Traffic Pattern Zone)

Safety zones for the Airport were developed by selecting the appropriate set of generic safety zones from the examples provided in the Caltrans Handbook and then overlaying them on the runways. Where necessary, adjustments were made to the safety zones to reflect the unique operating conditions at the Airport. As shown on Figure G-6, generalized traffic patterns developed for noise modeling purposes were used in delineating the safety zones at the Airport.

The safety zones for Runway 1-19 were based on *Example 2: Medium General Aviation Runway*, included in the Handbook. Aircraft operations at the Airport are almost entirely restricted to the

north side of the Airport, with all departures restricted to the north and one circling approach to Runway 25 operating downwind south of the runway. *Example 2* also assumes a runway length of between 4,000 and 5,999 feet, approach visibility minimums greater than or equal to  $\frac{3}{4}$  a mile but less than a mile, and RPZs of 1,000 feet by 1,510 feet by 1,700 feet. The safety zones for Runway 14-32 were based on *Example 3: Long General Aviation Runway*, as prescribed by the Caltrans Handbook. *Example 3* corresponds to runways 6,000 feet or greater in length. Both instrument approaches in use at the Airport have approach visibility minimums of one mile and the RPZ for Runway 32 is consistent with the dimensions included in *Example 2*. Safety Zone 3 west of the Runway 32 end was eliminated because there are no aircraft operations turning to or from that direction. No other adjustments were made to the safety zones.

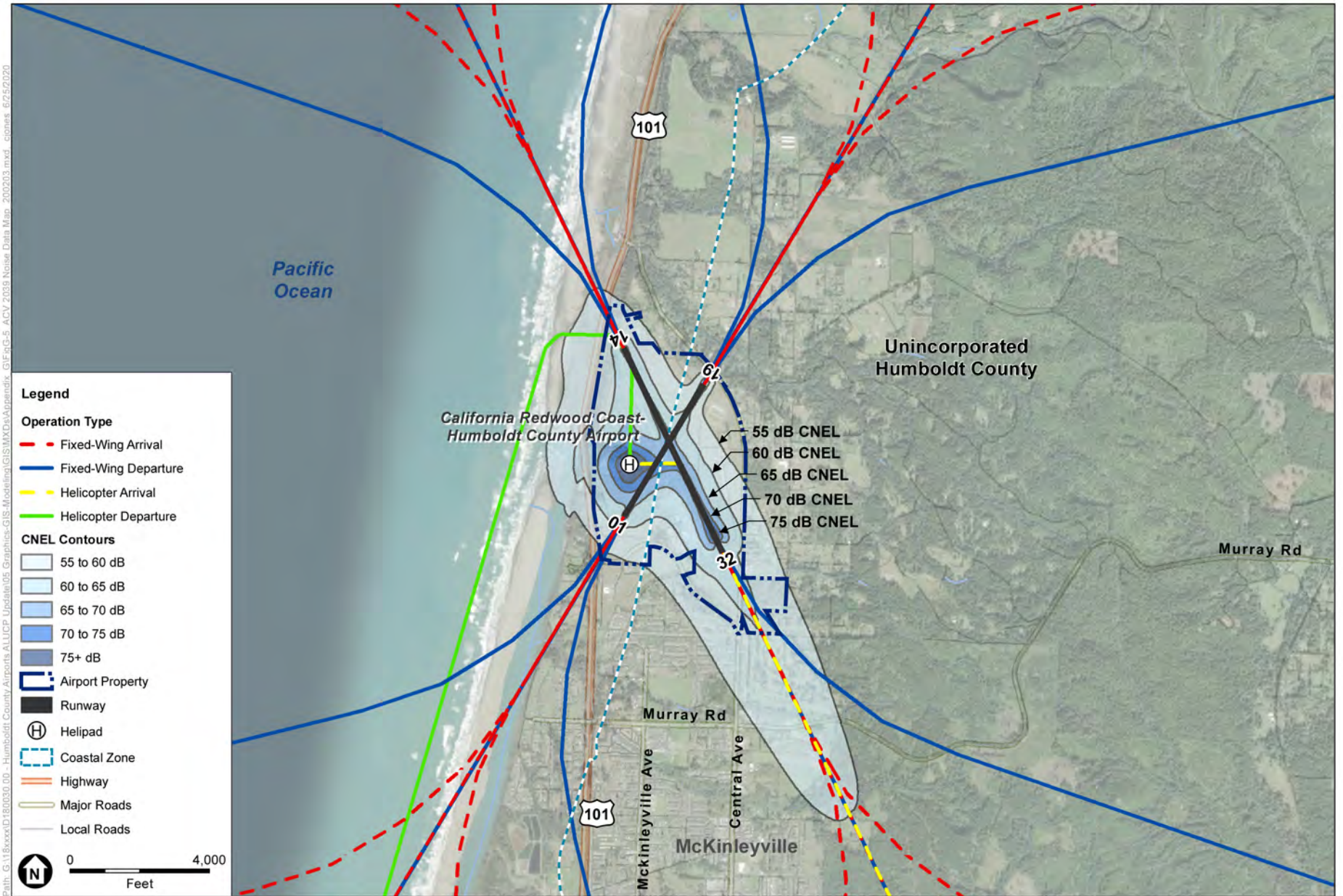
## 14 CFR Part 77 Airspace Compatibility Data

**Figure G-7** depicts the 14 CFR Part 77 (Part 77) airspace surfaces for the Airport as shown in the ALP. Part 77 airspace surfaces reflect areas around airports determined by FAA regulations that should be protected from obstructions into the airspace that may interfere with the safe operation of aircraft. The current airport elevation is 221.3 feet MSL. The Part 77 airspace surfaces included in the current ALP/Master Plan are based on this elevation.

## Overflight Compatibility Data

**Figure G-8** shows the overflight notification area, generalized flight paths, safety zones, and conical surface for the Airport. The overflight notification area includes all areas covered by the Airport's Safety Zones as well as flight tracks used to model aircraft noise for the ALUCP. General corridors centered on the traffic pattern flight tracks were created to account for normal dispersion in aircraft operations. The generalized flight corridors extend to the outer boundary of the Airport's Part 77 conical surface.





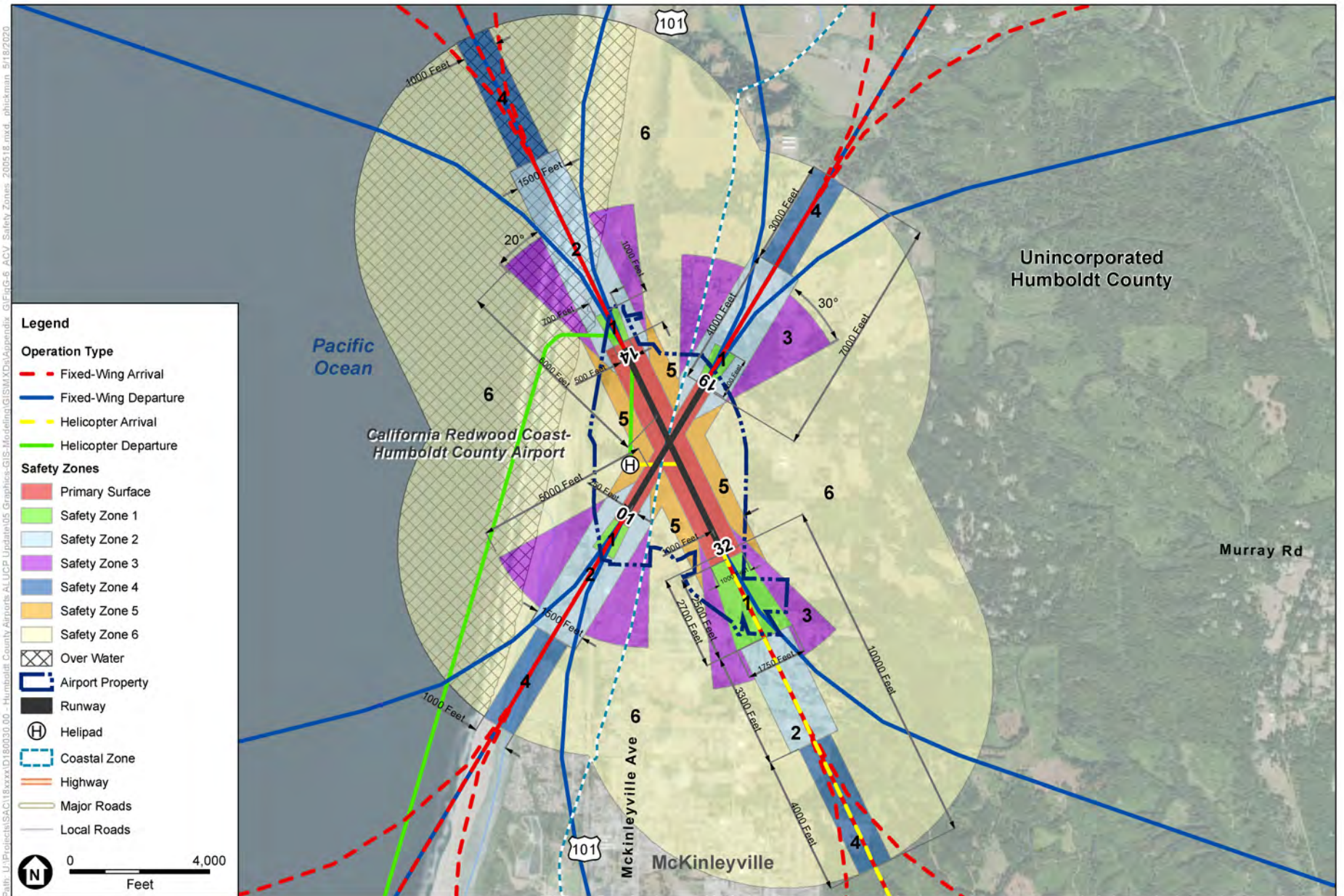
SOURCE: AEDT 2d; ESA, 2018; DigitalGlobe, October 2017; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-5**

Noise Data Map

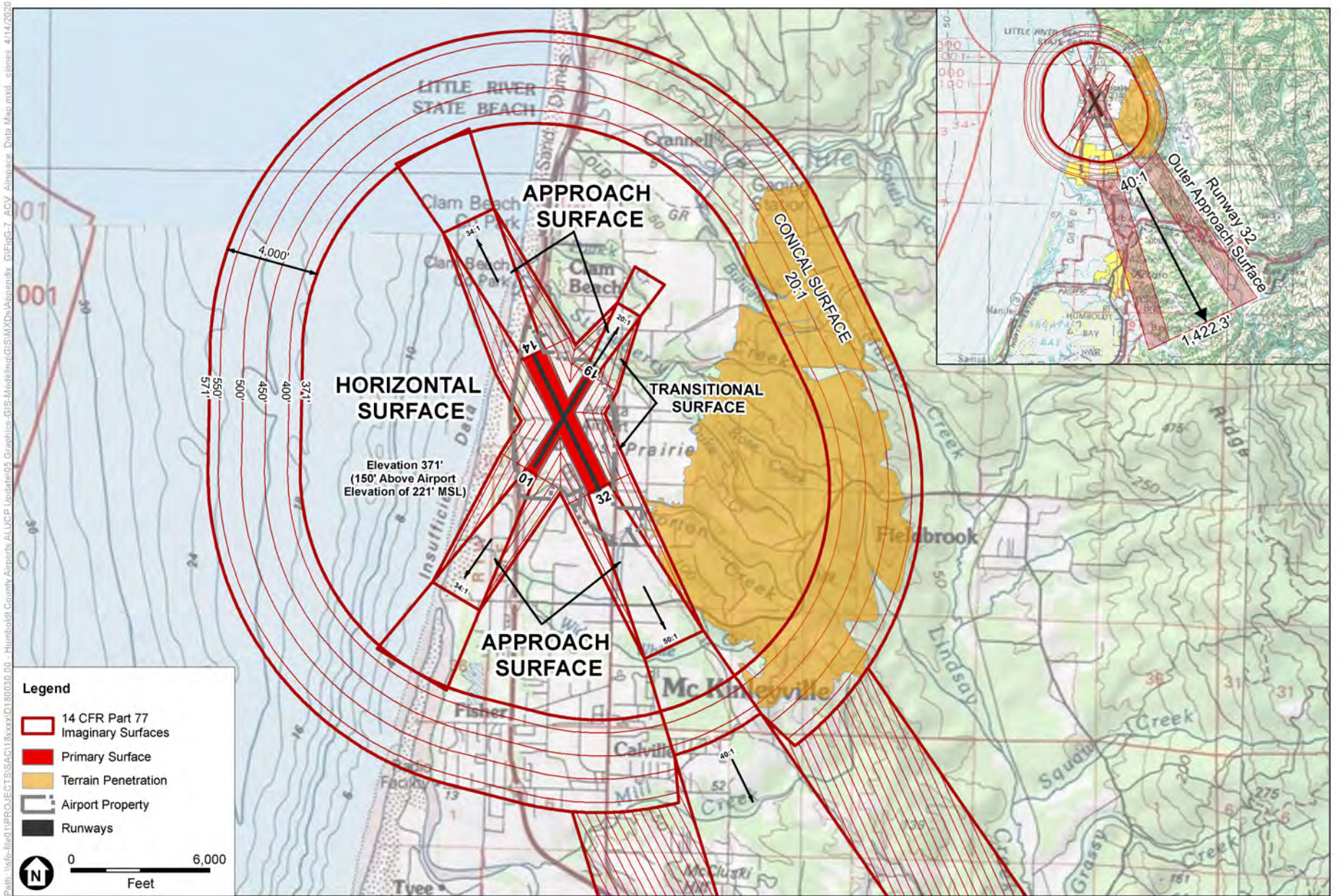
California Redwood Coast-Humboldt County Airport



SOURCE: AEDT 2d; ESA, 2018; DigitalGlobe, October 2017; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-6**  
 Safety Zones Data Map  
 California Redwood Coast-Humboldt County Airport



SOURCE: USDOT, FAA 14 CFR Part 77, Safe, Efficient Use and Preservation of Navigable Airspace, July 21, 2010; ESA, 2018

Humboldt County Draft Airport Land Use Compatibility Plan

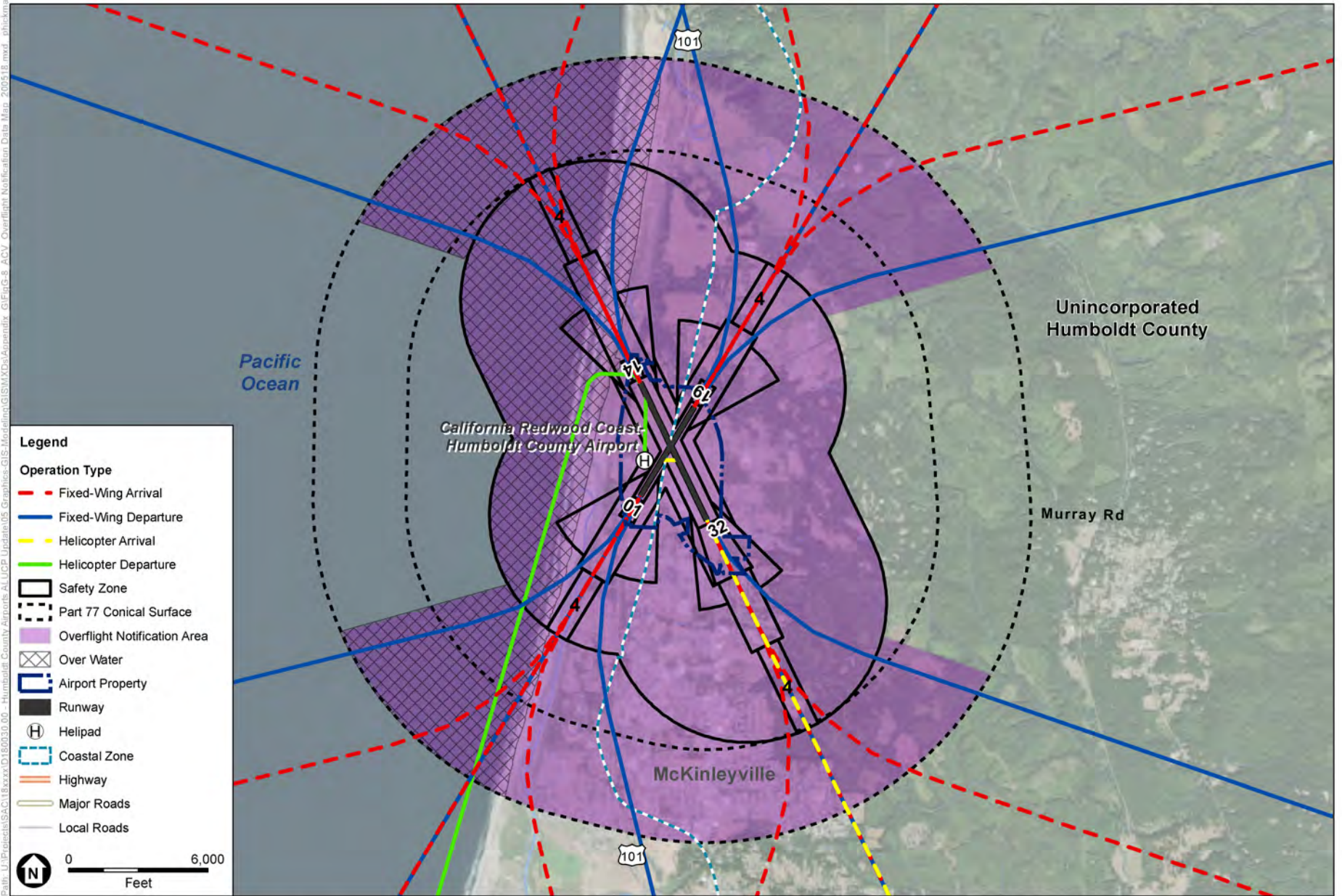
**Figure G-7**

Airspace Protection Data Map

California Redwood Coast - Humboldt County Airport



Path: U:\Projects\SAC\18xxxx\1800030.00 - Humboldt County Airports\ALUCP Update\05\_Graphics\GIS\XData\Appendix\_G\FigG-8\_ACV\_Overflight Notification Data Map\_200518.mxd\_ehickman 5/18/2020



SOURCE: AEDT 2d; ESA, 2018; DigitalGlobe, October 2017; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-8**  
Overflight Notification Area Data Map  
California Redwood Coast-Humboldt County Airport



## G.3 Dinsmore Airport

The following sections describe Dinsmore Airport (D63 or Airport), including a description of the Airport location, surrounding land uses, Airport facilities, and existing and projected operational activity at the Airport.

### G.3.1 Airport Background

Dinsmore Airport is located about a quarter mile east from the unincorporated community of Dinsmore. The Airport is within Kuntz Canyon and near Burr Valley. The boundary between Trinity and Humboldt Counties lies approximately two and three quarter miles east of the Airport. The Van Duzen River and Mill and Sulphur Creeks meander near the airport's southerly boundary. In addition, with the proximity to rapidly rising terrain, the use of non-standard arrival and departure patterns is necessary. **Figure G-9** presents an aerial view of the Airport and the immediate surrounding area.

The Airport was opened in September 1956. The basic airport configuration has remained essentially the same since the Airport's original construction. As of 2018, the Airport is operated as a public facility and has a public use permit issued by Caltrans to operate as a GA airport. **Table G-4** provides a summary of Airport background information.

**TABLE G-4**  
**AIRPORT BACKGROUND SUMMARY –DINSMORE AIRPORT**

<b>General Information</b>	<b>Description</b>
Airport Ownership	Public
Year Opened	1956
Airport Property Size	426 Acres
Airport Classification	General Aviation
Airport Elevation	2,392 feet MSL
<b>Airport Planning Documents</b>	<b>Description</b>
Airport Master Plan	Yes, 2007
Airport Layout Plan	Yes, 2007
<b>Planned Facility Improvements</b>	<b>Description</b>
Airside	None
Landside	None

NOTES:

MSL = Mean Sea Level

Source: FAA Airport Master Record, Dinsmore Airport, January 2007.

Path: \\efo01\PROJECTS\SAC\118xxxx\101800030.00 - Humboldt County Airports ALLCP Update\05\_Graphics-GIS-Modeling\GISMXDs\Appendix\_GIF\IG-9\_Dinsmore\_Airport\_Environs.mxd, clones\_4/13/2020



SOURCE: AEDT 2d; ESA, 2018; DigitalGlobe, June 2016; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-9**  
Airport Environs  
Dinsmore Airport



### G.3.2 Airport Characteristics

The Airport property is 426 acres in size and has one runway, Runway 9-27, which is an asphalt runway, 2,504 feet long by 50 feet wide. The pavement strength at the Airport has a load-bearing capacity to accommodate aircraft weighing up to 12,500 pounds with main landing gear in a single-wheel configuration. It is oriented roughly east-west and operates during the day only, with no night operations. Aircraft parking is located at the east and west apron areas north of each runway end. Developed land on the Airport is dedicated to apron and runway pavement. Based on the Master Plan, the pavement at Dinsmore Airport was approximately 15 years old in 2007. A visual inspection of the pavement conditions revealed that the airfield pavement was in poor condition at the time, and the Master Plan recommended rehabilitation and repair of the airfield pavement as part of the proposed airport improvements.

Dinsmore Airport is classified as a GA airport in the NPIAS as well as the CASP, with the CASP classifying Dinsmore in the Limited Use Airport sub-category. The Master Plan identified D63 as an ARC B-I (small) facility with the majority of aircraft operating at Dinsmore Airport being single-engine piston aircraft. The most demanding class of aircraft regularly using the Airport (defined by the FAA as more than 500 annual operations) is the Cessna Skyhawk. Therefore, for design purposes, the Cessna Skyhawk is considered the Airport's critical aircraft. The Airport property is made up of 23 acres of fee simple land and 426 acres of avigation easement.

The Master Plan states that the Dinsmore Airport does not have a parallel taxiway for Runway 9-27 and instead uses an aircraft parking limit (APL) line which is established to define the appropriate location of aircraft parking positions. Typically, when a taxiway does not exist, the APL is established to prevent any part of a parked airplane (tail, wingtip, nose, etc.) from being within the runway OFA or penetrating the OFZ. At Dinsmore Airport, the APL is set 125 feet from the centerline of the runway. The Master Plan notes that there are six tie-downs, with three of those being within the APL, and three additional tie-down spaces anticipated in the future. ALP notes that there is one off airport hangar unit with a total of seven hangar units on site anticipated for the future.

The ALP is depicted on **Figure G-10**.

The Airport does not operate an ATCT. Visual aids at the Airport include a segmented circle, and wind indicator. The Airport may never have lighted runways because of nearby terrain obstructions.

Due to the mountainous terrain along the runway approaches, current Approach/Departure procedures to/from Dinsmore Airport are conducted as follows:

#### Runway 27

- Approach— Aircraft arrive from the southeast along the Van Duzen River. Approximately 2,000 feet out, aircraft require a 25degree left turn to final.

- Departure— Departing aircraft are required to turn 30 degrees to the left towards the Van Duzen River, through a cleared area. At the river, aircraft must turn 45 degrees to the right heading west over the canyon and follow the river out.

### **Runway 9**

- Approach— Aircraft arrive from the southwest along the Van Duzen River flying parallel to State Highway 36. Approximately 2,500 feet out, aircraft must turn 25 degrees to the left. Aircraft must pass a forested hill, make a rapid descent and turn 20 degrees right to final.
- Departure— Similar to the aircraft arrival path into Runway 27, an immediate 25-degree right turn is required after passing the far end of the runway.

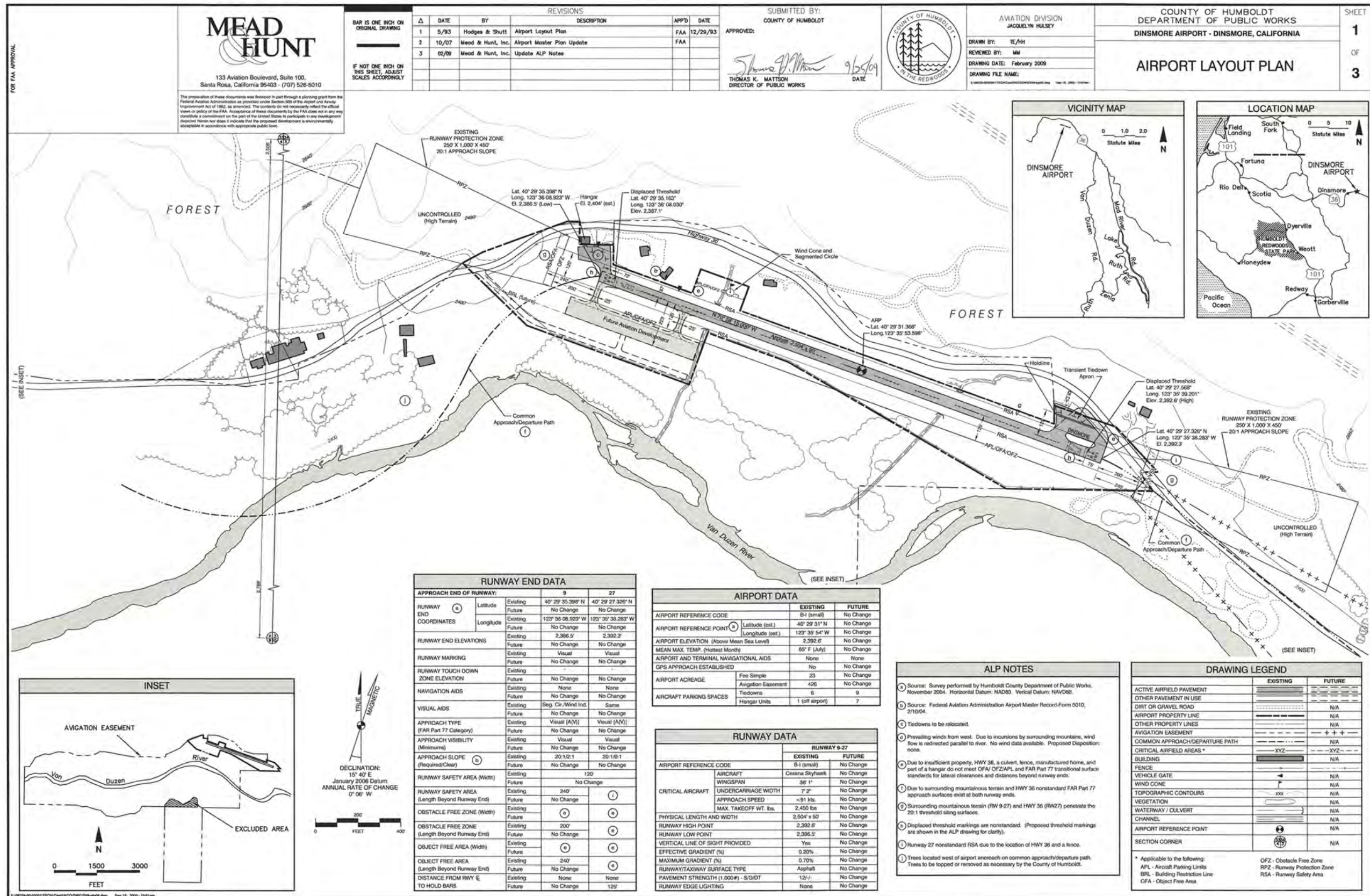
As previously mentioned, aircraft parking limit (APL) lines are established to define the appropriate location of aircraft parking positions. When a taxiway does not exist, the APL is established to prevent any part of a parked airplane (tail, wingtip, nose, etc.) from being within the runway OFA or penetrating the OFZ. At Dinsmore Airport, the APL is set 125 feet from the centerline of the runway. The established APL on the north side of the Airport does not meet the FAA standard for an ARC B-I (small) facility.

The Airport's principal building is one hangar located north of Runway 9. The perimeter of Dinsmore Airport is entirely enclosed with cattle fence to prevent unauthorized entry of vehicles and pedestrians onto the airfield. Access to the active airfield is provided at both the west and east aprons via pedestrian and vehicle gates. Based on information from the Master Plan, one fixed-wing aircraft is based at Dinsmore Airport. There are 6 tie-down positions currently available at the Airport.

There is no airport terminal building and the Airport's automobile parking area off of Highway 36 provides direct access to Dinsmore Airport. This two-lane road leads to a gravel parking area, located immediately north of the west apron. A gravel driveway off of Highway 36 leads to the east apron.

The County updated the Airport's Master Plan, including the ALP, in September 2007. Information provided on the approved ALP (and described in the Airport Master Plan Update) was used to prepare this document. The planned improvements to the Airport shown in the Master Plan and on the ALP include a 20-year plan that discusses sites for future rehabilitation and reconstruction of the runway, ramp, storm drain, as well as fencing and gates.





**MEAD HUNT**  
 133 Aviation Boulevard, Suite 100,  
 Santa Rosa, California 95403 - (707) 526-5010

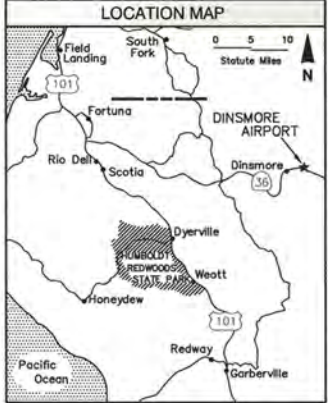
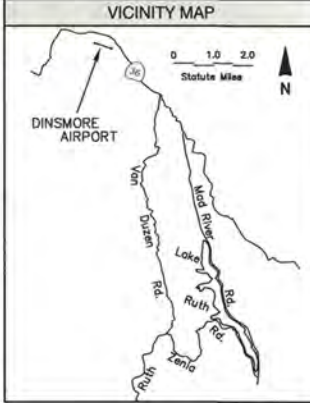
REVISIONS

Δ	DATE	BY	DESCRIPTION	APP'D	DATE
1	5/93	Hodges & Sturt	Airport Layout Plan	FAA	12/29/93
2	10/07	Mead & Hunt, Inc.	Airport Master Plan Update	FAA	
3	02/09	Mead & Hunt, Inc.	Update ALP Notes		

SUBMITTED BY:  
 COUNTY OF HUMBOLDT  
 APPROVED: *Thomas K. Mattson* 9/25/09  
 THOMAS K. MATTSO  
 DIRECTOR OF PUBLIC WORKS

AVIATION DIVISION  
 JACQUELYN HULSEY  
 DRAWN BY: TE/HH  
 REVIEWED BY: MM  
 DRAWING DATE: February 2009  
 DRAWING FILE NAME:

COUNTY OF HUMBOLDT  
 DEPARTMENT OF PUBLIC WORKS  
 DINSMORE AIRPORT - DINSMORE, CALIFORNIA  
**AIRPORT LAYOUT PLAN**  
 SHEET 1 OF 3



**RUNWAY END DATA**

APPROACH END OF RUNWAY:	9	27
RUNWAY END COORDINATES	Latitude: Existing 40° 29' 35.398" N, Future No Change; Longitude: Existing 123° 36' 08.923" W, Future No Change	Latitude: Existing 40° 29' 27.326" N, Future No Change; Longitude: Existing 123° 35' 38.283" W, Future No Change
RUNWAY END ELEVATIONS	Existing 2,385.3', Future No Change	Existing 2,392.3', Future No Change
RUNWAY MARKING	Existing Visual, Future No Change	Existing Visual, Future No Change
RUNWAY TOUCH DOWN ZONE ELEVATION	Existing None, Future No Change	Existing None, Future No Change
NAVIGATION AIDS	Existing Seg. Cir. Wind Ind., Future No Change	Existing None, Future No Change
VISUAL AIDS	Existing None, Future No Change	Existing None, Future No Change
APPROACH TYPE (FAR Part 77 Category)	Existing Visual (AV), Future No Change	Existing Visual (AV), Future No Change
APPROACH VISIBILITY (Minimum)	Existing Visual, Future No Change	Existing Visual, Future No Change
APPROACH SLOPE (Required/Clear)	Existing 20:1/2:1, Future No Change	Existing 20:1/0:1, Future No Change
RUNWAY SAFETY AREA (Width)	Existing 120', Future No Change	Existing 240', Future No Change
RUNWAY SAFETY AREA (Length Beyond Runway End)	Existing None, Future No Change	Existing 120', Future No Change
OBSTACLE FREE ZONE (Width)	Existing 200', Future No Change	Existing 200', Future No Change
OBSTACLE FREE ZONE (Length Beyond Runway End)	Existing None, Future No Change	Existing None, Future No Change
OBJECT FREE AREA (Width)	Existing 240', Future No Change	Existing 240', Future No Change
OBJECT FREE AREA (Length Beyond Runway End)	Existing None, Future No Change	Existing None, Future No Change
DISTANCE FROM RWY E TO HOLD BARS	Existing None, Future No Change	Existing 120', Future No Change

**AIRPORT DATA**

	EXISTING	FUTURE
AIRPORT REFERENCE CODE	B-1 (small)	No Change
AIRPORT REFERENCE POINT	Latitude (est.) 40° 29' 31" N, Longitude (est.) 123° 35' 54" W	No Change
AIRPORT ELEVATION (Above Mean Sea Level)	2,392.6'	No Change
MEAN MAX. TEMP. (Hottest Month)	85° F (July)	No Change
AIRPORT AND TERMINAL NAVIGATIONAL AIDS	None	None
GPS APPROACH ESTABLISHED	No	No Change
AIRPORT ACREAGE	Fee Simple 23, Avigation Easement 426	No Change
AIRCRAFT PARKING SPACES	Tiedowns 6, Hangar Units 1 (off airport)	9

**RUNWAY DATA**

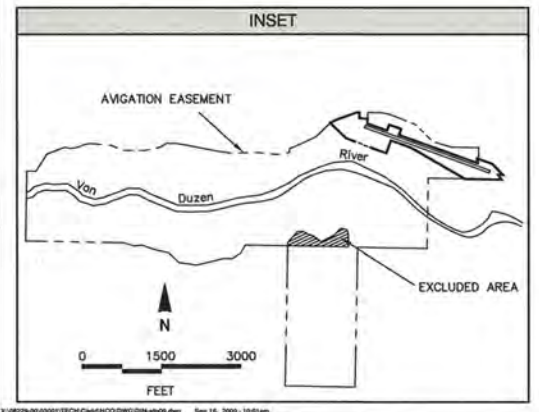
AIRPORT REFERENCE CODE	RUNWAY 9-27	
	EXISTING	FUTURE
AIRCRAFT WINGSPAN	Cessna Skylark 36' 1"	No Change
UNDERCARRIAGE WIDTH	7' 2"	No Change
APPROACH SPEED	<91 kts.	No Change
MAX. TAKEOFF WT. lbs.	2,450 lbs	No Change
PHYSICAL LENGTH AND WIDTH	2,504' x 50'	No Change
RUNWAY HIGH POINT	2,392.6'	No Change
RUNWAY LOW POINT	2,386.3'	No Change
VERTICAL LINE OF SIGHT PROVIDED	Yes	No Change
EFFECTIVE GRADIENT (%)	0.20%	No Change
MAXIMUM GRADIENT (%)	0.70%	No Change
RUNWAY/TAXIWAY SURFACE TYPE	Asphalt	No Change
PAVEMENT STRENGTH (1,000#) - S/D/D/T	12/-	No Change
RUNWAY EDGE LIGHTING	None	No Change

- ALP NOTES**
- Source: Survey performed by Humboldt County Department of Public Works, November 2004. Horizontal Datum: NAD83. Vertical Datum: NAVD83.
  - Source: Federal Aviation Administration Airport Master Record-Form 5010, 2/10/04.
  - Tiedowns to be relocated.
  - Prevailing winds from west. Due to incursions by surrounding mountains, wind flow is restricted parallel to river. No wind data available. Proposed Disposition: none.
  - Due to insufficient property, HWY 36, a culvert, fence, manufactured frame, and part of a hangar do not meet OFA/OFZ/APL and FAR Part 77 transitional surface standards for lateral clearances and distances beyond runway ends.
  - Due to surrounding mountainous terrain and HWY 36 nonstandard FAR Part 77 approach surfaces exist at both runway ends.
  - Surrounding mountainous terrain (RW 9-27) and HWY 36 (RW27) penetrate the 20:1 threshold sloping surfaces.
  - Displaced threshold markings are nonstandard. (Proposed threshold markings are shown in the ALP drawing for clarity).
  - Runway 27 nonstandard RSA due to the location of HWY 36 and a fence.
  - Trees located west of airport encroach on common approach/departure path. Trees to be topped or removed as necessary by the County of Humboldt.

**DRAWING LEGEND**

	EXISTING	FUTURE
ACTIVE AIRFIELD PAVEMENT	---	---
OTHER PAVEMENT IN USE	---	---
DIRT OR GRAVEL ROAD	---	N/A
AIRPORT PROPERTY LINE	---	N/A
OTHER PROPERTY LINES	---	N/A
AVIGATION EASEMENT	---	---
COMMON APPROACH/DEPARTURE PATH	---	N/A
CRITICAL AIRFIELD AREAS *	---XYZ---	N/A
BUILDING	---	N/A
FENCE	---	N/A
VEHICLE GATE	---	N/A
WIND CONE	---	N/A
TOPOGRAPHIC CONTOURS	---	N/A
VEGETATION	---	N/A
WATERWAY / CULVERT	---	N/A
CHANNEL	---	N/A
AIRPORT REFERENCE POINT	---	N/A
SECTION CORNER	---	N/A

\* Applicable to the following:  
 OFZ - Obstacle Free Zone  
 APL - Aircraft Parking Limits  
 RPZ - Runway Protection Zone  
 RSA - Runway Safety Area



SOURCE: Mead & Hunt, 2009

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-10**  
 Airport Layout Plan  
 Dinsmore Airport



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### G.3.3 Airport Activity

The policies in Chapters 2 and 3 of this Compatibility Plan are based on the following primary sources: The Aeronautics Act, the ALP and the airport diagram for each of the Airports that are a subject of this Compatibility Plan and other State laws, regulations, and guidelines, including those in the California Airport Land Use Planning Handbook (Handbook) published by the Division of Aeronautics in October 2011. A copy of the Handbook is available for download on the Division of Aeronautics website at (<http://www.dot.ca.gov/hq/planning/aeronaut/documents/alucp/>).

**Table G-5** summarizes existing airport activity at the Airport as identified in the 207 Master Plan and characterized on the ALP. In 2005, there was one aircraft based at the Airport, which was a single-engine propeller aircraft. Historically, the number of aircraft at the Airport has remained relatively stable over the years, ranging between one aircraft in 1995 to one aircraft in 2005. There were approximately 1,580 operations at the Airport in 2005, roughly split as 63 percent itinerant, and 37 percent local.

Dinsmore Airport is located in a winding canyon associated with the Van Duzen River. Hills immediately adjacent to the Airport rise 1,000 feet above the runway elevation. Use of the Airport requires knowledge of mountain flying techniques and use of common (nonstandard) approach/departure paths. Prevailing winds are from the northwest and the majority of arrivals and departures are to/from Runway 27.

**TABLE G-5  
AIRPORT FACILITIES SUMMARY – DINSMORE AIRPORT**

<b>Airside Facilities</b>	
<b>Runways</b>	<b>Description</b>
Runway Designation	Runway 9-27
Airport Reference Code (ARC)	B-I (small)
Critical Design Aircraft	Cessna Skyhawk
Runway Dimensions	2,504 feet by 50 feet
Pavement Strength (1,000 lbs.) – S / D / DT	12.5 / - / - lbs.
Runway Lighting / Visual Approach Aids	None
Taxiways	No Taxiways
Heliport/Helipad	None
<b>Approach Protection</b>	<b>Description</b>
Runway Protection Zones (RPZs)	
• Runway 9	250' x 1,000' x 450', 20:1 Approach Slope
• Runway 27	250' x 1,000' x 450', 20:1 Approach Slope
Approach Obstacles	Runway 9: tree; 150-feet above runway end, 525-feet from runway end, 2:1 slope clearance Runway 27: road; 15-feet above runway end, 200-feet from runway end, 0:1 slope clearance.

**TABLE G-5**  
**AIRPORT FACILITIES SUMMARY – DINSMORE AIRPORT**

Traffic Patterns and Approach Procedures	Description				
Aircraft Traffic Patterns					
• Runway 9	Right				
• Runway 27	Left				
Pattern Altitude	3,275 feet MSL/900 feet AGL				
				<b>Minimums</b>	
Instrument Approach Procedures	Type	Navigational Aids	Aircraft Category	Ceiling (feet)	Visibility (miles/feet)
None	Visual	Seg Cir/Wind Cone	B-1	None	Visual or ¼ mile
<b>Landside Facilities</b>					
Building Area	Description				
Aircraft Parking Location	East and west apron areas north of each runway end.				
Hangar Spaces	1 hangar unit				
Tie-Down Spaces	6 transient and based				
Services					
• Fuel	None				
• Other	None				

## NOTES:

AGL = Above ground level  
DME= Distance measuring equipment  
S = Single wheel landing gear  
D = Dual wheel landing gear  
DT = Dual tandem landing gear  
GPS = Global Positioning System  
LOC = Localizer  
MIRL= Medium intensity runway lights  
MSL = Mean sea level

REIL = Runway edge indicator lights  
RNAV = Area navigation  
VASI = Visual Approach Slope Indicator  
VOR = Very high frequency omnidirectional radio range

Source: Dinsmore Airport Layout Plan, 2007

### G.3.4 Forecast Airport Activity

California state law requires that ALUCPs must be based on a long-range Airport Master Plan or an ALP that forecasts anticipated growth at an airport for the next 20 years. For purposes of this ALUCP update, the 2007 Dinsmore Airport Master Plan 20-year (2026) forecast, as well as the FAA's TAF, are used to characterize future airport activity. A total of 8 aircraft were forecast to be based at the Airport over the 20-year forecast period of the Master Plan, all of which are estimated to be single-engine propeller aircraft. In 2005, there were 1,585 total annual operations at the Airport, of which 63 percent were itinerant, and 37 percent local. Approximately 1,975 annual operations were forecasted at the Airport for 2025 with all operations being for general aviation.

**Table G-6** summarizes forecasted airport activity at the Airport based on FAA TAF assumptions for years 2017 to 2039. The total amount of based aircraft is assumed to remain similar to existing conditions over the 20-year forecast period. Based on the estimated operations from the Master Plan, there is only a slight increase to operations baseline operations and operations anticipated at the Airport over the next 20 years, with approximately 1,600 annual operations in 2017, and approximately the same amount (1,600 of annual operations) forecasted at the Airport in 2039.

**TABLE G-6  
AIRPORT ACTIVITY DATA –DINSMORE AIRPORT**

Based Aircraft	Master Plan Conditions (2005)		Master Plan Future Conditions (2024)	
	Single-engine prop	1		8
Multi-engine prop	0		0	
Turbine/Jet	0		0	
Helicopter	0		0	
Other <sup>1</sup>	0		0	
Total	0		8	

Aircraft Operations	Existing Conditions (2017)		Future Conditions (2039)	
	Number of Operations	Percentage by Aircraft Type	Number of Operations	Percentage by Aircraft Type
Single-engine prop	1,568	98.0%	1,568	98.0%
Multi-engine prop	32	2.00%	32	2.00%
Turbine/Jet	0	00.0%	0	00.0%
Helicopter	0	00.0%	0	00.0%
Other <sup>1</sup>	0	0.00%	0	0.00%
Total	1,600	100.00%	1,600	100.00%

Aircraft Type	Existing Conditions (2017)		Future Conditions (2039)	
	Percentage of Takeoffs		Percentage of Landings	
	Rwy 9	Rwy 27	Rwy 9	Rwy 27
Single-engine prop	10.0	90.0	40.0	60.0
Multi-engine prop	10.0	90.0	40.0	60.0
Turbine/Jet	--	--	--	--
Helicopter	--	--	--	--
Other <sup>1</sup>	--	--	--	--

## NOTES:

<sup>1</sup> Other = lighter than air, gliders, or home-built aircraft.

Source: FAA TAF, 2018.

### G.3.5 Airport Environs

**Figure G-11** depicts existing land use in the area surrounding the Airport. **Figure G-12** depicts general plan land use in the area surrounding the Airport. Land use around the Airport is varied, with timberland and agricultural uses found to the north and east of the Airport, north of the Van Duzen River. Rural community center and conservation floodway uses are predominantly to the west and south of the Airport. The closest residential land uses are for rural residential and are located north and west of the Airport.



SOURCE: ESA, 2018; DigitalGlobe, June 2016; County of Humboldt, January 2019; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-11**  
Existing Land Use  
Dinsmore Airport



SOURCE: ESA, 2018; DigitalGlobe, June 2016; County of Humboldt, January 2019; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-12**  
Planned Land Use  
Dinsmore Airport



## G.3.6 Compatibility Factors

### Noise Compatibility Data

**Figure G-13** shows noise contours and generalized flight paths by operation type and Future Conditions Noise Contours. As discussed above, the TAF estimates 1,600 annual operations for 2039 conditions. The noise contour shown on Figure G-13 of this ALUCP was modeled to reflect 2039 conditions signifying the planning horizon of the ALUCP. Therefore, the noise contour shown on Figure G-13 represents a noise exposure at the Airport under 2039 conditions.

### Safety Compatibility Data

**Figure G-14** of this ALUCP shows the proposed safety zones and generalized flight paths by operation type for the Airport.

As shown on Figure G-14 generalized traffic patterns taken from the Master Plan were used for the purpose of creating the safety zones at the Airport.

The safety zones for Runway 9-27 were based on *Example 5: Low Activity General Aviation Runway*, included in the Handbook. *Example 5* includes five safety zones and assumes less than 2,000 takeoffs and landings per year and a runway length of less than 4,000 feet. As the Airport had only 1,600 operations in 2017 and the runway length is less than 4,000 feet in length, *Example 5* was the appropriate choice for generic safety zones. The traffic pattern on Runway 27 is to the south of the runway, therefore Safety Zones 3 are only proposed for the south side of the runway. Off the Runway 9 end, Safety Zone 3 was extended by 10 degrees from the Handbook prescribed 30 degrees, and Safety Zone 4 was extended to span the expanse of Safety Zone 3 to account for the apparent flight paths. Safety Zone 4 was likewise expanded on the east side off the Runway 27 end while the corresponding Safety Zone 3 has retained the generic prescribed dimensions.

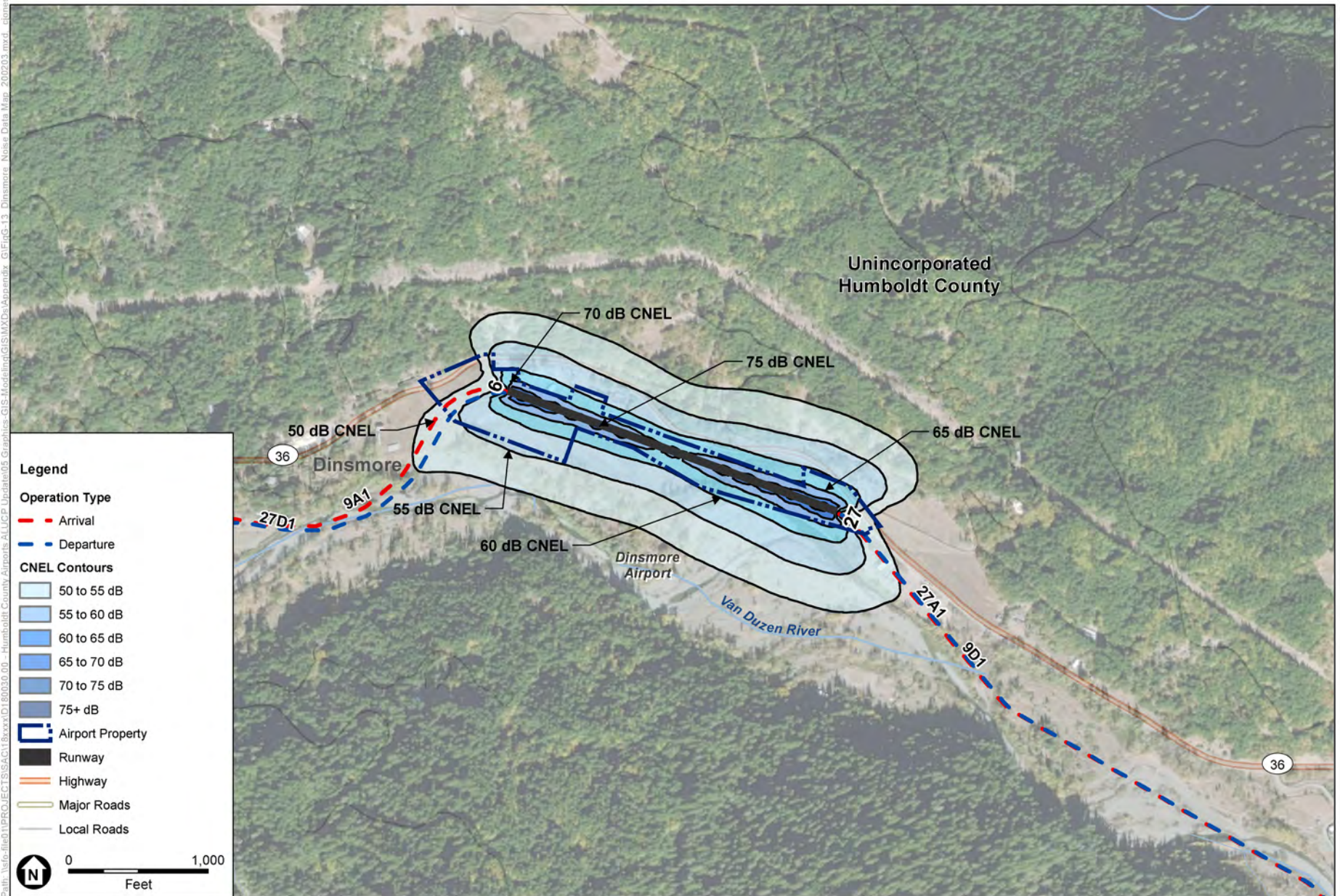
### 14 CFR Part 77 Airspace Compatibility Data

**Figure G-15** of this ALUCP, depicts the Part 77 airspace surfaces for the Airport as shown in the ALP. Part 77 airspace surfaces reflect areas around airports determined by FAA regulations that should be protected from obstructions and visual impacts that may interfere with the safe operation of aircraft. The current airport elevation is 2,392.6 feet MSL. The Part 77 airspace surfaces included in the current ALP/Master Plan are based on this elevation.

### Overflight Compatibility Data

**Figure G-16** of this ALUCP, shows the overflight notification area, generalized flight paths, safety zones, and conical surface for the Airport. The overflight notification area includes all areas covered by the Airport's Safety Zones as well as flight corridors based on the traffic patterns presented in the Master Plan, the ALP, and TAF estimates. General corridors centered on the traffic pattern flight tracks were created to account for normal dispersion in aircraft operations. The generalized flight corridors extend to the outer boundary of the Airport's conical surface.

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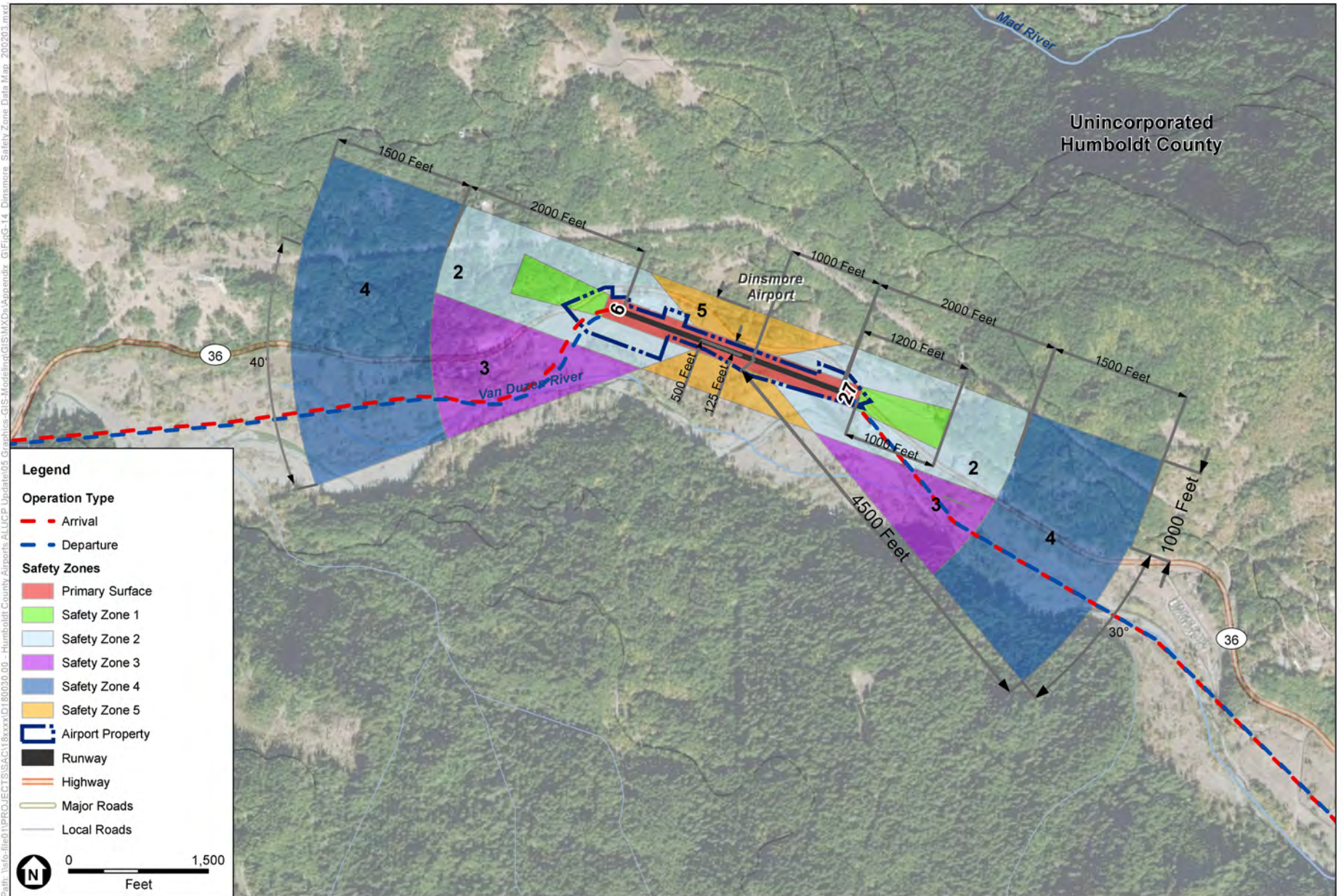
SOURCE: AEDT 2d; ESA, 2018; DigitalGlobe June 2016; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-13**  
Noise Data Map  
Dinsmore Airport



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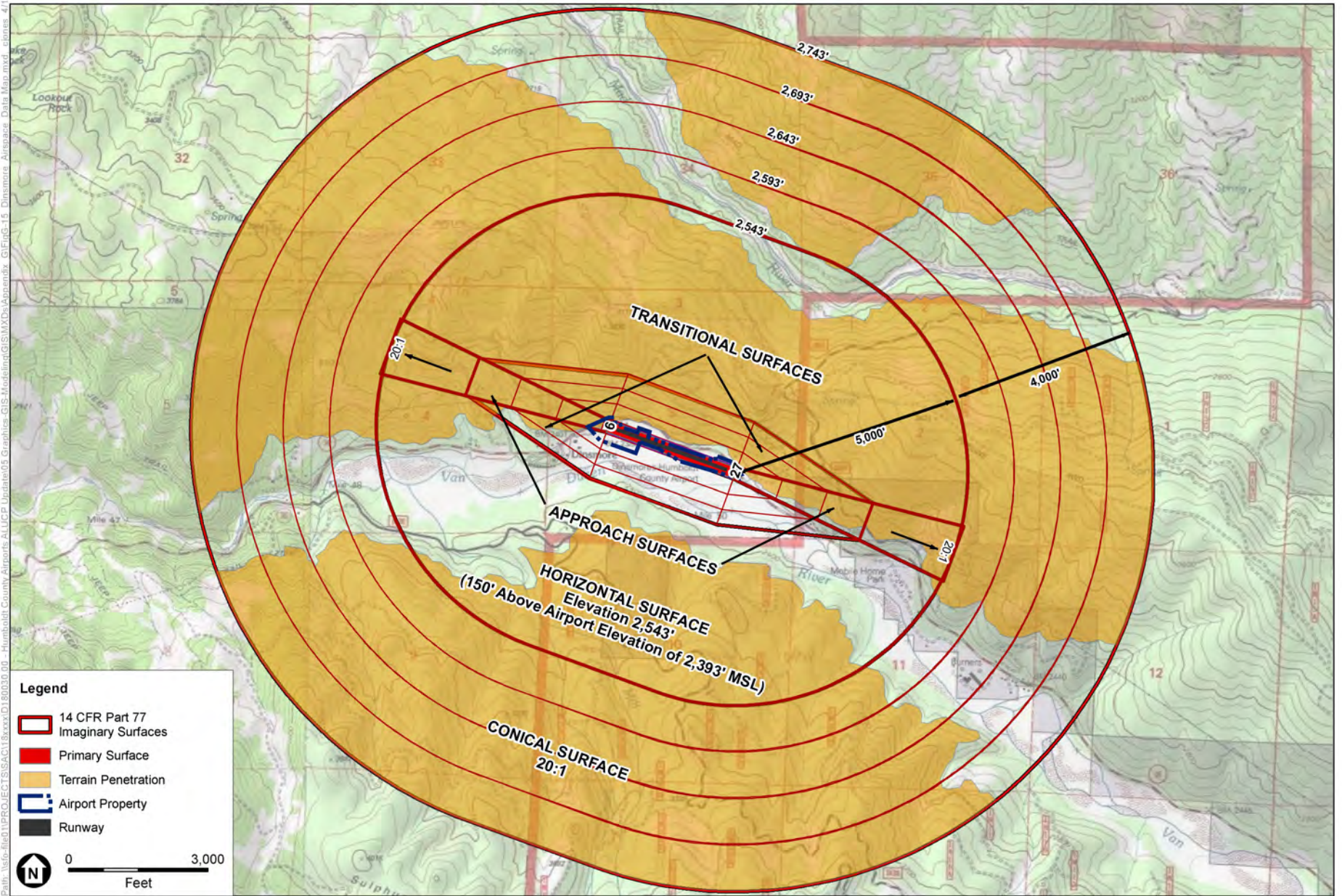
SOURCE: AEDT 2d; ESA, 2018; DigitalGlobe, June 2016; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-14**  
Safety Zones Data Map  
Dinsmore Airport



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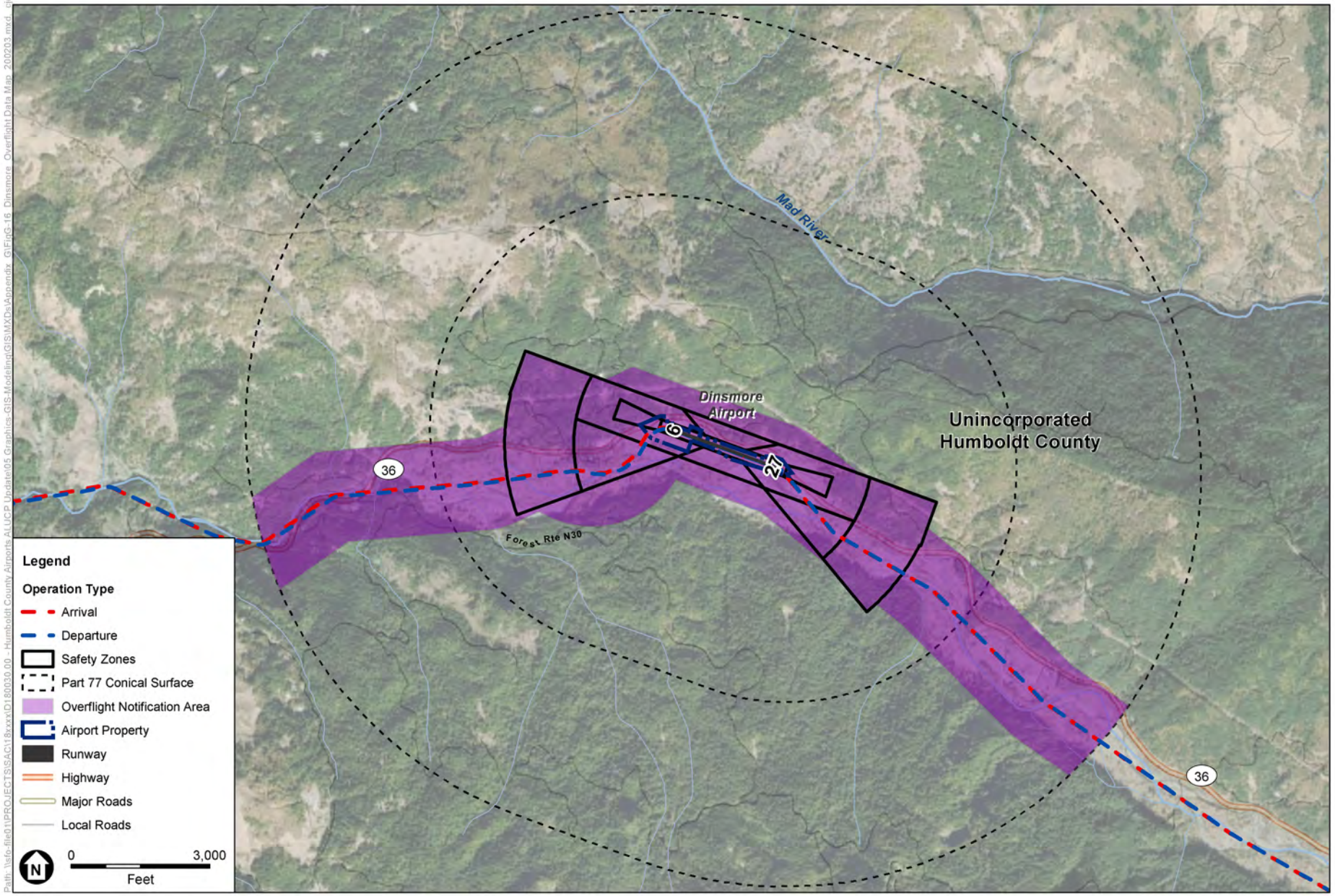
SOURCE: USDOT. FAA 14 CFR Part 77, Safe, Efficient Use and Preservation of Navigable Airspace, July 21, 2010; ESA, 2018

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-15**  
Airspace Protection Data Map  
Dinsmore Airport



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SOURCE: AEDT 2d; ESA, 2018; DigitalGlobe, June 2016; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-16**  
Overflight Notification Data Map  
Dinsmore Airport



## G.4 Garberville Airport

The following report provides a summary describing Garberville Airport (O16 or Airport), including a description of the Airport location, surrounding land uses, Airport facilities, and existing and projected operational activity at the Airport.

### G.4.1 Airport Background

The Airport is located two miles southwest of the town of Garberville approximately 55 miles south of Eureka. The communities of Benbow and Redway are within five miles of the Airport. Mendocino and Trinity Counties are approximately 10 to 15 miles south and east of the Airport, respectively. Garberville Airport rests on a bluff at an elevation of 551 feet above mean sea level (MSL). The south fork of the Eel River runs to the east and south of the Airport. Terrain rises rapidly to the west; elevations up to 1,000 feet higher than the runway are within one mile of the Airport. **Figure G-17** presents an aerial view of the Airport and the immediate surrounding area

The Airport has been owned and operated by Humboldt County since 1950. The Airport has a single runway (18-36), oriented north-south. The original facility consisted of a dirt landing strip, 2,200-feet in length and 200-feet wide. In 1958, an asphalt concrete (3,045-ft long and 75-ft wide) runway was constructed and a wind cone and segmented circle were installed. The runway was designed to accommodate a 30,000-pound aircraft with a single-wheel landing gear configuration. In 1963, a 30-ft. wide full length parallel taxiway and four exit taxiways were constructed. Currently, the runway is 2,783-ft long and 75-ft wide. Runway 18-36 is designed to accommodate aircraft with wingspans of up to 49-feet and approach speeds of less than 121 knots. The aircraft parking apron and other building facilities are located in the eastern quadrant of the Airport. As of 2007, the Airport has maintained its public use status. **Table G-7** provides a summary of Airport background information.

**TABLE G-7**  
**AIRPORT BACKGROUND SUMMARY – GARBERVILLE AIRPORT**

<b>General Information</b>	<b>Description</b>
Airport Ownership	Public
Year Opened	1950
Airport Property Size	51 Acres owned in fee by Humboldt County; 6 acres of easements
Airport Classification	General Aviation
Airport Elevation	551 feet MSL
<b>Airport Planning Documents</b>	<b>Description</b>
Airport Master Plan	Yes, 2007
Airport Layout Plan	Yes, 2007

NOTES:

MSL = Mean Sea Level

Source: FAA Airport Master Record, Garberville Airport, January 2007. Garberville Master Plan, 2007 and Garberville Airport Layout Plan, 2007.

Path: \\ef01\PROJECTS\SAC\118xxxx\01800030.00 - Humboldt County Airports ALLUCP Update\05 Graphics\GIS\MXDs\Appendix G\FIG-17 Garberville Airport Environs.mxd - clones - 4/13/2020



SOURCE: ESA, 2018; DigitalGlobe, July 2016; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-17**  
Airport Environs  
Garberville Airport



## G.4.2 Airport Characteristics

The Airport property is 51 acres in size and has one runway, Runway 18-36, which is an asphalt runway, 2,783 feet long by 75 feet wide. The pavement strength at the Airport has a load-bearing capacity to accommodate aircraft weighing up to 30,000 pounds with main landing gear in a single-wheel configuration. The Master Plan noted that the runway strength is well above that needed for the small aircraft using it and as of 2007 the runway remains in fair-good condition, with longitudinal separations and some lateral cracking. The aircraft parking apron and other building facilities are located in the eastern quadrant of the Airport.

Garberville Airport is classified as a GA airport in the NPIAS as well as the CASP with the CASP classifying Garberville in the \Community General Aviation sub-category.

The Master Plan identified O16 as an ARC B-I (small) facility with the majority of aircraft operating at Garberville Airport being small single-engine and light twin-engine piston aircraft. The most demanding or critical class of aircraft regularly using the Airport (defined by the FAA as more than 500 annual operations) is ARC B-I (Small). The critical aircraft at Garberville Airport is the Beech Baron 58, twin-engine piston aircraft. For planning purposes, the Beech Baron 58 and comparable aircraft are assumed as the Airport's design aircraft by the Master Plan. The Airport property is made up of 51 acres of fee simple land and 6 acres of aviation easement.

The Master Plan states that the Garberville Airport taxiways system consists of one parallel taxiway together with four secondary (exit) taxiways. Two of these exit taxiways connect at each runway end, the other two exits connect to the aircraft parking apron and adjacent hangar buildings. The separation between Runway 18-36 and parallel taxiway is 110-feet. APL lines are established to define the appropriate location of aircraft parking positions. When a taxiway does not exist or does not meet standards, the APL is established to prevent any part of a parked airplane (tail, wingtip, nose, etc.) from being within the runway OFA or penetrating the OFZ. At Garberville Airport, the APL is set 125 feet from the centerline of the runway.

The ALP notes that there are 30 tie-down spaces, and 10 additional tie-down spaces anticipated in the future. ALP notes that there are 26 hangar units with a total of 40 tie-down and 35 hangar units anticipated in the future. The ALP is depicted on **Figure G-18**.

There is no control tower at the Airport. Pilots using the Airport communicate directly with each other via a common traffic advisory frequency (CTAF). Prior to departure/arrival, pilots use Oakland's FAA Flight Service Station (FSS) which provides pilot briefings on weather, airports, altitudes, routes, and other flight planning information. As of 2006, the Master Plan states that the Garberville Airport has no FBO, but does have a specialty operator that offers flight training, aircraft rental, and pilots lounge. In addition, a self-service fuel (100LL) station was installed by the County. There are no visual approach aids installed on Runway 18-36.



APPROVED CONDITIONALLY  
FEDERAL AVIATION ADMINISTRATION  
AIRPORTS DISTRICT OFFICE  
SAN FRANCISCO, CALIFORNIA

By: *[Signature]* Date: 7/16/10  
for Manager

Subject to Letter dated 7/16/10

**MEAD HUNT**

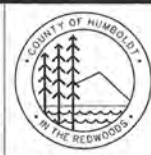
133 Aviation Boulevard, Suite 100,  
Santa Rosa, California 95403 - (707) 526-5010

The preparation of these documents was financed in part through a planning grant from the Federal Aviation Administration as provided under Section 505 of the Airport and Airway Improvement Act of 1982, as amended. The contents do not necessarily reflect the official views or policy of the FAA. Acceptance of these documents by the FAA does not constitute a commitment on the part of the United States to participate in any development project nor does it indicate that the proposed development is environmentally acceptable to accordance with applicable public law.

REVISIONS					
Δ	DATE	BY	DESCRIPTION	APP'D	DATE
1	5/93	Hodges & Shurt	Airport Master Plan	FAA	12/29/93
2	10/07	Mead & Hunt, Inc.	Airport Master Plan Update	FAA	
3	02/08	Mead & Hunt, Inc.	Update ALP Notes		
4	03/10	Mead & Hunt, Inc.	Revise Notes Block		

SUBMITTED BY:  
COUNTY OF HUMBOLDT

APPROVED:  
*[Signature]* 3/24/10  
THOMAS K. MATTSOON  
DIRECTOR OF PUBLIC WORKS



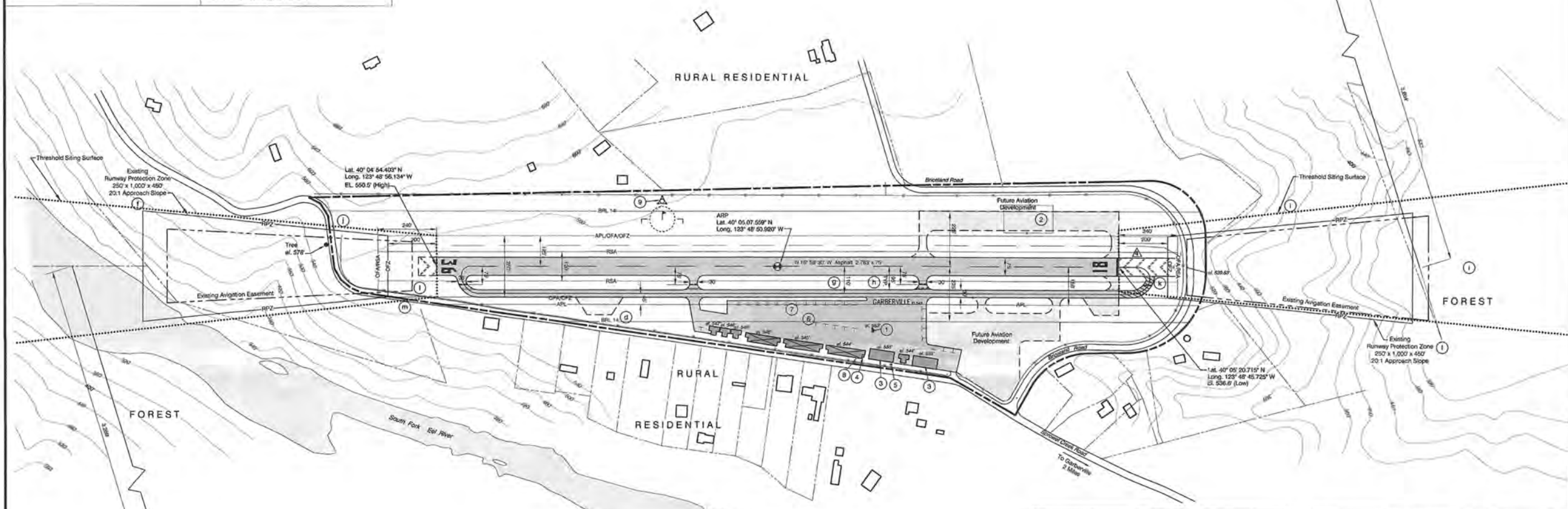
AVIATION DIVISION  
JACQUELYN HULSEY

DRAWN BY: TS/HH  
REVIEWED BY: MM  
DRAWING DATE: February 2009  
DRAWING FILE NAME:

COUNTY OF HUMBOLDT  
DEPARTMENT OF PUBLIC WORKS  
GARBERVILLE AIRPORT - GARBERVILLE, CALIFORNIA

**AIRPORT LAYOUT PLAN**

SHEET  
**1**  
OF  
**3**



DRAWING LEGEND		
	EXISTING	FUTURE
ACTIVE AIRFIELD PAVEMENT	—————	—————
OTHER PAVEMENT IN USE	—————	—————
ACTIVE AIRFIELD TO BE REMOVED	N/A	—————
AIRPORT PROPERTY LINE	—————	N/A
AVIGATION EASEMENT	—————	—————
THRESHOLD SITING SURFACE	—————	N/A
CRITICAL AIRFIELD AREAS *	—————	N/A
BUILDING TO BE REMOVED	N/A	—————
FENCE	—————	N/A
VEHICLE GATE	—————	N/A
WIND CONE	—————	N/A
TOPOGRAPHIC CONTOURS	—————	N/A
WATERWAY / CULVERT	—————	N/A
AIRPORT REFERENCE POINT	—————	N/A
SECTION CORNER	—————	N/A
* Applicable to the following:		
APL - Aircraft Parking Limits	OFA - Object Free Area	
BRL - Building Restriction Line	OFZ - Obstacle Free Zone	
RSA - Runway Safety Area	RPZ - Runway Protection Zone	

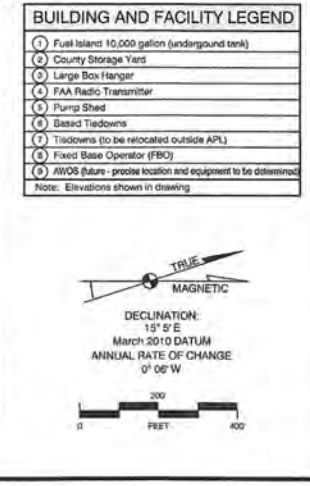
TAXIWAY DATA												
TAXIWAY	DESIGN GROUP	WIDTH	TAXIWAY SAFETY AREA WIDTH	TAXIWAY OBJECT FREE AREA WIDTH	TWY. CL. TO FIXED OR MOVEABLE OBJECT	TAXIWAY WINGTIP CLEARANCE					COMMENTS	
A	B-1 (Small)	30'	No Change	> 49'	No Change	77.5'	88'	33'	45'	20'		Tiedown apron to be reconfig-ured in the future.

AIRPORT DATA		
	EXISTING	FUTURE
AIRPORT REFERENCE CODE	B-1 (Small)	No Change
AIRPORT REFERENCE POINT (a)	Latitude: 40° 09' 07.559" N Longitude: 123° 48' 50.920" W	No Change
AIRPORT ELEVATION (Above Mean Sea Level)	550.0'	No Change
MEAN MAX. TEMP. (Hottest Month) (b)	57°F (August)	No Change
AIRPORT AND TERMINAL NAVIGATIONAL AIDS	None	No Change
GPS APPROACH ESTABLISHED	No	No Change
AIRPORT ACREAGE	Fee Simple: 51 Aviation Easement: 5	No Change
AIRCRAFT PARKING SPACES	Tiedowns: 30 Hangar Units: 36	40 ± 35 ±

RUNWAY DATA		
	EXISTING	FUTURE
AIRPORT REFERENCE CODE	B-1 (Small)	No Change
AIRCRAFT	Beech Baron 58	No Change
WINGSPAN	37.3'	No Change
UNDERCARRIAGE WIDTH	< 10'	No Change
APPROACH SPEED	80 kts	No Change
MAX. TAKEOFF WT.	5,500 lbs.	No Change
PHYSICAL LENGTH AND WIDTH	2,783 x 75'	No Change
RUNWAY HIGH POINT	550.0'	No Change
RUNWAY LOW POINT	536.0'	No Change
VERTICAL LINE OF SIGHT PROVIDED	Yes	No Change
EFFECTIVE GRADIENT (%)	0.51	No Change
MAXIMUM GRADIENT (%)	1.34	No Change
RUNWAY/TAXIWAY SURFACE TYPE	Asphalt/Asphalt	No Change
PAVEMENT STRENGTH (1,000') - S/DOT	30 ±	No Change
RUNWAY EDGE LIGHTING	None	No Change



**ALP NOTES**

- Source: Humboldt County Department of Public Works, November, 2004. Horizontal datum NAD83. Vertical datum NAVD83. Topography Source: USGS Topographic Quad Map.
- Source: Western Regional Climatic Center, Station (247404) Richardson Grove State Park, California.
- Source: FAA Airport Master Record (Form 5010-1) AFD EFF. 1/2005.
- Building restriction line (BRL) is set to previously FAA approved ALP to provide clearance for a 14' building.
- County trim trees located in the approaches to RW 18-36 on a regular basis.
- Runway 36 RPZ. Due to steep drop in terrain, no additional easements exist over land which lies outside of airport property. County received FAA waiver in 1998.
- Runway centerline to parallel taxiway centerline distance is 110'. The standard for an ARC B-1 (small) runway is 150 feet. Terrain and existing development make it impractical to change. Disposition: remain as is.
- The hold lines are set 75 feet from the runway centerline. The standard is 125 feet for an ARC B-1 (small) runway. Disposition: shift hold lines to 95 feet from runway centerline. Location of parallel taxiway makes it infeasible to shift the hold line further from runway centerline.
- Terrain penetrates the 20:1 threshold siting surface for Runway 18. Disposition: retain existing landing threshold at Runway 18 approach end.
- Trees penetrate the threshold siting surface to Runway 36. Disposition: trees to be topped or removed.
- Runway 18 has an aligned taxiway that lacks the required pointed arrow on the extended centerline. Disposition: install, mark arrow on signed taxiway. Ultimately, remove aligned taxiway and convert to blast pad. Shift entrance taxiway to runway end.
- In the southeast corner of the airport, abate the approach end of Runway 36. The top 18 inches of perimeter fence (the barbed wire portion) penetrates the OFZ/OFA for a distance of about 200 feet. Disposition: remain as is.
- In the southeast corner of the airport, a public road underlies the OFZ/OFA. At its closest point the public road lies about 9 feet below the OFZ/OFA surface. A clearance of 18 feet is normally used for evaluating the height of non-interstate roads. Using this criteria about 150 feet of this road penetrates the OFZ/OFA. Disposition: remain as is. Due to steep terrain, this road could not be moved outside the OFZ/OFA.

RUNWAY END DATA					
APPROACH END OF RUNWAY:		18	36		
RUNWAY END COORDINATES (a)	Latitude	Existing: 40° 09' 30.715" N	Future: No Change	Existing: 40° 04' 54.402" N	Future: No Change
	Longitude	Existing: 123° 48' 45.725" W	Future: No Change	Existing: 123° 48' 56.134" W	Future: No Change
RUNWAY END ELEVATIONS (b)	Existing	536.0'	550.0'	536.0'	550.0'
	Future	No Change	Visual	No Change	Visual
RUNWAY MARKING	Existing	Visual	Visual	N/A	N/A
	Future	No Change	No Change	No Change	No Change
RUNWAY TOUCH DOWN ZONE ELEVATION	Existing	N/A	N/A	N/A	N/A
	Future	No Change	No Change	No Change	No Change
NAVIGATION AIDS	Existing	None	None	None	None
	Future	No Change	No Change	No Change	No Change
VISUAL AIDS	Existing	None	None	None	None
	Future	No Change	No Change	No Change	No Change
APPROACH TYPE (FAA Plan 77 Category)	Existing	[AV]	[AV]	[AV]	[AV]
	Future	No Change	Visual	No Change	Visual
APPROACH VISIBILITY (Minimum)	Existing	Visual	Visual	Visual	Visual
	Future	No Change	No Change	No Change	No Change
APPROACH SLOPE (Required/Clear) (c)	Existing	20:1 (1)	20:1 (1)	20:1 (1)	20:1 (1)
	Future	20:1 (1)	20:1 (1)	20:1 (1)	20:1 (1)
RUNWAY SAFETY AREA (Width)	Existing	120'	120'	120'	120'
	Future	No Change	No Change	No Change	No Change
RUNWAY SAFETY AREA (Length Beyond Runway End)	Existing	240'	240'	240'	240'
	Future	No Change	No Change	No Change	No Change
OBSTACLE FREE ZONE (Width)	Existing	120'	120'	120'	120'
	Future	No Change	No Change	No Change	No Change
OBSTACLE FREE ZONE (Length Beyond Runway End)	Existing	200'	200'	200'	200'
	Future	No Change	No Change	No Change	No Change
OBJECT FREE AREA (Width)	Existing	120'	120'	120'	120'
	Future	No Change	No Change	No Change	No Change
OBJECT FREE AREA (Length Beyond Runway End)	Existing	240'	240'	240'	240'
	Future	No Change	No Change	No Change	No Change
DISTANCE FROM RWY # TO HOLD BARS	Existing	75'	75'	75'	75'
	Future	95'	95'	95'	95'



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Airport land encompasses the runway, parallel taxiway, aircraft parking apron, aircraft storage area, wind cone, segmented circle, and fuel island. An FAA remote transmitter-receiver building is situated behind a bank of T-hangars, east of the fuel island. A county storage yard is located midfield, in the western quadrant of the Airport. Access to the Garberville Airport is from the east via Sprowel Creek Road. U.S. Highway 101 is located two miles farther east and provides a direct connection to Sprowel Creek Road. Based on information from the Master Plan, 15 aircraft are stored in hangars at Garberville Airport, and 5 are parked on the tie down apron. There is no airport terminal building. **Table G-8** presents a summary of existing facilities at Garberville Airport.

**TABLE G-8**  
**AIRPORT FACILITIES SUMMARY – GARBERVILLE AIRPORT**

<b>Airside Facilities</b>					
<b>Runways</b>	<b>Description</b>				
Runway Designation	Runway 18-36				
Airport Reference Code (ARC)	B-I (small)				
Critical Design Aircraft	Beech Baron 58				
Runway Dimensions	2,783 feet by 75 feet				
Pavement Strength (1,000 lbs.) – S / D / DT	30/ - / - lbs.				
Runway Lighting / Visual Approach Aids	None				
Taxiways	One parallel taxiway, with four secondary (exit) taxiway				
Heliport/Helipad	None				
Approach Protection	Description				
Runway Protection Zones (RPZs)					
• Runway 18	250' x 1,000' x 450', 20:1 Approach Slope				
• Runway 36	250' x 1,000' x 450', 20:1 Approach Slope				
Approach Obstacles	Runway 18: trees				
<b>Traffic Patterns and Approach Procedures</b>	<b>Description</b>				
Aircraft Traffic Patterns					
Runway 18	Left				
Runway 36	Right				
Pattern Altitude	1,546 feet MSL/1,000 feet AGL				
<b>Instrument Approach Procedures</b>	<b>Type</b>	<b>Navigational Aids</b>	<b>Aircraft Category</b>	<b>Minimums</b>	
	<b>Ceiling (feet)</b>	<b>Visibility (miles/feet)</b>			
None	N/A	None	N/A	None	Visibility

**TABLE G-8**  
**AIRPORT FACILITIES SUMMARY – GARBERVILLE AIRPORT**

<b>Landside Facilities</b>	
<b>Building Area</b>	<b>Description</b>
Aircraft Parking Location	Eastern quadrant
Aircraft Parking Capacity	
• Hangar Spaces	26 hangars on the east side
• Tie-Down Spaces	30 tie-downs on the east side
Services	
• Fuel	100LL- dispensed from a self-service card-lock system provided by the County
• Other	None

## NOTES:

AGL = Above ground level  
DME= Distance measuring equipment  
S = Single wheel landing gear  
D = Dual wheel landing gear  
DT = Dual tandem landing gear  
GPS = Global Positioning System  
LOC = Localizer  
MIRL= Medium intensity runway lights  
MSL = Mean sea level

REIL = Runway edge indicator lights  
RNAV = Area navigation  
VASI = Visual Approach Slope Indicator  
VOR = Very high frequency omnidirectional radio range

Source: Garberville Master Plan, 2007 and Garberville Airport Layout Plan, 2007.

The County updated the Airport’s Master Plan, including the ALP, in January 2007. Information provided on the approved ALP (and described in the Airport Master Plan Update) was used to prepare this document. The planned improvements to the Airport shown in the Master Plan and on the ALP include a 20-year plan that discusses sites for future rehabilitation and reconstruction of the runway, ramp, storm drain, as well as fencing and gates.

**Table G-9** presents a summary of the Airport’s planned airside and landside improvements.

**TABLE G-9**  
**AIRPORT PLANNED FACILITY IMPROVEMENTS – GARBERVILLE AIRPORT**

<b>Planned Facility Improvements</b>	<b>Description</b>
Airside	<ul style="list-style-type: none"> <li>• Design Underground Storm Drainage for Runway Safety Area (RSA) Enhancement</li> <li>• Construct Underground Storm Drainage for RSA Enhancement</li> <li>• Design Ramp Reconstruction, Rehabilitation and Expansion</li> <li>• Construct Ramp Reconstruction, Rehabilitation and Expansion</li> <li>• Design Runway Rehabilitation and Reconstruction</li> <li>• Construct Runway Rehabilitation and Reconstruction</li> <li>• Design Relocation of Wind Cone and Segmented Circle</li> <li>• Relocate Wind Cone and Segmented Circle</li> </ul>

**TABLE G-9**  
**AIRPORT PLANNED FACILITY IMPROVEMENTS – GARBERVILLE AIRPORT**

Planned Facility Improvements	Description
Landside	<ul style="list-style-type: none"> <li>• Design Airport Perimeter Fencing and Access Control Gates</li> <li>• Construct Airport Perimeter Fencing and Access Control Gates</li> <li>• Design and Construct Phase II Improvements (as needed)</li> <li>• Design and Construct Phase III Improvements (as needed)</li> </ul>

## NOTES:

MSL = Mean Sea Level  
 WAAS=Wide Area Augment System  
 LPV= Localizer Performance with Vertical Guidance

Source: Garberville Airport Layout Plan, 2007; Garberville Airport Master Plan, 2007

### G.4.3 Airport Activity

The policies in Chapters 2 and 3 of this Compatibility Plan are based on the following primary sources: The Aeronautics Act, the ALP and the airport diagram for each of the Airports that are a subject of this Compatibility Plan and other State laws, regulations, and guidelines, including those in the California Airport Land Use Planning Handbook (Handbook) published by the Division of Aeronautics in October 2011. A copy of the Handbook is available for download on the Division of Aeronautics website at (<http://www.dot.ca.gov/hq/planning/aeronaut/documents/alucp/>).

**Table G-10** summarizes existing airport activity at the Airport as identified in the 2007 Master Plan and characterized on the ALP. In 2005, there were 20 aircraft based at the Airport, all of which were single-engine propeller aircraft. Historically, the number of aircraft at the Airport has remained the same over the last several years, staying at 20 aircraft from 1995 to 20 aircraft in 2005. There were approximately 15,166 operations at the Airport in 2005, roughly split equally between local and itinerant operations.

Garberville Airport rests on a bluff at an elevation of 551 feet above mean sea level (MSL). The south fork of the Eel River runs to the east and south of the Airport. Terrain rises rapidly to the west; elevations up to 1,000 feet higher than the runway are within one mile of the Airport. Consistent with the prevailing wind (from the north-northwest) at the Airport, Runway 18-36 is aligned north-south, and the majority of arrivals and departures are to/from Runway 36.

### G.4.4 Forecast Airport Activity

California state law requires that ALUCPs must be based on a long-range Airport Master Plan or an ALP that forecasts anticipated growth at an airport for the next 20 years. For purposes of this ALUCP update, the Garberville Airport Master Plan 20-year (2025) forecast, as well as the FAA's TAF, are used to characterize future airport activity. A total of 20 aircraft were forecast to be based at the Airport over the 20-year forecast period of the Master Plan, all of which are estimated to be single-engine propeller aircraft. In 2005, there were 15,166 total annual operations at the Airport, of which 47 percent were itinerant, and 53 percent local. Approximately

18,875 annual operations were forecasted at the Airport for 2025 with all operations being for general aviation.

Forecasted airport activity for years 2017 to 2039 at the Airport based on FAA TAF assumptions is summarized in Table G-10. The total amount of based aircraft is assumed to remain similar to existing conditions over the 20-year forecast period. Based on the estimated operations from the Master Plan, there is no increase in operations anticipated at the Airport over the next 20 years, with approximately 16,500 annual operations in 2017, and approximately the same amount (16,500 of annual operations) forecasted at the Airport in 2039.

**TABLE G-10**  
**AIRPORT ACTIVITY DATA – GARBERVILLE AIRPORT**

<b>Based Aircraft</b>	<b>Master Plan Conditions (2005)</b>		<b>Master Plan Future Conditions (2025)</b>	
Single-engine prop	20		22	
Multi-engine prop	0		5	
Turbine/Jet	0		0	
Helicopter	0		1	
Other <sup>1</sup>	0		0	
<b>Total</b>	<b>0</b>		<b>28</b>	

<b>Aircraft Operations</b>	<b>Existing Conditions (2017)</b>		<b>Future Conditions (2039)</b>	
	<b>Number of Operations</b>	<b>Percentage by Aircraft Type</b>	<b>Number of Operations</b>	<b>Percentage by Aircraft Type</b>
Single-engine prop	15,510	94.0%	15,510	94.0%
Multi-engine prop	0	0.00%	0	0.00%
Turbine/Jet	990	6.00%	990	6.00%
Helicopter	0	0.00%	0	0.00%
Other <sup>1</sup>	0	0.00%	0	0.00%
<b>Total</b>	<b>16,500</b>	<b>100.00%</b>	<b>16,500</b>	<b>100.00%</b>

<b>Aircraft Type</b>	<b>Existing Conditions (2017)</b>		<b>Future Conditions (2039)</b>	
	<b>Percentage of Takeoffs</b>		<b>Percentage of Landings</b>	
	<b>Rwy 18</b>	<b>Rwy 36</b>	<b>Rwy 18</b>	<b>Rwy 36</b>
Single-engine prop	20.0	80.0	20.0	80.0
Multi-engine prop	--	--	--	--
Turbine/Jet	20.0	80.0	20.0	80.0

**TABLE G-10**  
**AIRPORT ACTIVITY DATA – GARBERVILLE AIRPORT**

Aircraft Type	Existing Conditions (2017)		Future Conditions (2039)	
	Percentage of Takeoffs		Percentage of Landings	
	Rwy 18	Rwy 36	Rwy 18	Rwy 36
Helicopter	--	--	--	--
Other <sup>1</sup>	--	--	--	--

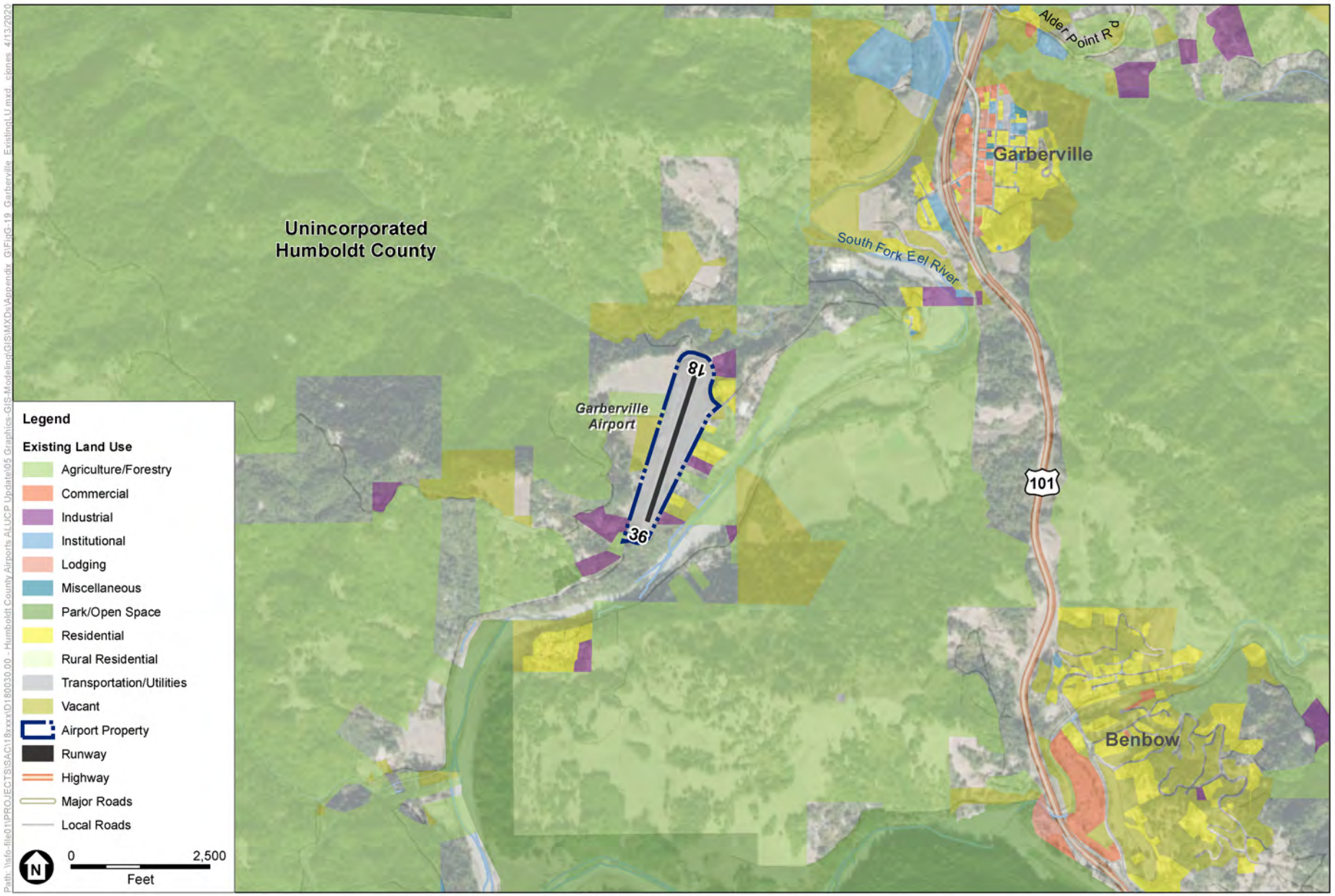
## NOTES:

<sup>1</sup> Other = lighter than air, gliders, or home-built aircraft.

Source: FAA TAF, 2018.

## G.4.5 Airport Environs

**Figure G-19** depicts existing land use in the area surrounding the Airport. **Figure G-20** depicts general plan land use. Land use around the Airport is varied, with timberlands and agricultural uses found to the north and west of the Airport, along the South Fork Eel River. The closest residential land uses are rural residential uses located approximately 0.25 mile to the south and east of the Airport.



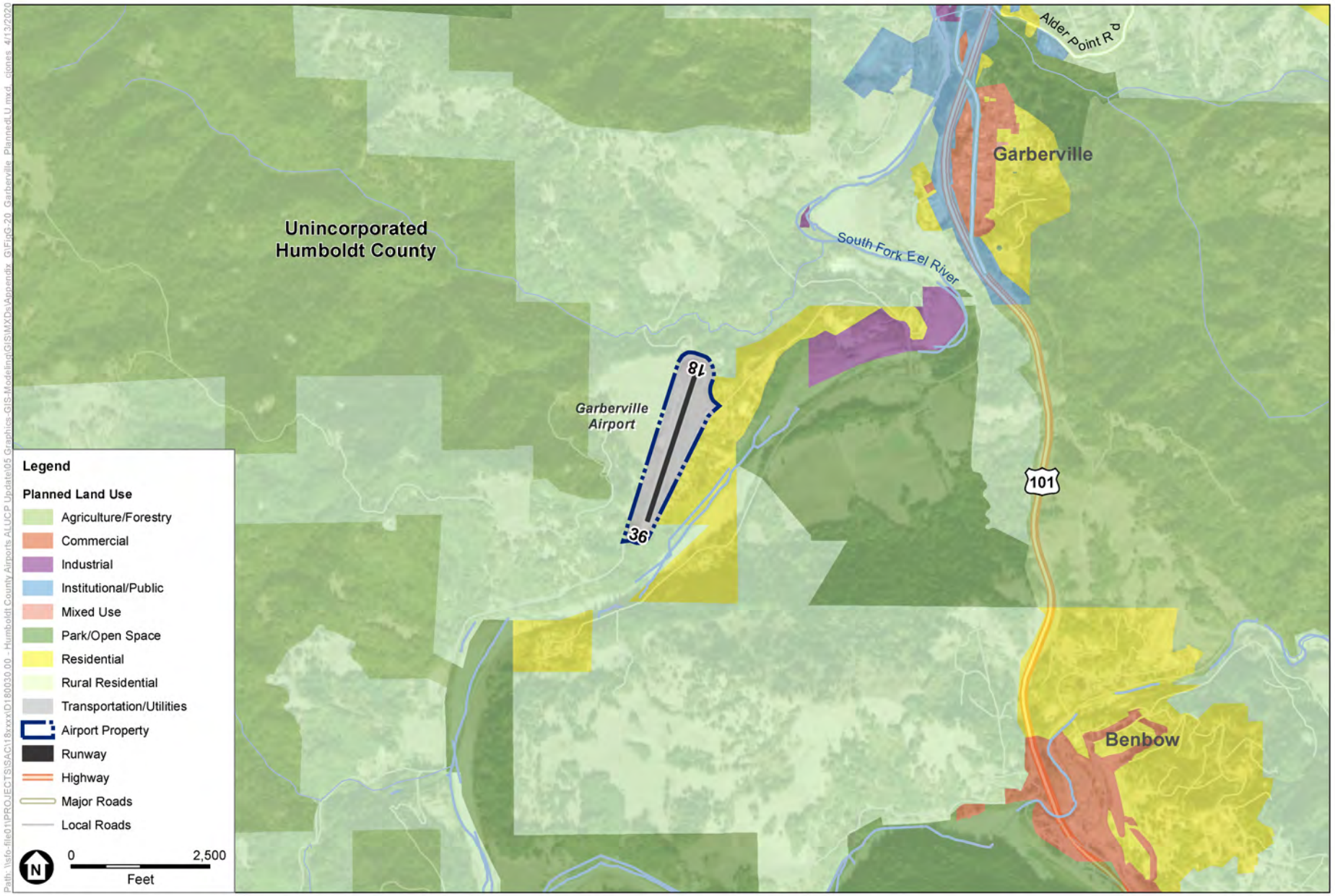
SOURCE: ESA, 2018; DigitalGlobe, July 2016; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-19**  
Existing Land Use  
Garberville Airport







SOURCE: ESA, 2018; DigitalGlobe, July 2016; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-20**  
Planned Land Use  
Garberville Airport



## G.4.6 Compatibility Factors

### Noise Compatibility Data

**Figure G-21** depicts noise contours and generalized flight paths by operation type derived from the 2007 Airport Master Plan and Future Conditions Noise Contours. As discussed above, the TAF estimates 16,500 annual operations, or approximately 46 annual average daily operations, for 2039 conditions. The noise contours shown on Figure G-21 were modeled to reflect 2039 conditions signifying the planning horizon of the ALUCP. Therefore, the noise contours shown on Figure G-21 represents a noise exposure at the Airport under 2039 conditions.

### Safety Compatibility Data

**Figure G-22** of this ALUCP shows the proposed safety zones and generalized flight paths by operation type for the Airport.

As shown on Figure G-22, generalized traffic patterns taken from the Master Plan were used for the purpose of creating the safety zones at the Airport.

The safety zones for Runway 18-36 were based on *Example 1: Short General Aviation Runway*, included in the Handbook. Example 1 assumes a runway length less than 4,000 feet, approach visibility minimums greater than or equal to one mile, and runway protection zones (RPZs) of 250 feet by 450 feet by 1,000 feet. right-hand, Runway 18 is left-hand. The pattern altitude is 1,000 feet above the Airport elevation (1,551 feet MSL) for light aircraft. The generalized flight paths for the Airport indicate approaches and departures alter their routes to follow the South Fork Eel River. To account for these trajectories, Safety Zones 4 on the north and south runway ends have been expanded to extend beyond the end of Safety Zone 3 to the west of the Runway 36 end and to the east of the Runway 18 end.

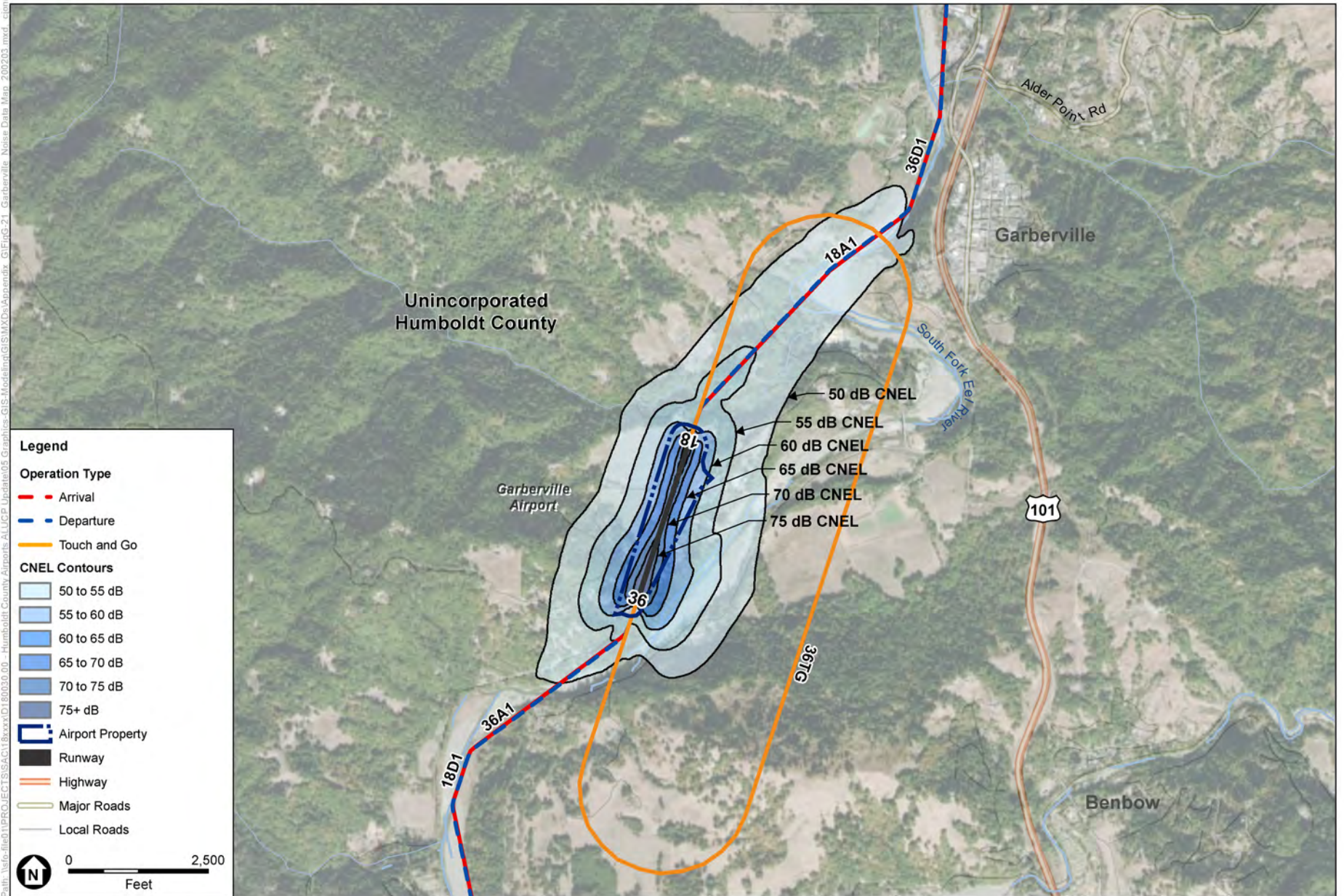
### 14 CFR Part 77 Airspace Compatibility Data

**Figure G-23** depicts the Part 77 airspace surfaces for the Airport as shown in the ALP. Part 77 airspace surfaces reflect areas around airports determined by FAA regulations that should be protected from obstructions and visual impacts that may interfere with the safe operation of aircraft. The current airport elevation is 550.5 feet MSL. The Part 77 airspace surfaces included in the current ALP/Master Plan are based on this elevation.

### Overflight Compatibility Data

**Figure G-24** shows the overflight notification area, generalized flight paths, safety zones, and conical surface for the Airport. The overflight notification area includes all areas covered by the Airport's Safety Zones as well as flight corridors based on the traffic patterns presented in the Master Plan, the ALP, and TAF estimates. General corridors centered on the traffic pattern flight tracks were created to account for normal dispersion in aircraft operations. The generalized flight corridors extend to the outer boundary of the Airport's conical surface.

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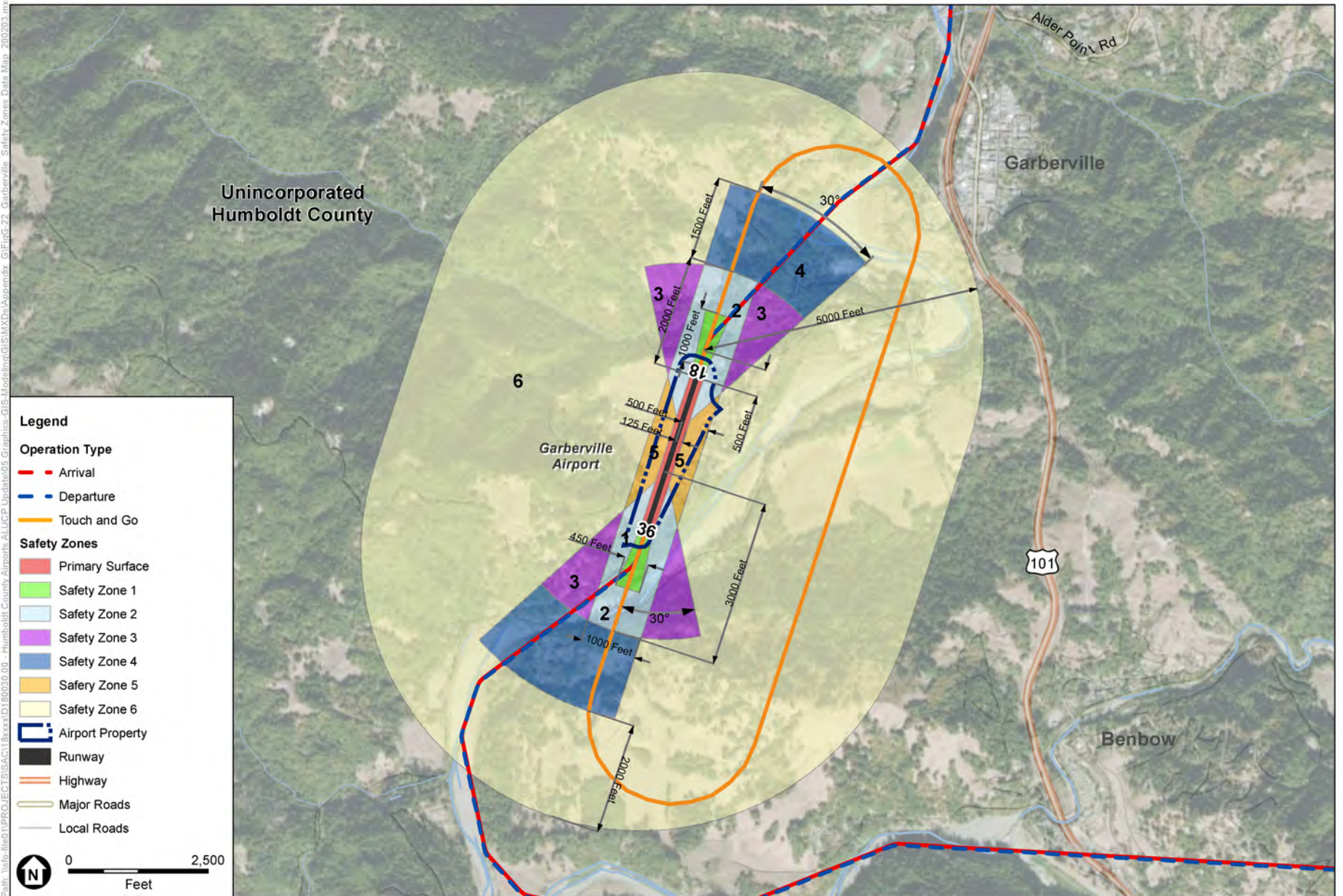


SOURCE: AEDT 2d; ESA, 2018; DigitalGlobe, July 2016; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-21**  
Noise Data Map  
Garberville Airport





**Legend**

**Operation Type**

- Arrival
- Departure
- Touch and Go

**Safety Zones**

- Primary Surface
- Safety Zone 1
- Safety Zone 2
- Safety Zone 3
- Safety Zone 4
- Safety Zone 5
- Safety Zone 6

Airport Property  
 Runway  
 Highway  
 Major Roads  
 Local Roads

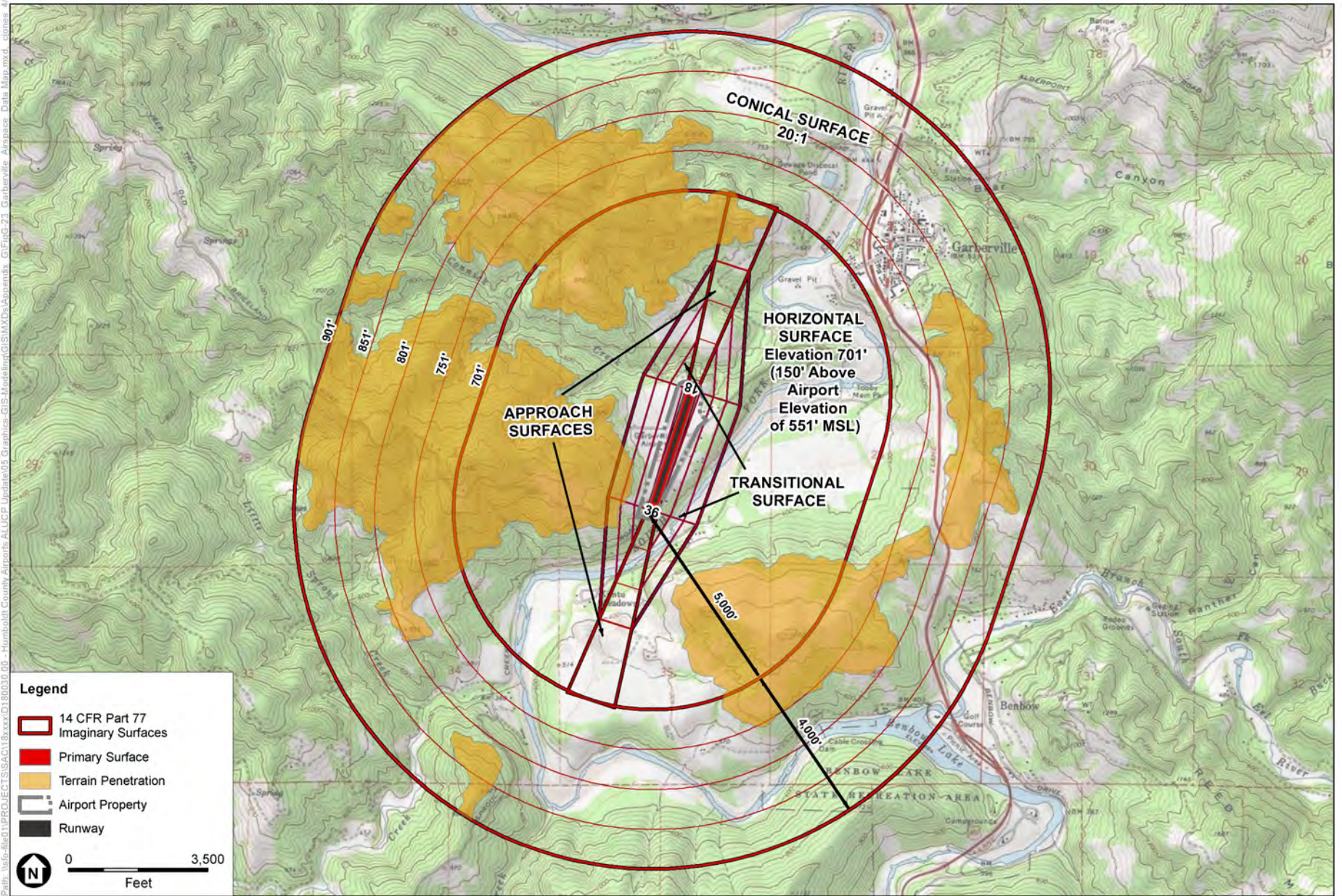
N  
 0 2,500  
 Feet

SOURCE: AEDT 2d; ESA, 2018; DigitalGlobe, July 2016; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-22**  
 Safety Zones Data Map  
 Garberville Airport

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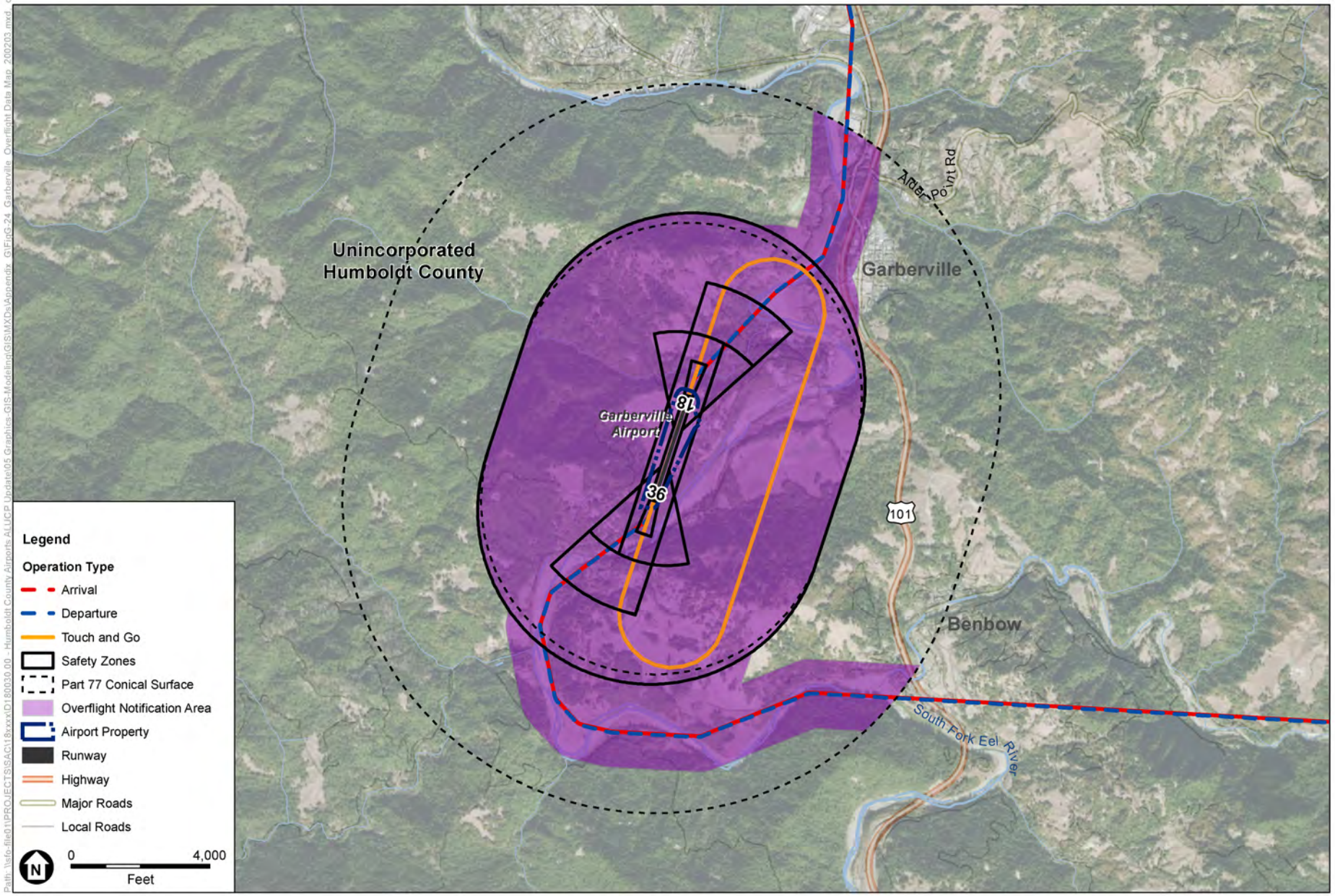
SOURCE: USDOT, FAA 14 CFR Part 77, Safe, Efficient Use and Preservation of Navigable Airspace, July 21, 2010; ESA, 2018

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-23**  
Airspace Protection Data Map  
Garberville Airport



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SOURCE: AEDT 2d; ESA, 2018; DigitalGlobe, July 2016; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-24**  
Overflight Notification Area Data Map  
Garberville Airport



## G.5 Kneeland Airport

The following report provides a summary describing Kneeland Airport (O19 or Airport), including a description of the Airport location, surrounding land uses, Airport facilities, and existing and projected operational activity at the Airport.

### G.5.1 Airport Background

The Airport is located approximately 11 nautical miles southeast of the City of Eureka (Figure 1A). The Airport is situated on an isolated ridge top 2,737 feet above Mean Sea Level (MSL). **Figure G-25** presents an aerial view of the Airport and the immediate surrounding area.

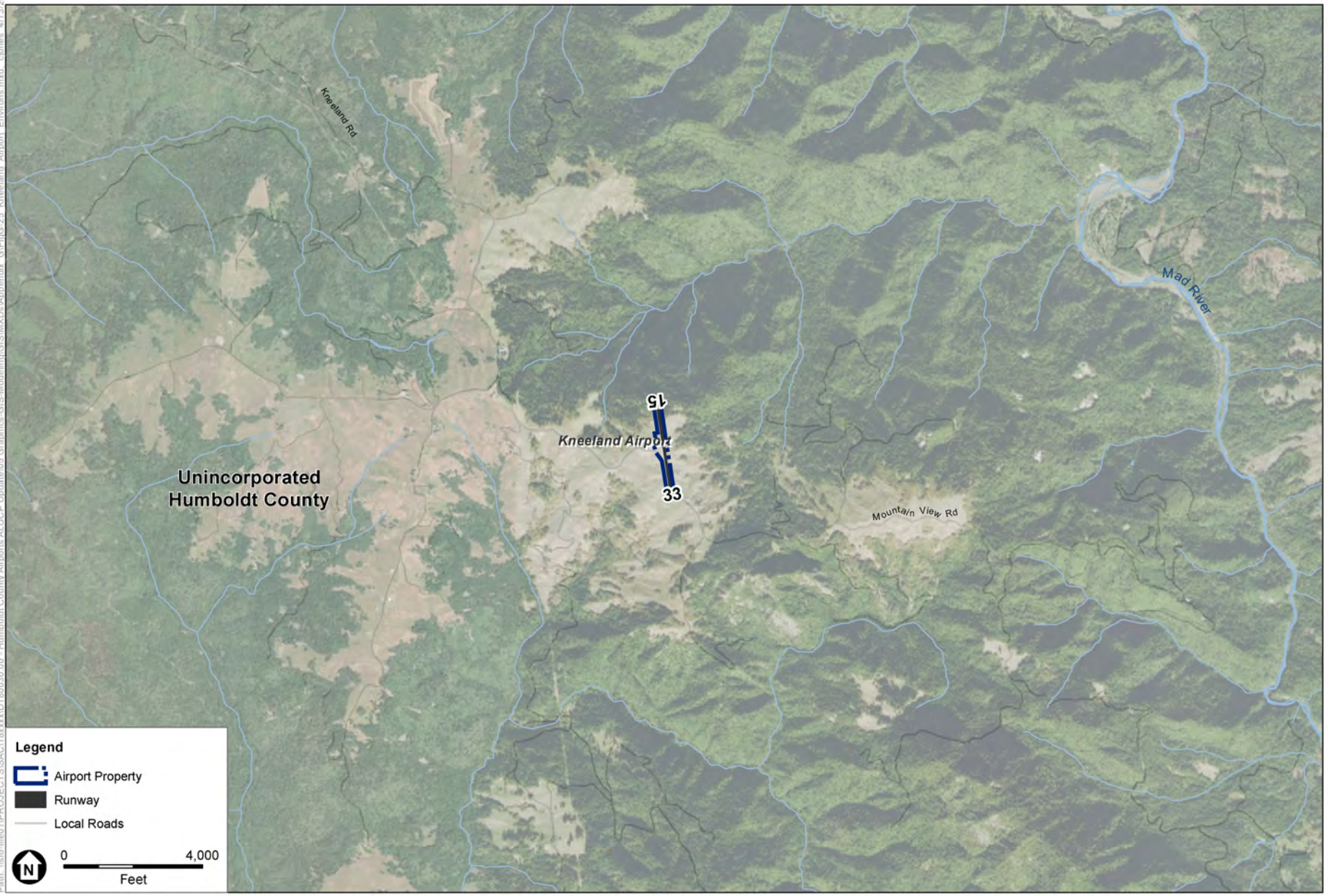
The Airport is surrounded by wooded, mountainous terrain, with Ashfield Butte located 3,500 feet to the southeast of the Airport as the nearest high terrain feature at approximately 400 feet above the elevation of the Airport. Land uses surrounding the Airport includes a mixture of conifer forest, agricultural grazing land, and a few widely scattered residences. The California Department of Forestry's heliport and associated buildings are located immediately west of the Airport.

The Airport was constructed in September 1962 and officially opening in 1964. The Airport has a single asphalt paved runway (15-33) that is 2,252 feet long and 50 feet wide and includes a small aircraft tie-down apron located midfield along the western property line.<sup>1</sup> Noted in the Master Plan, the apron consists of six marked tie-down positions, and can informally accommodate six additional aircraft.

Kneeland Airport is a single runway facility with no parallel taxiway. Aircraft must taxi on the runway for both departure and landing operations. Kneeland Airport is a day-use only facility with a visual approach runway. Runway 15-33 is not lighted and has visual markings in fair condition, with the standard runway centerline markings. As of 2018, the Airport has maintained its public use status.

<sup>1</sup> As of May 21, 2020, the Airport Master Record maintained by the FAA identifies the runway length as 2,252 feet, which varies from both the signed ALP and the Airport Master Plan. The runway length included in the Airport Master Record was used in preparation of the ALUCP.

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SOURCE: ESA, 2018; DigitalGlobe, October 2017; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-25**  
Airport Environs  
Kneeland Airport





**Table G-11** provides a summary of Airport background information.

**TABLE G-11  
AIRPORT BACKGROUND SUMMARY – KNEELAND AIRPORT**

<b>General Information</b>	<b>Description</b>
Airport Ownership	Public
Year Opened	1962
Airport Property Size	14 Acres
Airport Classification	General Aviation
Airport Elevation	2,737 feet MSL
<b>Airport Planning Documents</b>	<b>Description</b>
Airport Master Plan	Yes, September 2005
Airport Layout Plan	Yes, signed December 1993; Draft ALP September 2005
<b>Planned Facility Improvements</b>	<b>Description</b>
Airside	Yes, September 2005
Landside	None

NOTES:

MSL = Mean Sea Level

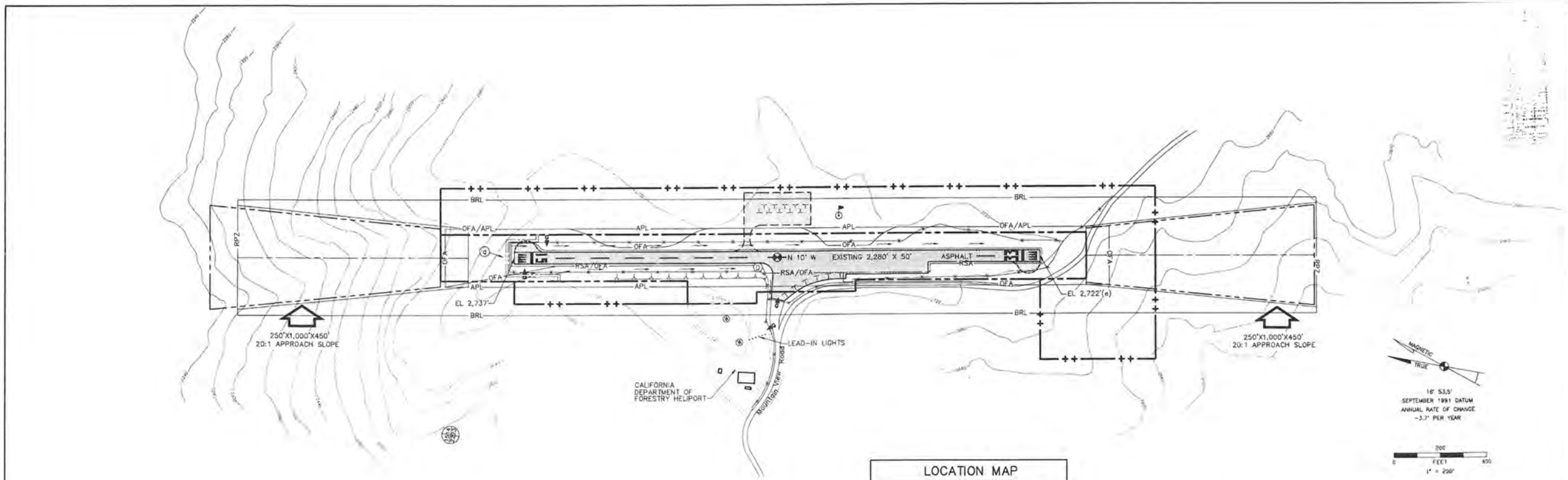
Source: FAA Airport Master Record, Kneeland Airport, September 2005.

## G.5.2 Airport Characteristics

The Airport property is 14 acres in size and has one runway, Runway 15-33. The runway is paved with asphalt and is 2,252 feet long and 50 feet wide. The Master Plan identified Kneeland Airport as an ARC A-I (small) facility with the majority of aircraft in operation being small single-engine piston aircraft, with occasional use by single-engine turboprops and light, twin engine airplanes. For planning purposes, the Beech Bonanza aircraft is assumed as the Airport's design aircraft by the Master Plan. The runway was designed to accommodate a 13,000-pound aircraft with a single-wheel landing gear configuration. The Master Plan noted that the runway pavement has been in poor condition and has nonstandard visual runway markings. The airfield is not lighted. A wind cone is located midfield on a hill east of the Airport. The existing tie-down apron is located directly west of the runway about midfield. The Airport has a 16.1 acre aviation easement.

The ALP is depicted on **Figure G-26**. With no parallel taxiway, APL lines are established to define the appropriate location of aircraft parking positions. When a taxiway does not exist or does not meet standards, the APL is established to prevent any part of a parked airplane (tail, wingtip, nose, etc.) from being within the runway OFA or penetrating the OFZ. At Kneeland Airport, the APL is set 125 feet from the centerline of the runway. The ALP notes that there are six tie-down spaces, and no hangar units on site or anticipated for the future.

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AIRPORT DATA		
	EXISTING	FUTURE
AIRPORT SERVICE LEVEL (NPIAS)	GENERAL AVIATION	SAME
AIRPORT REFERENCE POINT (C)	Latitude 40° 43' 16.19" N Longitude 123° 55' 33.85" W	SAME
AIRPORT ELEVATION (Above Mean Sea Level)	2737'	SAME
MEAN MAX. TEMP. (Hottest Month)	80° F (est.)	SAME
AIRPORT ACREAGE	Fee Simple	14.1
	Easement	16.1
TRANSIENT AIRCRAFT TIEDOWNS	5	10

- NOTES**
- (A) Source: Federal Aviation Administration Airport Master Records (Form 5010)
  - (B) No local wind data available. Prevailing winds from northwest.
  - (C) Source: Estimated from USGS Topo Quad Map.
  - (D) Cattle crossing easement.
  - (E) Deviation from FAA Standards (see Chapter 2 of the Narrative Report for discussion):
    - 75 foot long diamonds are painted along the runway centerline on 150 foot centers. To be removed as part of next runway rehabilitation project.
    - Runway Safety Area width varies from 70 feet to 105 feet. Length is 10 feet beyond runway ends. No change proposed.
    - Embankments penetrate the Object Free Area along both sides of the runway near midfield. The east side penetration will be reduced or eliminated if the planned parking apron is constructed. No change is proposed for the westside penetration.
    - The existing aircraft parking apron will be replaced by the proposed Aircraft Parking Limit line.

DRAWING LEGEND		
	EXISTING	FUTURE
ACTIVE AIRFIELD PAVEMENT		
OTHER PAVEMENT IN USE		
GRAVEL SHOULDER/ROAD		
AIRPORT PROPERTY LINE		
OTHER PROPERTY LINES		
AVIGATION EASEMENT		
AIRFIELD FUNCTIONAL LINES *		
BUILDINGS		
FENCE		
VEHICLE GATE		
WIND CONE		
DISTANCE TO-GO-SIGN ("1/2")		
AIRPORT REFERENCE POINT		
TOPOGRAPHIC CONTOURS		
DITCH/CULVERT/CHANNEL		
SECTION CORNER		

\* APL - Aircraft Parking Limit  
BRL - Building Restriction Line  
RSA - Runway Safety Area

RPZ - Runway Protection Zone  
OFA - Object Free Area

RUNWAY DATA			
RUNWAY 15-33			
	EXISTING	FUTURE	
RUNWAY CLASSIFICATION	BASIC UTILITY I	SAME	
AIRPORT REFERENCE CODE	B-I (Small Aircraft)	SAME	
PHYSICAL LENGTH AND WIDTH	2,280' X 50'	SAME	
EFFECTIVE GRADIENT	0.5%	SAME	
PAVEMENT STRENGTH (1000g) S/D/DOT	12.5/-/- (est)	SAME	
FAR PART 77 CATEGORY	15 VISUAL	SAME	
APPROACH SLOPE	15 20:1/50:1	SAME	
(C) REQUIRED/CLEAR	33 20:1/22:1	SAME	
APPROACH AND LANDING AIDS	15 NONE	SAME	
	33 NONE	SAME	
RUNWAY END COORDINATES (C)	Approach End of Runway 15 Latitude 40° 43' 29.05" N Longitude 123° 55' 31.25" W	SAME	
	Approach End of Runway 33 Latitude 40° 42' 03.10" N Longitude 123° 55' 36.46" W	SAME	
RUNWAY LIGHTING	NONE	SAME	
TAXIWAY LIGHTING	NONE	SAME	
RUNWAY MARKING	BASIC	SAME	

SUBMITTED BY:  
*J. Elbert* 10/4/93  
Date

APPROVED  
*J. Elbert* 10/4/93  
Date

APPROVED  
FEDERAL AVIATION ADMINISTRATION  
AIRPORTS DISTRICT OFFICE  
SAN FRANCISCO, CALIFORNIA

By *J. Elbert* Date *10/4/93*  
Approved  
Subject to letter dated *10/6/93*

NO.	REVISION	SPONSOR	DATE

**KNEELAND AIRPORT**  
KNEELAND, CALIFORNIA  
**AIRPORT LAYOUT PLAN**

**HODGES & SHUTT**  
AIRPORT CONSULTANTS & ENGINEERS  
5010 Aviation Blvd., Santa Rosa, California 95403

County of **HUMBOLDT**

DESIGN: DD DRAWN: PCAJ/K.L. DATE: MAY 1993 SHEET 1 OF 2

*R. Blum* 10-4-93  
11/20/93  
11/20/93

SOURCE: Hodges & Shutt, 1993

**Figure G-26**  
Airport Layout Plan  
Kneeland Airport



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There is no control tower at the Airport. The Airport is unmanned and offers no services. There are no visual or navigational aids at the Airport. The main Automobile access route to Kneeland Airport is via Highway 101, Kneeland Road, and Mountain View Road. Existing facilities at Kneeland Airport are summarized in **Table G-12**.

**TABLE G-12  
AIRPORT FACILITIES SUMMARY – KNEELAND AIRPORT**

<b>Airside Facilities</b>					
<b>Runways</b>		<b>Description</b>			
Runway Designation		Runway 15-33			
Airport Reference Code (ARC)		A-I (small)			
Critical Design Aircraft		Beech Bonanza			
Runway Dimensions		2,252 feet by 50 feet			
Pavement Strength (1,000 lbs.) – S / D / DT		13/ - / - lbs.			
Runway Lighting / Visual Approach Aids		None			
Taxiways		None			
Heliport/Helipad		None			
<b>Approach Protection</b>		<b>Description</b>			
Runway Protection Zones (RPZs)					
• Runway 15		250' x 450' x 1,000', 20:1 Approach Slope			
• Runway 33		250' x 450' x 1,000', 20:1 Approach Slope			
Approach Obstacles		None			
<b>Traffic Patterns and Approach Procedures</b>		<b>Description</b>			
Aircraft Traffic Patterns					
• Runway 15		Left			
• Runway 33		Left			
Pattern Altitude		3,537 feet MSL/800 feet AGL			
<b>Instrument Approach Procedures</b>			<b>Minimums</b>		
	<b>Type</b>	<b>Navigational Aids</b>	<b>Aircraft Category</b>	<b>Ceiling (feet)</b>	<b>Visibility (miles/feet)</b>
None	N/A				

**TABLE G-12**  
**AIRPORT FACILITIES SUMMARY – KNEELAND AIRPORT**

<b>Landside Facilities</b>	
<b>Building Area</b>	<b>Description</b>
<b>Aircraft Parking Location</b>	south side
<b>Aircraft Parking Capacity</b>	
<ul style="list-style-type: none"> <li>• Hangar Spaces</li> <li>• Tie-Down Spaces</li> </ul>	0 hangars on the south side 6 on the south side
<b>Services</b>	
<ul style="list-style-type: none"> <li>• Fuel</li> <li>• Other</li> </ul>	None None

## NOTES:

AGL = Above ground level	REIL = Runway edge indicator lights
DME= Distance measuring equipment	RNAV = Area navigation
S = Single wheel landing gear	VASI = Visual Approach Slope Indicator
D = Dual wheel landing gear	VOR = Very high frequency omnidirectional radio range
DT = Dual tandem landing gear	
GPS = Global Positioning System	
LOC = Localizer	
MIRL= Medium intensity runway lights	
MSL = Mean sea level	

Source: Kneeland Airport Layout Plan, 2005, and Kneeland Airport Master Plan.

The ALP was approved by the FAA in December 1993. The County updated the Airport's Master Plan, including the ALP, in September 2005. Information provided on the approved ALP (and described in the Airport Master Plan Update) as well as the Airport Master Record maintained by the FAA, was used to prepare this document. The planned improvements to the Airport shown in the Master Plan and on the ALP include a 20-year plan that mostly discusses stabilization and sealing of Runway 33. **Table G-13** presents a summary of the Airport's planned airside and landside facilities.

**TABLE G-13**  
**AIRPORT PLANNED FACILITY IMPROVEMENTS – KNEELAND AIRPORT**

<b>Planned Facility Improvements</b>	<b>Description</b>
Airside	<ul style="list-style-type: none"> <li>• Asphalt overlay and re-marking</li> <li>• Environmental Assessment for Stabilization of Runway 33</li> <li>• Stabilization of Approach End of Runway 33</li> <li>• Seal coat and re-marking</li> <li>• Seal coat and re-marking</li> </ul>
Landside	<ul style="list-style-type: none"> <li>• None</li> </ul>

## NOTES:

MSL = Mean Sea Level
WAAS=Wide Area Augment System
LPV= Localizer Performance with Vertical Guidance

Source: Kneeland Airport Master Plan Update, September 2005.

### G.5.3 Airport Activity

The policies in Chapters 2 and 3 of this Compatibility Plan are based on the following primary sources: The Aeronautics Act, the ALP and the airport diagram for each of the Airports that are a subject of this Compatibility Plan and other State laws, regulations, and guidelines, including those in the California Airport Land Use Planning Handbook (Handbook) published by the Division of Aeronautics in October 2011. A copy of the Handbook is available for download on the Division of Aeronautics website at (<http://www.dot.ca.gov/hq/planning/aeronaut/documents/alucp/>).

**Table G-14** summarizes existing airport facilities at the Airport. In 2001, there were zero aircraft based at the Airport, and this was projected to remain the same over the last several years, from 2001 to zero aircraft over the 20-year timespan. There were approximately 9,800 operations at the Airport in 2001, roughly split 90 percent for itinerant operations, and 10 percent for local operations.

The Airport's is located on an isolated ridgetop and the terrain falls sharply immediately beyond runway ends. The airport is surrounded by wooded, mountainous terrain. Prevailing winds are from the north, and the majority of arrivals and departures are to/from Runway 33.

### G.5.4 Forecast Airport Activity

California state law requires that ALUCPs must be based on a long-range Airport Master Plan or an ALP that forecasts anticipated growth at an airport for the next 20 years. For purposes of this ALUCP update, the Kneeland Airport Master Plan 20-year (2021) forecast, as well as the FAA's TAF, are used to characterize future airport activity. No aircraft were forecast to be based at the Airport over the 20-year forecast period of the Master Plan. In 2001, there were 9,800 total annual operations at the Airport, of which 90 percent were itinerant, and 10 percent local. Approximately 7,500 annual operations were forecasted at the Airport for 2021 with all operations being for general aviation.

Forecasted airport activity at the Airport based on FAA TAF assumptions for years 2017 to 2039 is summarized in Table G-14. The total amount of based aircraft is assumed to remain similar to existing conditions over the 20-year forecast period. Based on the estimated operations from the Master Plan, there is no increase in operations anticipated at the Airport over the next 20 years, with approximately 7,000 annual operations in 2017, and approximately the same amount (7,000 of annual operations) forecasted at the Airport in 2039.

**TABLE G-14**  
**AIRPORT ACTIVITY DATA – KNEELAND AIRPORT**

Based Aircraft	Master Plan Conditions (2001)		Master Plan Future Conditions (2021)	
	Single-engine prop	0		0
Multi-engine prop	0		0	
Turbine/Jet	0		0	
Helicopter	0		0	
Other <sup>1</sup>	0		0	
Total	0		0	

Aircraft Operations	Existing Conditions (2017)		Future Conditions (2039)	
	Number of Operations	Percentage by Aircraft Type	Number of Operations	Percentage by Aircraft Type
Single-engine prop	6,884	98.0%	6,884	98.0%
Multi-engine prop	0	0.00%	0	0.00%
Turbine/Jet	116	2.00%	116	2.00%
Helicopter	0	0.00%	0	0.00%
Other <sup>1</sup>	0	0.00%	0	0.00%
Total	7,000	100.00%	7,000	100.00%

Aircraft Type	Existing Conditions (2017)		Future Conditions (2039)	
	Percentage of Takeoffs		Percentage of Landings	
	Rwy 15	Rwy 33	Rwy 15	Rwy 33
Single-engine prop	20.0	80.0	20.0	80.0
Multi-engine prop	--	--	--	--
Turbine/Jet	20.0	80.0	20.0	80.0
Helicopter	--	--	--	--
Other <sup>1</sup>	--	--	--	--

## NOTES:

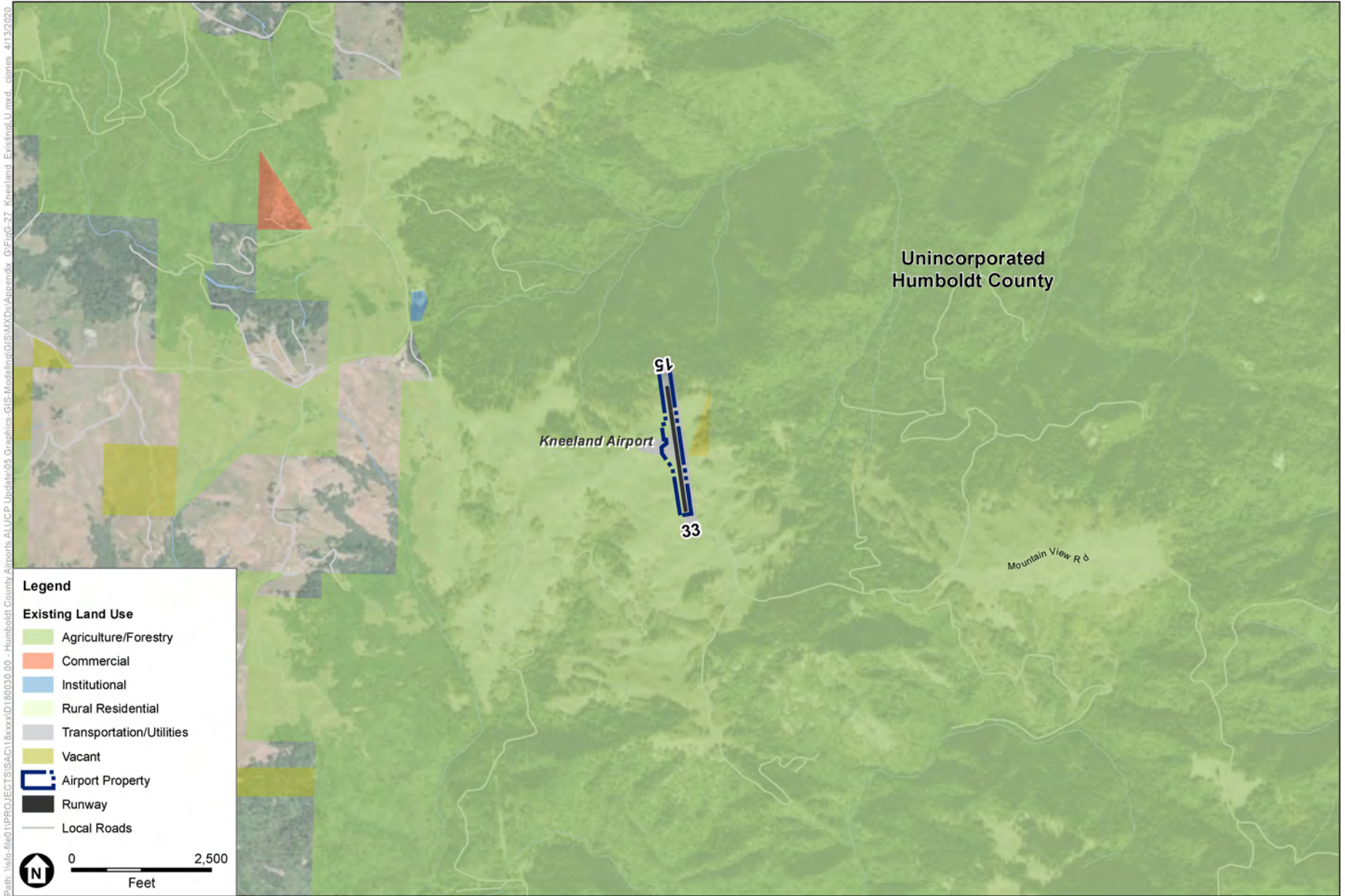
<sup>1</sup> Other = lighter than air, gliders, or home-built aircraft.

Source: FAA TAF, 2018.

## G.5.5 Airport Environs

**Figure G-27** depicts existing land use in the area surrounding the Airport. **Figure G-28** depicts general plan land use in the area surrounding the Airport. Land use around the Airport is mostly dedicated to timberland and agricultural uses. The closest residential land uses are located approximately 3.5 miles to the northeast of the Airport.





SOURCE: ESA, 2018; DigitalGlobe, October 2017; County of Humboldt, January 2019; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-27**  
Existing Land Use  
Kneeland Airport



SOURCE: ESA, 2018; DigitalGlobe, October 2017; County of Humboldt, June 2019; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-28**  
Planned Land Use  
Kneeland Airport

## G.5.6 Compatibility Factors

### Noise Compatibility Data

**Figure G-29** shows noise contours and generalized flight paths by operation type derived from the 2007 Airport Master Plan. As discussed above, the TAF estimates 7,000 annual operations, or approximately 20 annual average daily operations, for 2039 conditions. The noise contour shown on A-37 was model to reflect 2039 conditions signifying the planning horizon of the ALUCP. Therefore, the noise contour shown on Figure G-29 represents a noise exposure at Kneeland Airport under 2039 conditions.

### Safety Compatibility Data

**Figure G-30** of this ALUCP shows the proposed safety zones for the Airport. As shown on Figure G-30, generalized traffic patterns taken from the Master Plan were used for the purpose of creating the safety zones at the Airport. The safety zones for Runway 15-33 were based on *Example 1: Short General Aviation Runway*, included in the Handbook. Example 1 assumes a runway length less than 4,000 feet, approach visibility minimums greater than or equal to one mile, and runway protection zones (RPZs) of 250 feet by 450 feet by 1,000 feet. The pattern altitude is 1,000 feet above the Airport elevation (1,551 feet MSL) for light aircraft. No change is recommended.

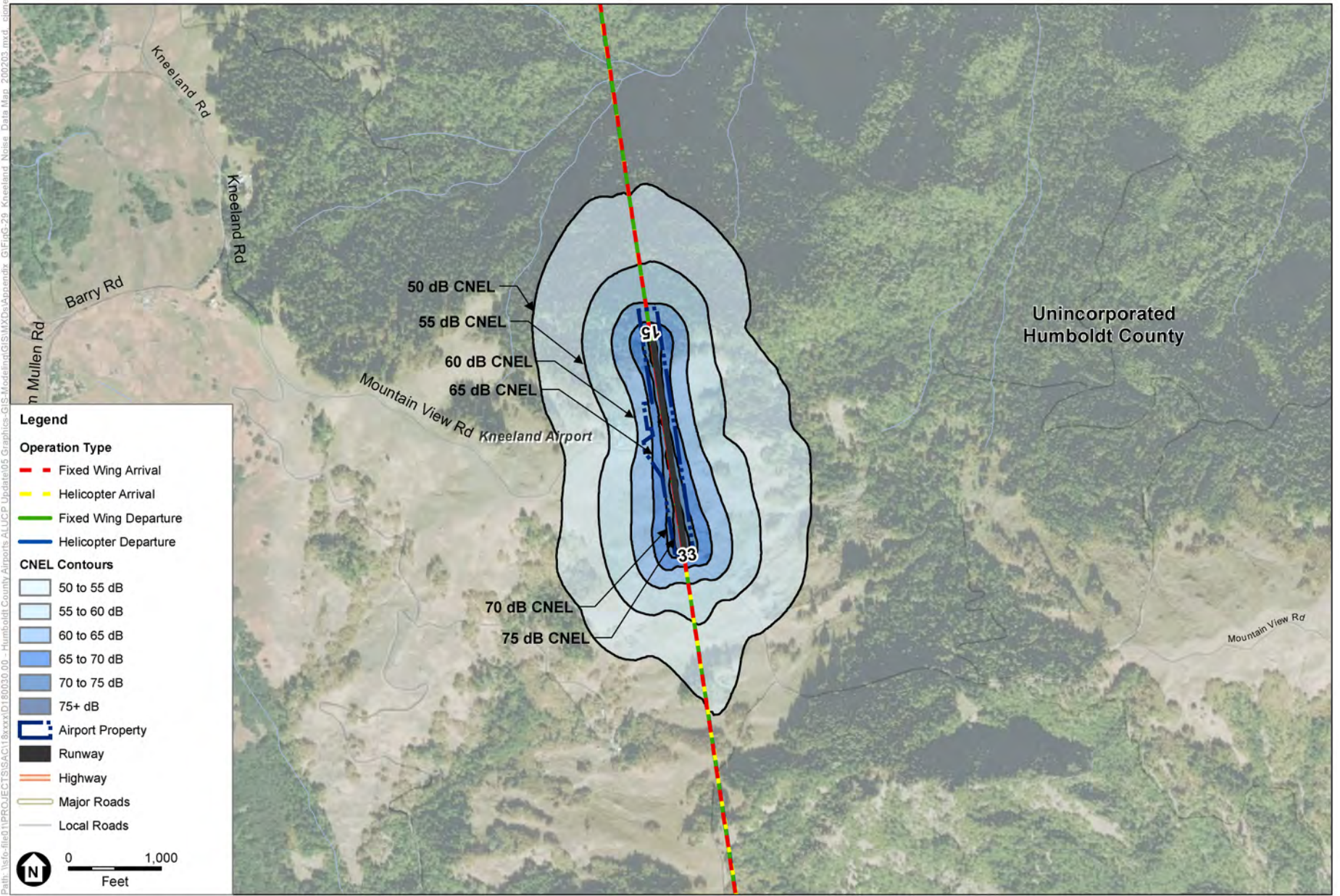
### 14 CFR Part 77 Airspace Compatibility Data

**Figure G-31** depicts the Part 77 airspace surfaces for the Airport as shown in the ALP. Part 77 airspace surfaces reflect areas around airports determined by FAA regulations that should be protected from obstructions and visual impacts that may interfere with the safe operation of aircraft. The current airport elevation is 2,737 feet MSL. The Part 77 airspace surfaces included in the current ALP/Master Plan are based on this elevation.

### Overflight Compatibility Data

**Figure G-32** shows the overflight notification area, generalized flight paths, safety zones, and conical surface for the Airport. The overflight notification area includes all areas covered by the Airport's Safety Zones as well as flight corridors based on the traffic patterns presented in the Master Plan, the ALP, and TAF estimates. General corridors centered on the traffic pattern flight tracks were created to account for normal dispersion in aircraft operations. The generalized flight corridors extend to the outer boundary of the Airport's conical surface.

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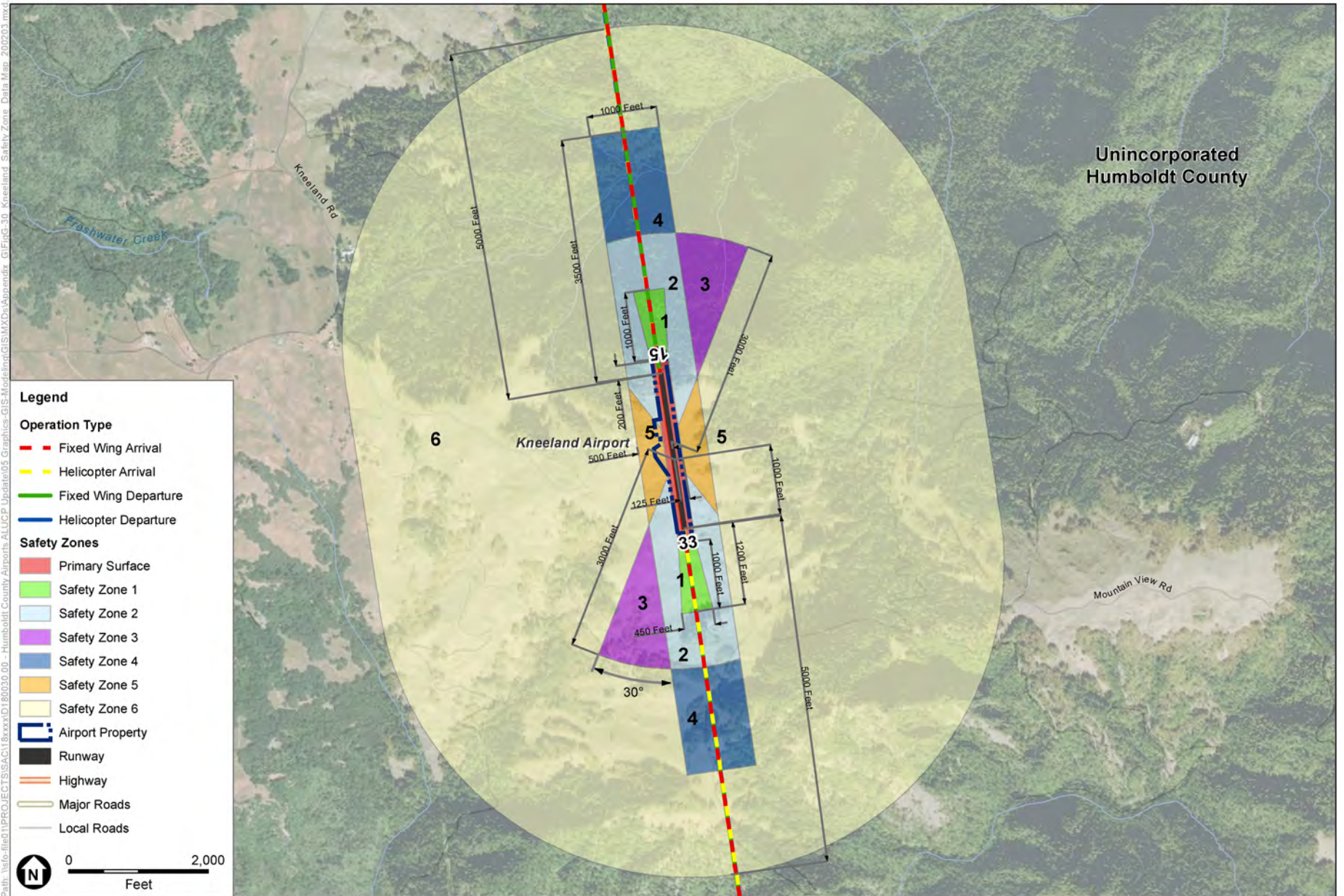


SOURCE: AEDT 2d; ESA, 2018; DigitalGlobe, October 2017; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-29**  
Noise Data Map  
Kneeland Airport



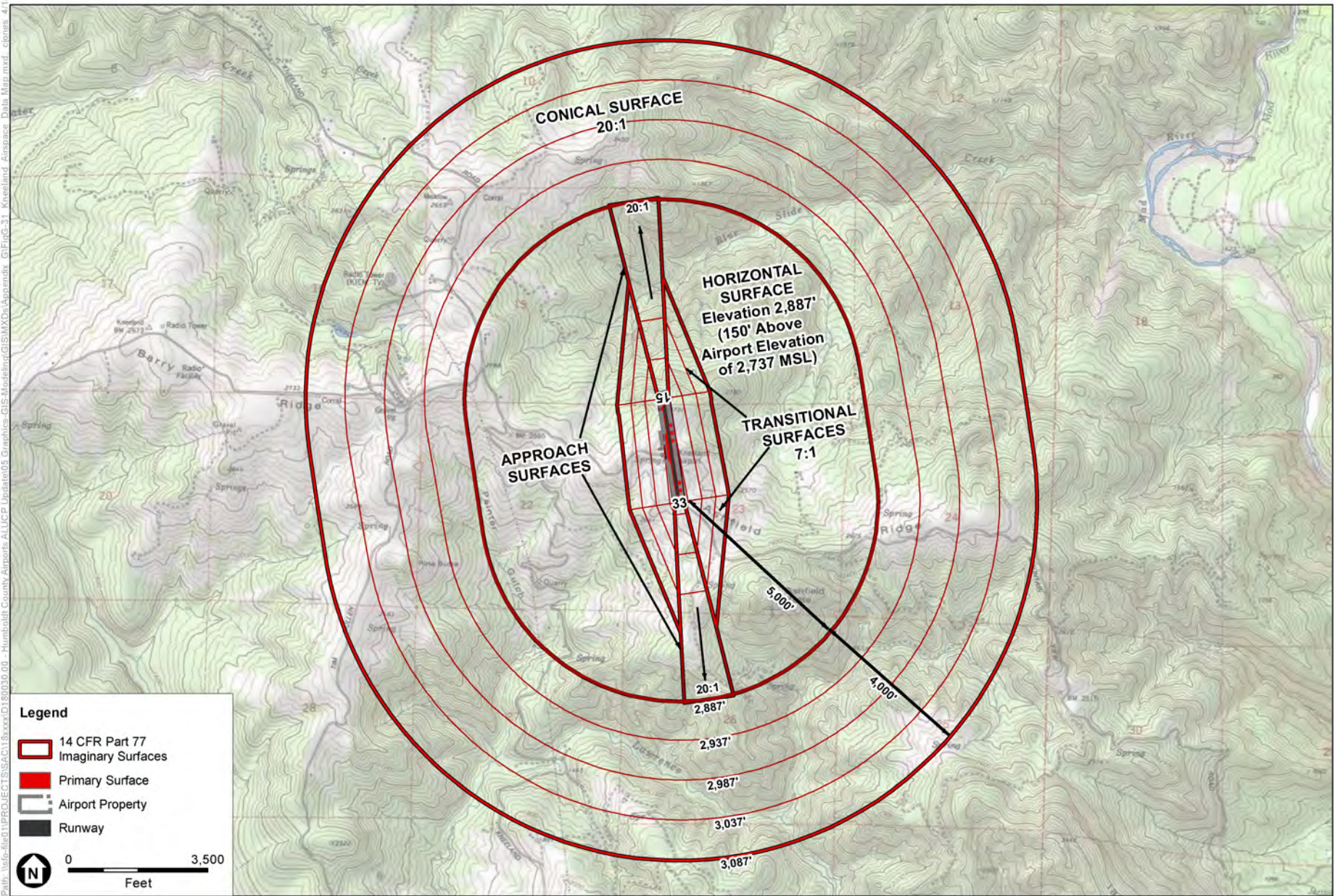


SOURCE: AEDT 2d; ESA, 2018; DigitalGlobe, October 2017; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-30**  
Safety Zones Data Map  
Kneeland Airport

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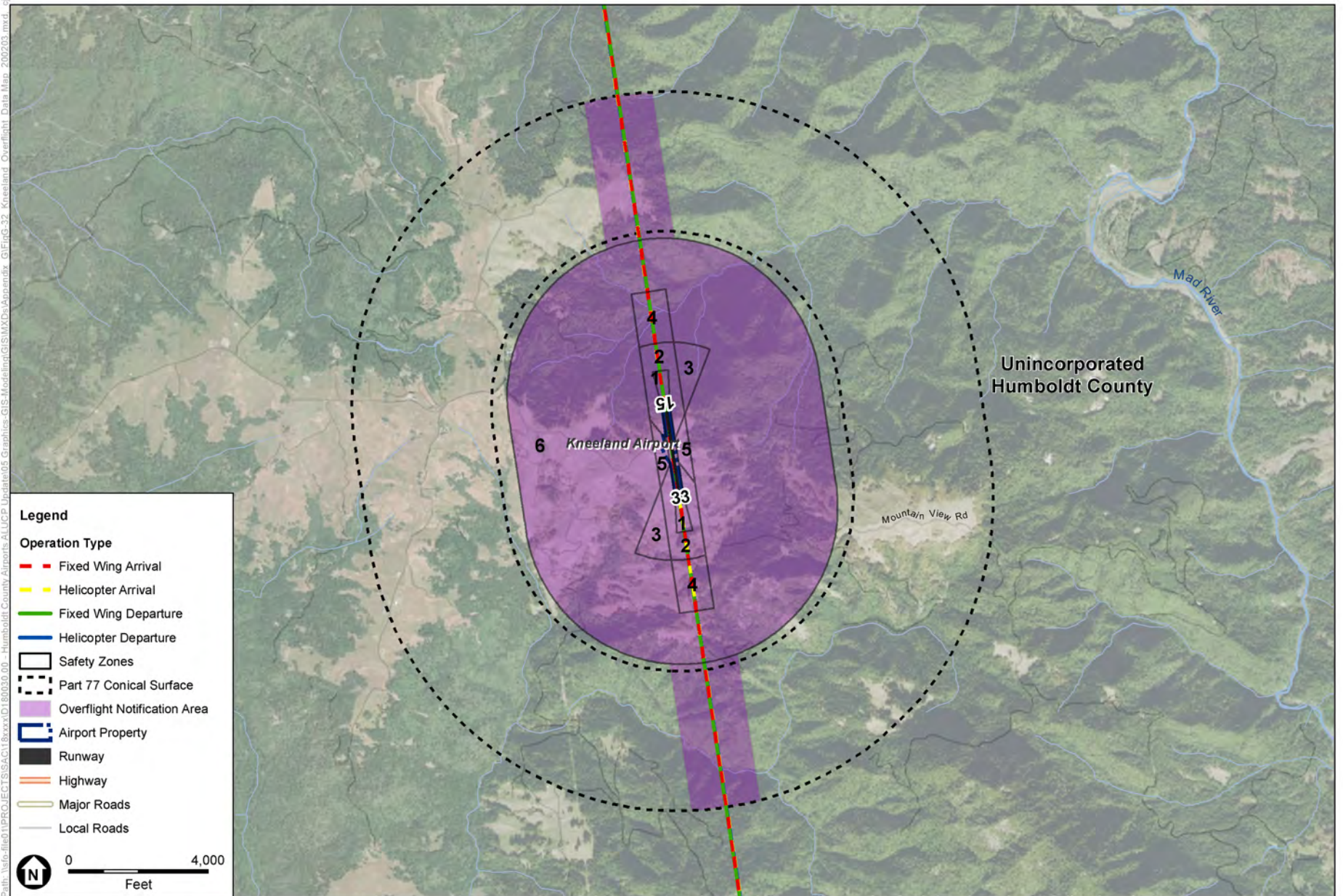


SOURCE: USDOT, FAA 14 CFR Part 77, Safe, Efficient Use and Preservation of Navigable Airspace, July 21, 2010; ESA, 2018

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-31**  
Airspace Protection Data Map  
Kneeland Airport





SOURCE: AEDT 2d; ESA, 2018; DigitalGlobe, October 2017; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-32**  
Overflight Notification Data Map  
Kneeland Airport

## G.6 Murray Field Airport

The following report provides a summary describing Murray Field Airport (EKA or Airport), including a description of the Airport location, surrounding land uses, Airport facilities, and existing and projected operational activity at the Airport.

### G.6.1 Airport Background

The Airport is located at the northern edge of the City of Eureka, in the northwestern part of Humboldt County approximately 10 miles south of the California Redwood Coast – Humboldt County Airport. The Airport is situated at an elevation of 10.5-feet above Mean Sea Level (MSL).

**Figure G-33** presents an aerial view of the Airport and the immediate surrounding area.

The Airport lies on filled land immediately east of Humboldt Bay. The Airport is bounded by Fay Slough to the north and to the southwest and east by Eureka Slough. The Airport was acquired in the late 1930s, with the County naming the facility the Murray Field Airport with the Airport officially opened in 1940. Original facilities consisted of a single runway (7-25) and hangar. Runway 7-25 was originally constructed as the primary runway, but a secondary runway was realigned northwest-southeast and became the Airport’s primary Runway 11-29, which has now become Runway 12-30.

**Table G-15** provides a summary of Airport background information.

**TABLE G-15**  
**AIRPORT BACKGROUND SUMMARY – MURRAY FIELD AIRPORT**

<b>General Information</b>	<b>Description</b>
Airport Ownership	Public
Year Opened	1940
Airport Property Size	131 Acres
Airport Classification	General Aviation
Airport Elevation	10.5 feet MSL
<b>Airport Planning Documents</b>	<b>Description</b>
Airport Master Plan	Yes, January 2007
Airport Layout Plan	Yes, January 2007
<b>Planned Facility Improvements</b>	<b>Description</b>
Airside	Yes
Landside	Yes

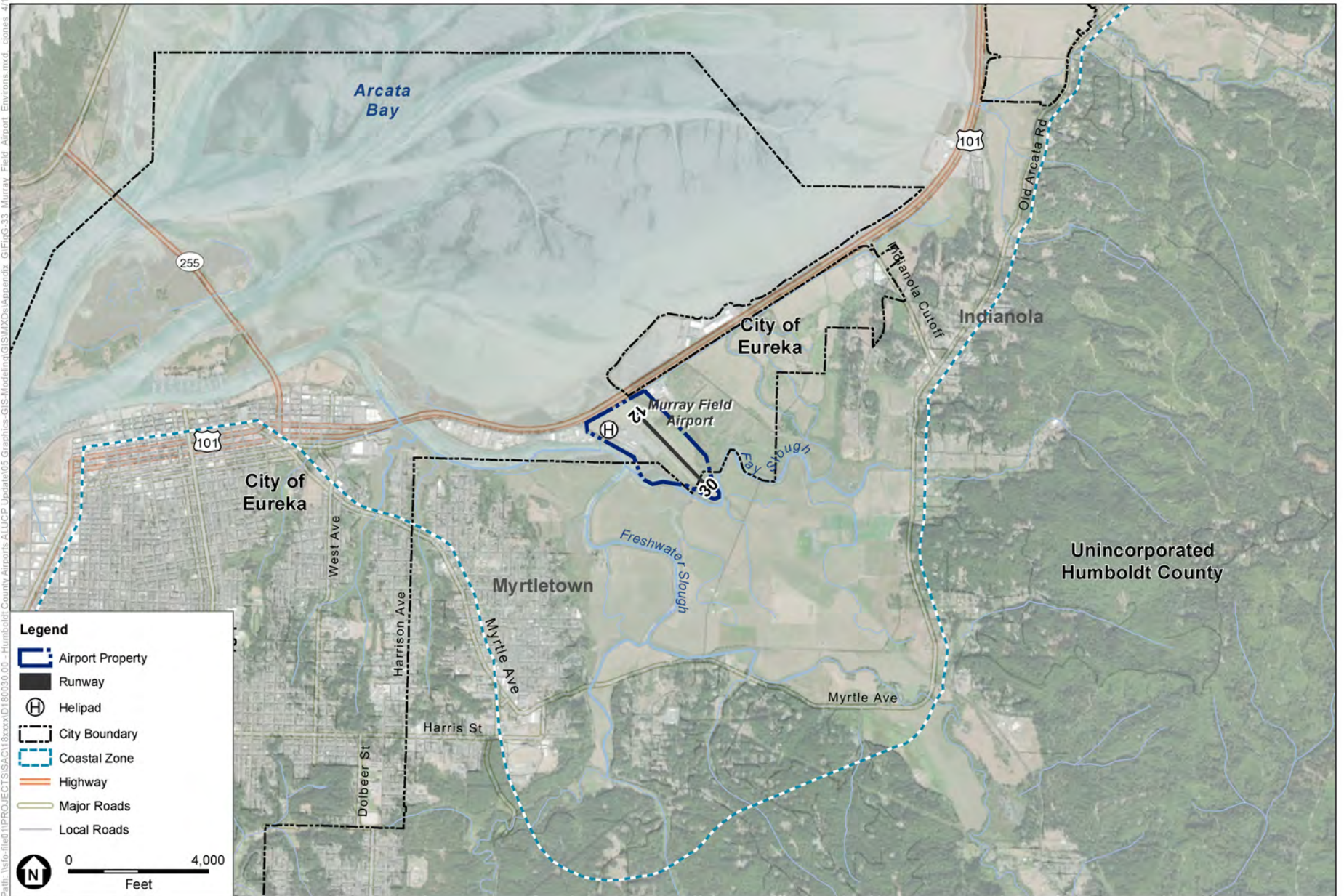
**NOTES:**

MSL = Mean Sea Level

Source: FAA Airport Master Record, Murray Field Airport Master Plan, January 2007



Path: \\ef0\hprojects\sac\118xxxx\10180030\00 - Humboldt County Airports ALLCP Update\05 Graphics-GIS-Modeling\GISMXDs\Appendix G\FigG-33 Murray Field Airport Environs.mxd - jones 4/13/2020



SOURCE: ESA, 2018; DigitalGlobe, October 2017; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-33**  
Airport Environs  
Murray Field Airport



## G.6.2 Airport Characteristics

The Airport property is 131 acres in size and has one asphalt runway, Runway 12-30, the connecting taxiway system, two Fixed Base Operator (FBO) facilities, and aircraft storage and parking areas. The main building area is located in the southwest quadrant of the airport. The Airport has a single runway (12-30): a 3,011-foot runway oriented roughly northwest-southeast, 75-feet in width. Runway 12 offers non-precision instrument approach capabilities and can accommodate aircraft with wingspans of up to 49-feet and approach speeds of less than 121 knots. The U.S. Coast Guard conducts training maneuvers at Murray Field Airport. The runway was designed to accommodate a 19,000-pound aircraft with a single-wheel landing gear configuration.

Murray Field Airport is classified as a GA airport in the NPIAS as well as the CASP, with the CASP classifying Murray Field in the Regional General Aviation sub-category.

The Master Plan identified EKA as an ARC B-I (small) facility with the majority of aircraft operating at Murray Field Airport being small single-engine and light twin-engine piston aircraft. The Airport also sees frequent use by larger, faster aircraft such as twin-engine turboprops, and small and medium-size business jets. The most demanding class of aircraft regularly using the Airport are smaller business jets, such as the Cessna Citation I and air cargo feeder aircraft such as the Cessna Caravan. For planning purposes, the Cessna Citation I aircraft is assumed as the Airport's design aircraft by the Master Plan.

APL lines are established to define the appropriate location of aircraft parking positions. With one parallel taxiway, the appropriate setbacks for critical areas meet FAA standards for an ARC B-I (small) airport. The ALP notes that there are 56 tie-down spaces, and 52 hangar units on site with a reduction of 17 tie-downs, and an addition of 28 hangar units anticipated for the future.

The ALP is depicted on **Figure G-34**.

The County updated the Airport's Master Plan, including the ALP, in January 2007. Information provided on the approved ALP (and described in the Airport Master Plan Update) was used to prepare this document. The planned improvements to the Airport shown in the Master Plan and on the ALP include a 20-year plan that mostly discusses design and construction of runway and taxiway lighting, reconstruction, and rehabilitation projects.

**APPROVED CONDITIONALLY**  
FEDERAL AVIATION ADMINISTRATION  
AIRPORTS DISTRICT OFFICE  
SAN FRANCISCO, CALIFORNIA

By: *[Signature]* Date: *7/16/10*  
FA Manager

Subject to Letter dated *7/16/10*

**MEAD & HUNT**

133 Aviation Boulevard, Suite 100,  
Santa Rosa, California 95403 - (707) 526-5010

**REVISIONS**

Δ	DATE	BY	DESCRIPTION	APP'D	DATE
1	5/9/3	Hodges & Shull	Airport Master Plan	FAA	12/29/93
2	10/07	Mead & Hunt, Inc.	Airport Master Plan Update	FAA	
3	06/09	Mead & Hunt, Inc.	Update ALP Notes		
4	2/10	Mead & Hunt, Inc.	Revise Per 12/09 FAA Letter		

SUBMITTED BY:  
COUNTY OF HUMBOLDT

APPROVED:  
*[Signature]* 2/18/10  
THOMAS K. MATTSOON  
DIRECTOR OF PUBLIC WORKS

COUNTY OF HUMBOLDT  
AVIATION DIVISION  
JACQUELYN HULSEY

DRAWN BY: TE/AH  
REVIEWED BY: MM  
DRAWING DATE: February 2009  
DRAWING FILE NAME:

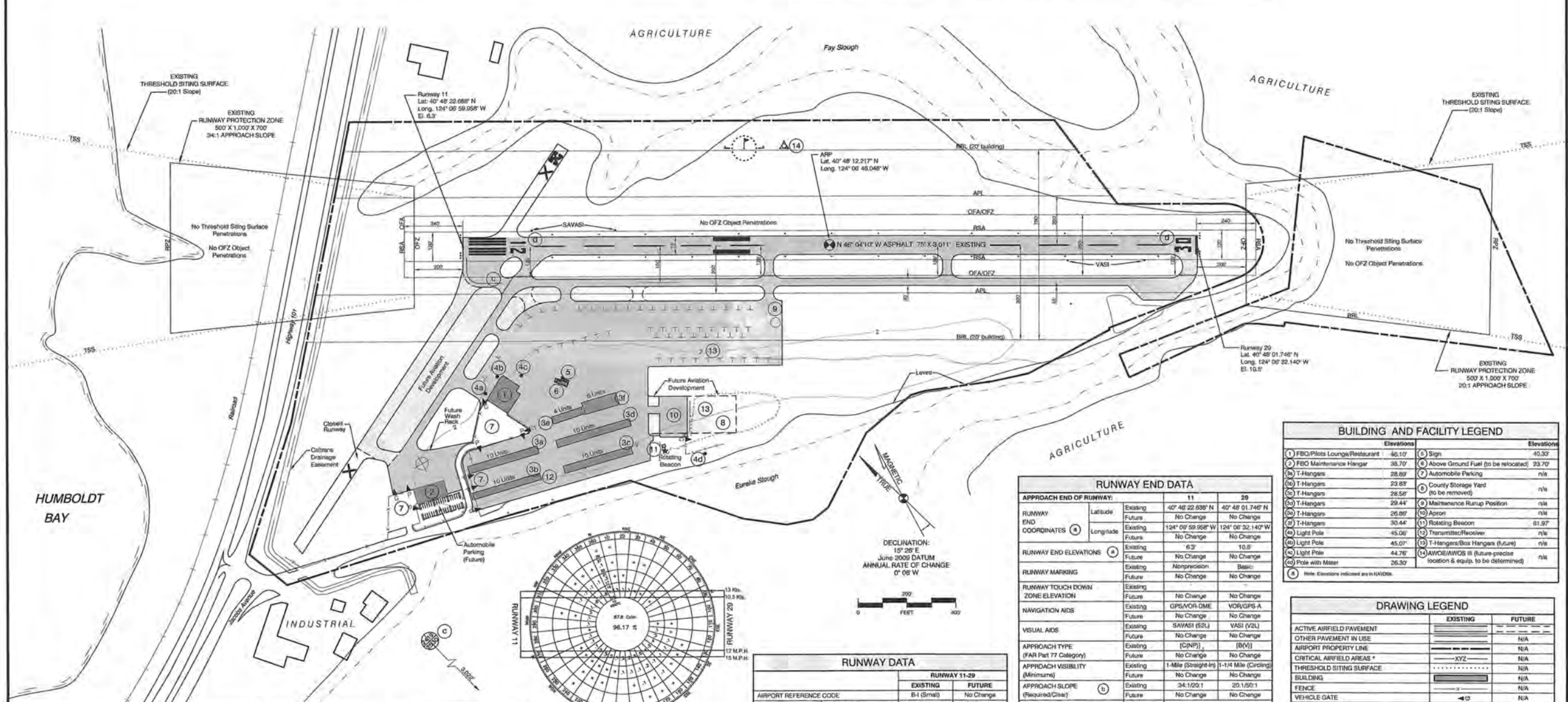
COUNTY OF HUMBOLDT  
DEPARTMENT OF PUBLIC WORKS  
MURRAY FIELD AIRPORT - EUREKA, CALIFORNIA

**AIRPORT LAYOUT PLAN**

SHEET  
**1**  
OF  
**3**

**TAXIWAY DATA**

TAXIWAY	DESIGN GROUP	WIDTH	SAFETY AREA WIDTH	TAXIWAY OBJECT FREE AREA WIDTH	TWY. CL. IS FIXED OR MOVABLE OBJECT	TAXIWAY WINGTIP CLEARANCE	COMMENTS
Parallel	B-1 (Small)	No Change	30'	No Change	>50'	No Change	>89'

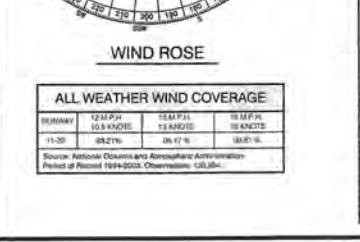


**ALP NOTES**

- Source: Humboldt County Department of Public Works Survey November, 2004. Horizontal datum: NAD83. Vertical datum: NAVD83.
- Source: FAA Airport Master Record Form 5010-1, May 7, 2009.
- Only one section corner appears in the vicinity of the ALP view.
- Due to the change in magnetic declination, the runway to be redesignated to 12-30 at next resurvey. Future markings shown.

**AIRPORT DATA**

AIRPORT REFERENCE CODE	EXISTING	FUTURE
AIRPORT REFERENCE POINT (D)	B-1 (Small)	No Change
Latitude	40° 48' 12.217" N	No Change
Longitude	124° 09' 49.048" W	No Change
AIRPORT ELEVATION (Above Mean Sea Level)	10.5'	No Change
MEAN MAX. TEMP. (Hottest Month)	63°F (Sept.)	No Change
AIRPORT AND TERMINAL NAVIGATIONAL AIDS	GPS/VOR/BEACON	No Change
GPS APPROACH ESTABLISHED	Yes	No Change
AIRPORT ACREAGE	Fee Simple 131 Aviation Easement None	No Change
AIRCRAFT PARKING SPACES	Tiedowns 56 Hangar Units 39	80



**RUNWAY DATA**

AIRPORT REFERENCE CODE	EXISTING	FUTURE
AIRCRAFT	Cessna Citation 1	No Change
WINGSPAN	47.1'	No Change
UNDERCARRIAGE WIDTH	15'	No Change
APPROACH SPEED	108 kts.	No Change
MAX. TAKEOFF WT.	11,850 lbs.	No Change
PHYSICAL LENGTH AND WIDTH	3,011' x 75'	No Change
RUNWAY HIGH POINT	10.5'	No Change
RUNWAY LOW POINT	6.3'	No Change
VERTICAL LINE OF SIGHT PROVIDED	Yes	No Change
EFFECTIVE GRADIENT (%)	0.15	No Change
MAXIMUM GRADIENT (%)	0.73	No Change
RUNWAY/TAXIWAY SURFACE TYPE	Asphalt/Asphalt	No Change
PAVEMENT STRENGTH (1,000 PSI) - S/D, DT	19/-	No Change
RUNWAY EDGE LIGHTING	MRL	No Change

**RUNWAY END DATA**

APPROACH END OF RUNWAY:	11	20
Latitude	Existing 40° 48' 22.639" N Future No Change	40° 48' 01.746" N No Change
Longitude	Existing 124° 09' 59.928" W Future No Change	124° 08' 32.140" W No Change
Runway End Elevation	Existing 6.3' Future No Change	10.5' No Change
Runway Marking	Existing Nonprecision Future No Change	Basic No Change
Runway Touch Down Zone Elevation	Existing No Change Future No Change	No Change No Change
Navigation Aids	Existing GPS/VOR/DME Future No Change	VOR/GPS-A No Change
Visual Aids	Existing SAVASI (S-I), VASI (V-L) Future No Change	VASI (V-L) No Change
Approach Type (FAA Part 77 Category)	Existing [CNP] Future No Change	[B01] No Change
Approach Visibility (Minimum)	Existing 1-Mile (Straight-In) Future No Change	1-1/4 Mile (Circling) No Change
Approach Slope (Required/Clear)	Existing 34:1/25:1 Future No Change	20:1/20:1 No Change
Runway Safety Area (Width)	Existing 150' Future No Change	150' No Change
Runway Safety Area (Length Beyond Runway End)	Existing 240' Future No Change	240' No Change
Obstacle Free Zone (Width)	Existing 250' Future No Change	250' No Change
Obstacle Free Zone (Length Beyond Runway End)	Existing 300' Future No Change	200' No Change
Object Free Area (Width)	Existing 250' Future No Change	250' No Change
Object Free Area (Length Beyond Runway End)	Existing 300' Future No Change	240' No Change
Distance From RWY to Hold Bars	Existing 125' Future No Change	125' No Change

**BUILDING AND FACILITY LEGEND**

Elevations	Elevations
1) FBO/Plots Lounge/Restaurant 46.10'	6) Sign 45.33'
2) FBO Maintenance Hangar 36.70'	7) Above Ground Fuel (to be relocated) 23.70'
3) T-Hangars 28.69'	8) Automobile Parking n/a
4) T-Hangars 23.83'	9) County Storage Yard (to be removed) n/a
5) T-Hangars 28.58'	10) Maintenance Runup Position n/a
11) T-Hangars 29.44'	11) Rotating Beacon n/a
12) T-Hangars 26.80'	12) Apron n/a
13) T-Hangars 35.44'	13) Transmitter/Receiver n/a
14) Light Pole 45.00'	14) T-Hangars/Box Hangars (future) n/a
15) Light Pole 45.07'	15) AIRCRAFTS in future practice location & equip. to be determined n/a
16) Pole with Mast 44.76'	
17) Pole with Mast 26.30'	

Note: Elevations indicated with NAD83.

**DRAWING LEGEND**

	EXISTING	FUTURE
ACTIVE AIRFIELD PAVEMENT		
OTHER PAVEMENT IN USE		N/A
AIRPORT PROPERTY LINE		N/A
CRITICAL AIRFIELD AREAS *		N/A
THRESHOLD SITING SURFACE		N/A
BUILDING		N/A
FENCE		N/A
VEHICLE GATE		N/A
PEDESTRIAN GATE		N/A
WIND CONE		N/A
LIGHT POLE		N/A
BEACON		N/A
TOPOGRAPHIC CONTOURS		N/A
WATERWAY / CULVERT		N/A
CHANNEL		N/A
AIRPORT REFERENCE POINT		N/A
SECTION CORNER		N/A

\* Applicable to the following:  
 APL - Aircraft Parking Limits  
 BR - Building Restriction Line  
 OFA - Object Free Area  
 OFZ - Obstacle Free Zone  
 RPZ - Runway Protection Zone  
 RSA - Runway Safety Area  
 TSS - Threshold Siting Surface

SOURCE: Mead & Hunt, 2009

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-34**  
Airport Layout Plan  
Murray Field Airport



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**Table G-16** presents a summary of the Airport's existing airside and landside facilities.

**TABLE G-16  
AIRPORT FACILITIES SUMMARY – MURRAY FIELD AIRPORT**

<b>Airside Facilities</b>					
<b>Runways</b>		<b>Description</b>			
Runway Designation	Runway 12-30				
Airport Reference Code (ARC)	B-I (small)				
Critical Design Aircraft	Cessna Citation I				
Runway Dimensions	3,011 feet by 75 feet				
Pavement Strength (1,000 lbs.) – S / D / DT	19/ - / - lbs.				
Runway Lighting / Visual Approach Aids	MIRL, GPS, VOR, BEACON				
Taxiways	One Parallel Taxiway				
Heliport/Helipad	None				
<b>Approach Protection</b>		<b>Description</b>			
Runway Protection Zones (RPZs)					
• Runway 12		500' x 1,000' x 700', 34:1 Approach Slope			
• Runway 30		500' x 1,000' x 700', 20:1 Approach Slope			
Approach Obstacles		Runway 11: Power pole penetrates the 20:1 TSS			
<b>Traffic Patterns and Approach Procedures</b>		<b>Description</b>			
Aircraft Traffic Patterns					
• Runway 12		Left			
• Runway 30		Right			
Pattern Altitude		807 feet MSL/800 feet AGL			
<b>Instrument Approach Procedures</b>				<b>Minimums</b>	
	<b>Type</b>	<b>Navigational Aids</b>	<b>Aircraft Category</b>	<b>Ceiling (feet)</b>	<b>Visibility (miles/feet)</b>
RNAV (GPS) RWY 12	RNAV	GPS	A, B	753'	1 mile
	Circling	GPS	A, B	753'	1 mile
VOR/DME RWY 12	Straight	VOR/DME	A	993'	1¼ mile
	Circling	VOR/DME	B	993'	1¼ mile
VOR All Runways	Circling	VOR/GPS	A	893'	1¼ mile
	Circling	VOR/GPS	B	893'	1¼ mile

**TABLE G-16**  
**AIRPORT FACILITIES SUMMARY – MURRAY FIELD AIRPORT**

<b>Landside Facilities</b>	
<b>Building Area</b>	<b>Description</b>
Aircraft Parking Location	South side
Aircraft Parking Capacity	
<ul style="list-style-type: none"> <li>Hangar Spaces</li> </ul>	52 hangars on the south side
<ul style="list-style-type: none"> <li>Tie-Down Spaces</li> </ul>	56 on the south side
<b>Services</b>	
<ul style="list-style-type: none"> <li>Fuel</li> </ul>	100LL; 7 days per week, 8:00 a.m. to 5:00 p.m.  Fuel island in the middle of the main apron (aboveground tanks)
<ul style="list-style-type: none"> <li>Other</li> </ul>	One full service operator
NOTES:	
AGL = Above ground level	REIL = Runway edge indicator lights
DME= Distance measuring equipment	RNAV = Area navigation
S = Single wheel landing gear	VASI = Visual Approach Slope Indicator
D = Dual wheel landing gear	VOR = Very high frequency omnidirectional radio range
DT = Dual tandem landing gear	
GPS = Global Positioning System	
LOC = Localizer	
MIRL= Medium intensity runway lights	
MSL = Mean sea level	

Planned improvements for facilities at Murray Field are summarized in **Table G-17**.

**TABLE G-17**  
**AIRPORT PLANNED FACILITY IMPROVEMENTS – MURRAY FIELD AIRPORT**

<b>Planned Facility Improvements</b>	<b>Description</b>
Airside	<ul style="list-style-type: none"> <li>Design and Construct Phase I Improvements (as needed)</li> <li>Design Runway and Taxiway Lighting System</li> <li>Construct Runway and Taxiway Lighting System</li> <li>Design Runway and Taxiway Reconstruction and Rehabilitation</li> <li>Runway and Taxiway Reconstruction and Rehabilitation</li> <li>Design and Construct Phase II Improvements (as needed)</li> <li>Design and Construct Phase III Improvements (as needed)</li> </ul>
Landside	<ul style="list-style-type: none"> <li>Design Entrance Road Rehabilitation</li> <li>Construct Entrance Road Rehabilitation</li> </ul>
NOTES:	
MSL = Mean Sea Level	
WAAS=Wide Area Augment System	
LPV= Localizer Performance with Vertical Guidance	
Source: Murray Field Airport Layout Plan, 2007; Murray Field Airport Master Plan, 2007.	

The Airport does not operate an ATCT. Navigational aids at the Airport include Beacon, GPS, a segmented circle, and a wind cone. Visual aids at the Airport include a rotating beacon, a two-box visual approach slope indicator at both ends of the runway (SAVSI and VASI-2L), and MIRL, as well as a Very-High-Frequency Omnidirectional Range (VOR-DME) antenna located at Rohnerville Airport (Fortuna VOR) provides distance and bearing information to pilots on approach to Runway 12.

Aircraft parking aprons are located on the southwest side of the runway with tie-downs for 56 aircraft, and 52 hangar units. Automobile access to the Airport is from Jacobs Avenue via U.S. Highway 101. Jacobs Avenue follows the Airport's southern boundary. Highway 101 borders the Airport to the west, adjacent to Humboldt Bay. A paved vehicle parking area west of the FBO building is secured by a chain link fence that separates the parking lot from the FBO's aircraft parking apron. The FBO utilizes two large hangars leased from the county. The FBO's office, flight training, and charter activities are concentrated in the pilots' lounge/restaurant building located southwest of Runway 12. A triangular vehicle parking area abuts the pilot's lounge/restaurant building. The parking lot accommodates 29 vehicles. Direct access to the parking lot is from Jacobs Avenue. On the eastern boundary of the parking area, an electric gate requiring an access code precludes unauthorized vehicles from entering the airfield and aircraft parking areas.

The second FBO building is located immediately north of the Airport entrance road. Maintenance activities are conducted in this building. Generally, there are three based aircraft positioned on the FBO ramp, located in front of the maintenance building.

### G.6.3 Airport Activity

The policies in Chapters 2 and 3 of this Compatibility Plan are based on the following primary sources: The Aeronautics Act, the ALP and the Airport diagram for each of the Airports that are a subject of this Compatibility Plan and other State laws, regulations, and guidelines, including those in the California Airport Land Use Planning Handbook (Handbook) published by the Division of Aeronautics in October 2011. A copy of the Handbook is available for download on the Division of Aeronautics website at (<http://www.dot.ca.gov/hq/planning/aeronaut/documents/alucp/>).

**Table G-18** summarizes existing airport activity at the Airport as identified in the 2007 Master Plan and characterized on the ALP. In 2005, there were 101 aircraft based at the Airport, including 90 single-engine propeller aircraft, and 11 multi-engine propeller aircraft. The number of aircraft at the Airport has remained the same over the Airport activity historical tracking period. There were approximately 66,170 operations at the Airport in 2005, roughly split 31 percent for local and 69 percent for itinerant operations.

Prevailing winds are from the northwest and the majority of arrivals and departures are to/from Runway 30. Helicopter traffic is minimal and operates from the runway.

## G.6.4 Forecast Airport Activity

California state law requires that ALUCPs must be based on a long-range Airport Master Plan or an ALP that forecasts anticipated growth at an airport for the next 20 years. For purposes of this ALUCP update, the Murray Field Airport Master Plan 20-year (2025) forecast, as well as the FAA's TAF, are used to characterize future airport activity. In 2005, 115 aircraft were forecast to be based at the Airport over the 20-year forecast period of the Master Plan. In 2005, there were 66,170 total annual operations at the Airport, of which 31 percent were itinerant, and 69 percent local. Approximately 82,360 annual operations were forecasted at the Airport for 2025 with all operations being for general aviation.

Forecasted airport activity at the Airport based on FAA TAF assumptions for years 2017 to 2039 are summarized in Table G-18. The total amount of based aircraft is assumed to remain similar to existing conditions over the 20-year forecast period. Based on the estimated operations from the Master Plan, there is no increase in operations anticipated at the Airport over the next 20 years, with approximately 55,450 annual operations in 2017, and approximately the same amount (55,450 of annual operations) forecasted at the Airport in 2039.

**TABLE G-18**  
**AIRPORT ACTIVITY DATA – MURRAY FIELD AIRPORT**

Based Aircraft	Master Plan Conditions (2005)		Master Plan Future Conditions (2025)	
	Single-engine prop	90		94
Multi-engine prop	11		15	
Turbine/Jet	0		4	
Helicopter	0		2	
Other <sup>1</sup>	0		0	
<b>Total</b>	<b>101</b>		<b>115</b>	

Aircraft Operations	Existing Conditions (2017)		Future Conditions (2039)	
	Number of Operations	Percentage by Aircraft Type	Number of Operations	Percentage by Aircraft Type
Single-engine prop	54,001	97.4%	54,001	97.4%
Multi-engine prop	1,052	1.90%	1,052	1.90%
Turbine/Jet	66	0.11%	66	0.11%
Helicopter	330	0.59%	330	0.59%
Other <sup>1</sup>	0	0.00%	0	0.00%
<b>Total</b>	<b>55,450</b>	<b>100.00%</b>	<b>55,450</b>	<b>100.00%</b>



**TABLE G-18**  
**AIRPORT ACTIVITY DATA – MURRAY FIELD AIRPORT**

Aircraft Type	Existing Conditions (2017)		Future Conditions (2039)	
	Percentage of Takeoffs		Percentage of Landings	
	Rwy 12	Rwy 30	Rwy 12	Rwy 30
Single-engine prop	35.0	65.0	35.0	65.0
Multi-engine prop	--	--	--	--

Aircraft Type	Existing Conditions (2017)		Future Conditions (2039)	
	Percentage of Takeoffs		Percentage of Landings	
	Rwy 12	Rwy 30	Rwy 12	Rwy 30
Turbine/Jet	35.0	65.0	35.0	65.0
Helicopter	--	--	--	--
Other <sup>1</sup>	--	--	--	--

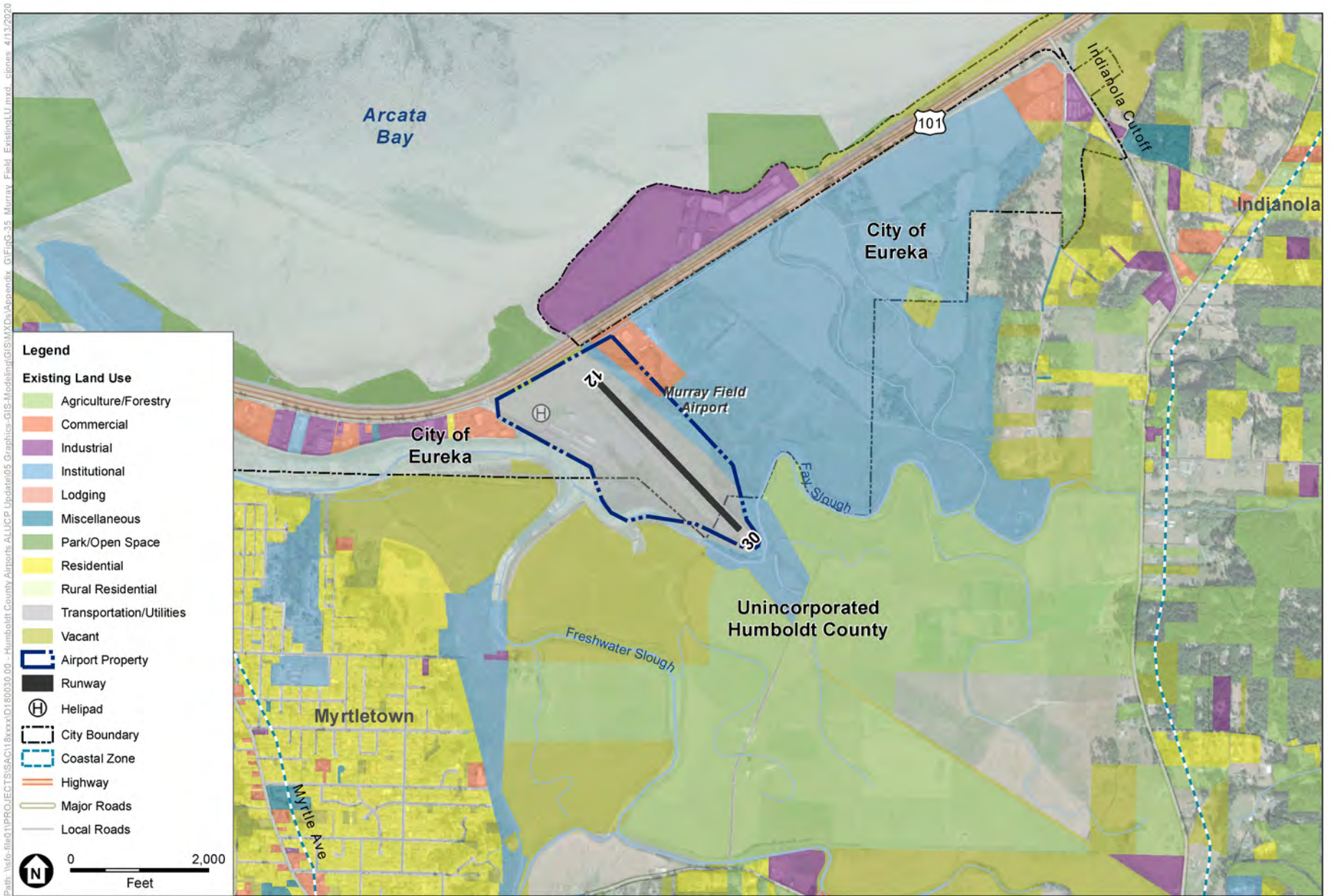
## NOTES:

<sup>1</sup> Other = lighter than air, gliders, or home-built aircraft.

Source: FAA TAF, 2018.

## G.6.5 Airport Environs

**Figure G-35** depicts existing land use in the area surrounding the Airport. **Figure G-36** depicts general plan land use in the area surrounding the Airport. Land use around the Airport is varied, with natural resource and agricultural uses found to the northwest and east of the Airport, beyond the Fay Slough. General commercial and industrial uses are found to the west and north of the Airport. South of the Airport are agricultural exclusive, and natural resource designated land uses. The closest residential land uses are low density residential or estate residential uses within the City of Eureka limits.

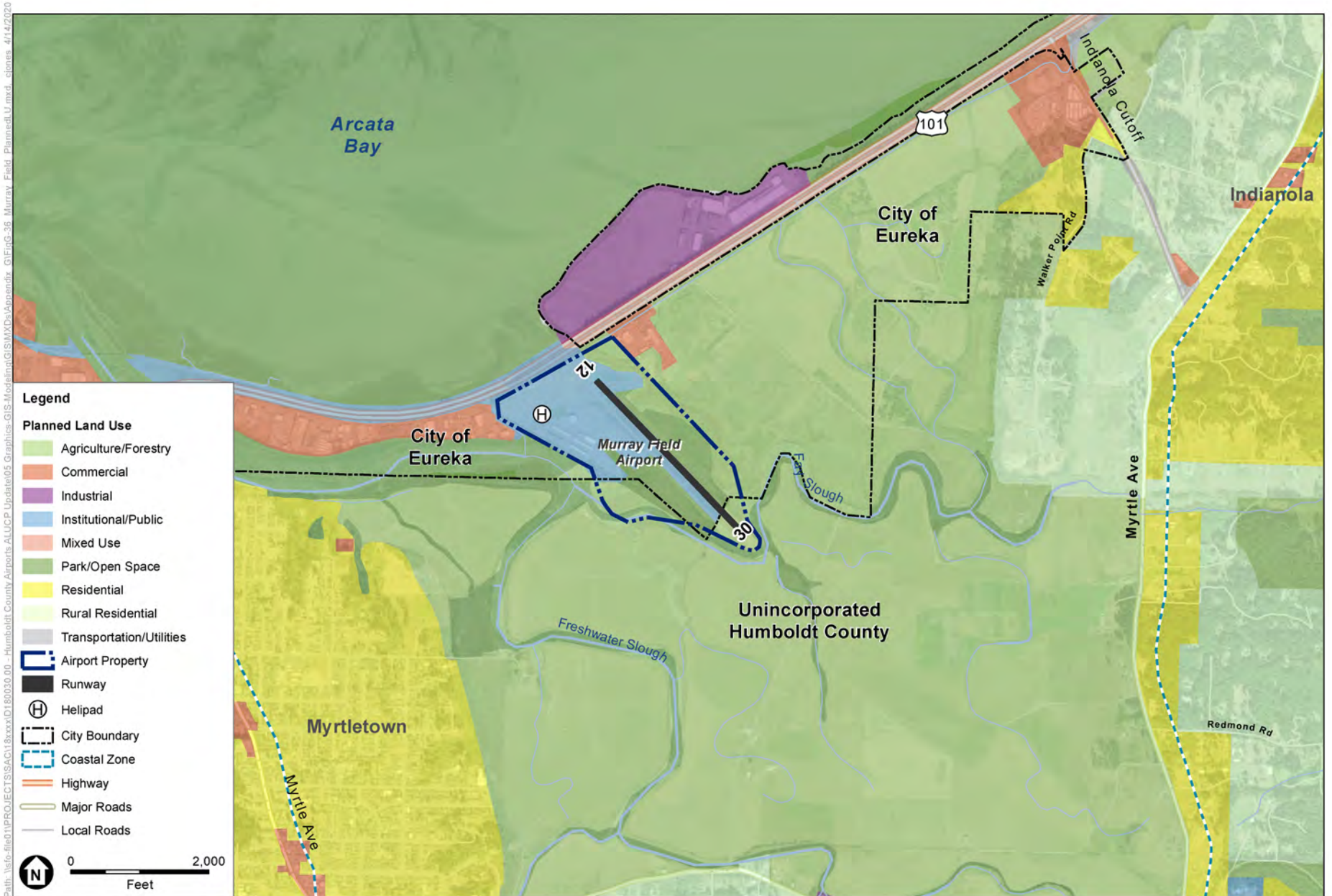


SOURCE: ESA, 2018; County of Humboldt, January 2019; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-35**  
Existing Land Use  
Murray Field Airport





SOURCE: ESA, 2018; County of Humboldt, June 2019; City of Eureka, February 2019; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-36**  
Planned Land Use  
Murray Field Airport

## G.6.6 Compatibility Factors

### Noise Compatibility Data

**Figure G-37** shows noise contours and generalized flight paths by operation type derived from the 2007 Airport Master Plan and Future Conditions Noise Contours. As discussed above, the TAF estimates 55,450 annual operations, or approximately 152 annual average daily operations, for 2017 and 2039 conditions. The noise contours shown on Figure G-37 were modeled to reflect 2039 conditions signifying the planning horizon of the ALUCP. Therefore, the noise contours shown on Figure 8-1 represent noise exposure at the Airport under 2039 conditions.

### Safety Compatibility Data

**Figure G-38** shows the proposed safety zones for the Airport.

As shown on Figure G-38 of the ALUCP, generalized traffic patterns taken from the Master Plan were used for the purpose of creating the safety zones at the Airport.

The safety zones for Runway 12-30 were based on *Example 1: Short General Aviation Runway*, included in the Handbook. Example 1 assumes a runway length less than 4,000 feet, approach visibility minimums greater than or equal to one mile, and runway protection zones (RPZs) of 250 feet by 450 feet by 1,000 feet. The runway is less than 4,00 feet, with a visibility minimum of 1 mile and runway protection zones larger than the specified dimensions. No change is recommended.

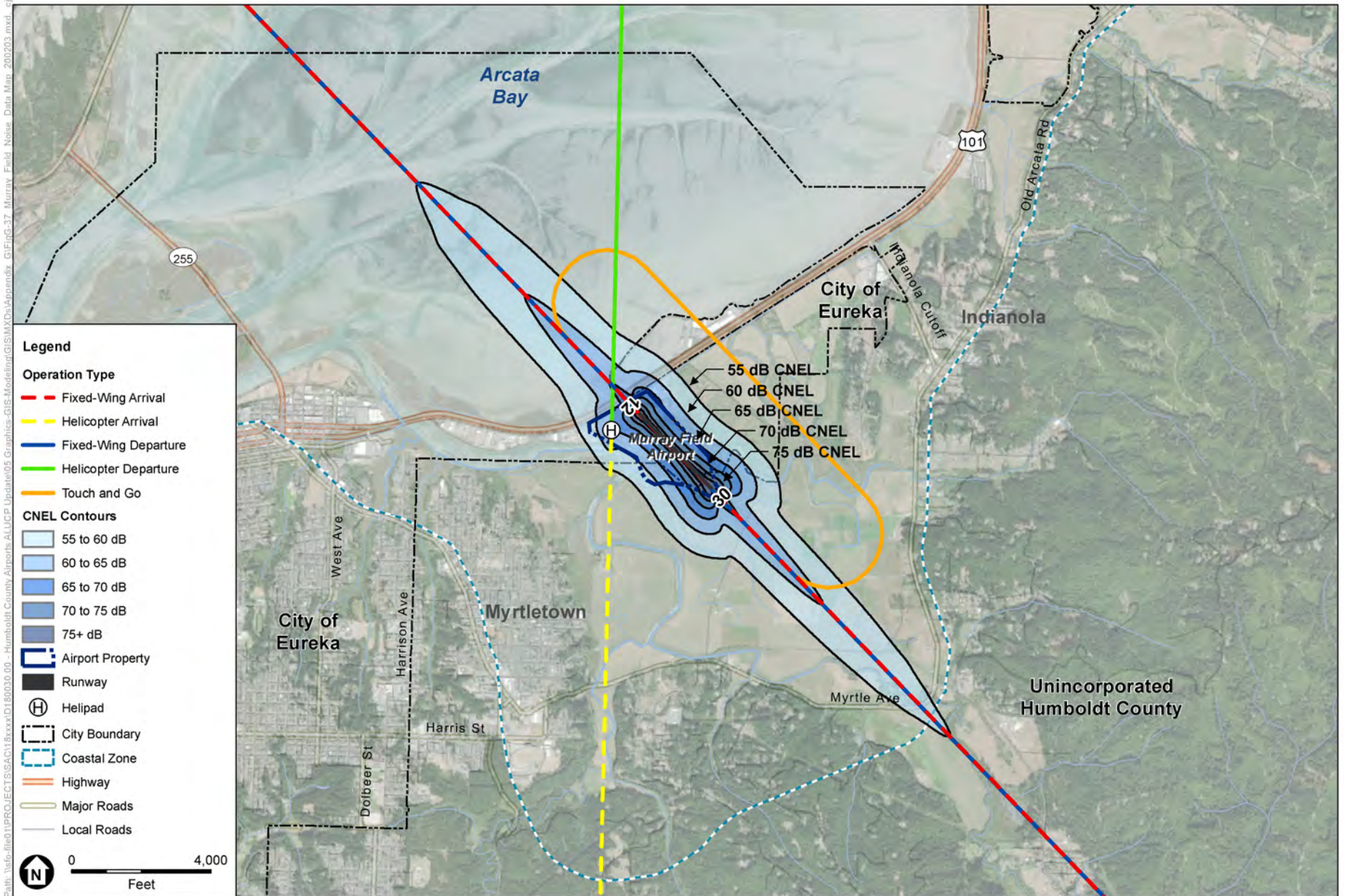
### 14 CFR Part 77 Airspace Compatibility Data

**Figure G-39** depicts the Part 77 airspace surfaces for the Airport as shown in the ALP. Part 77 airspace surfaces reflect areas around airports determined by FAA regulations that should be protected from obstructions and visual impacts that may interfere with the safe operation of aircraft. The current airport elevation is 10.5 feet MSL. The Part 77 airspace surfaces included in the current ALP/Master Plan are based on this elevation.

### Overflight Compatibility Data

**Figure G-40** shows the overflight notification area, generalized flight paths, safety zones, and conical surface for the Airport. The overflight notification area includes all areas covered by the Airport's Safety Zones as well as flight corridors based on the traffic patterns presented in the Master Plan, the ALP, and TAF estimates. General corridors centered on the traffic pattern flight tracks were created to account for normal dispersion in aircraft operations. The generalized flight corridors extend to the outer boundary of the Airport's conical surface.

Path: \\ef0\PROJECTS\SAC\11800010\_00 - Humboldt County Airports ALLUCP Update\05\_Graphics\GIS\Modeling\GISMXDs\Appendix\_G\FigG-37\_Murray\_Field\_Noise\_Data\_Map\_200203.mxd, epines 2/3/2020



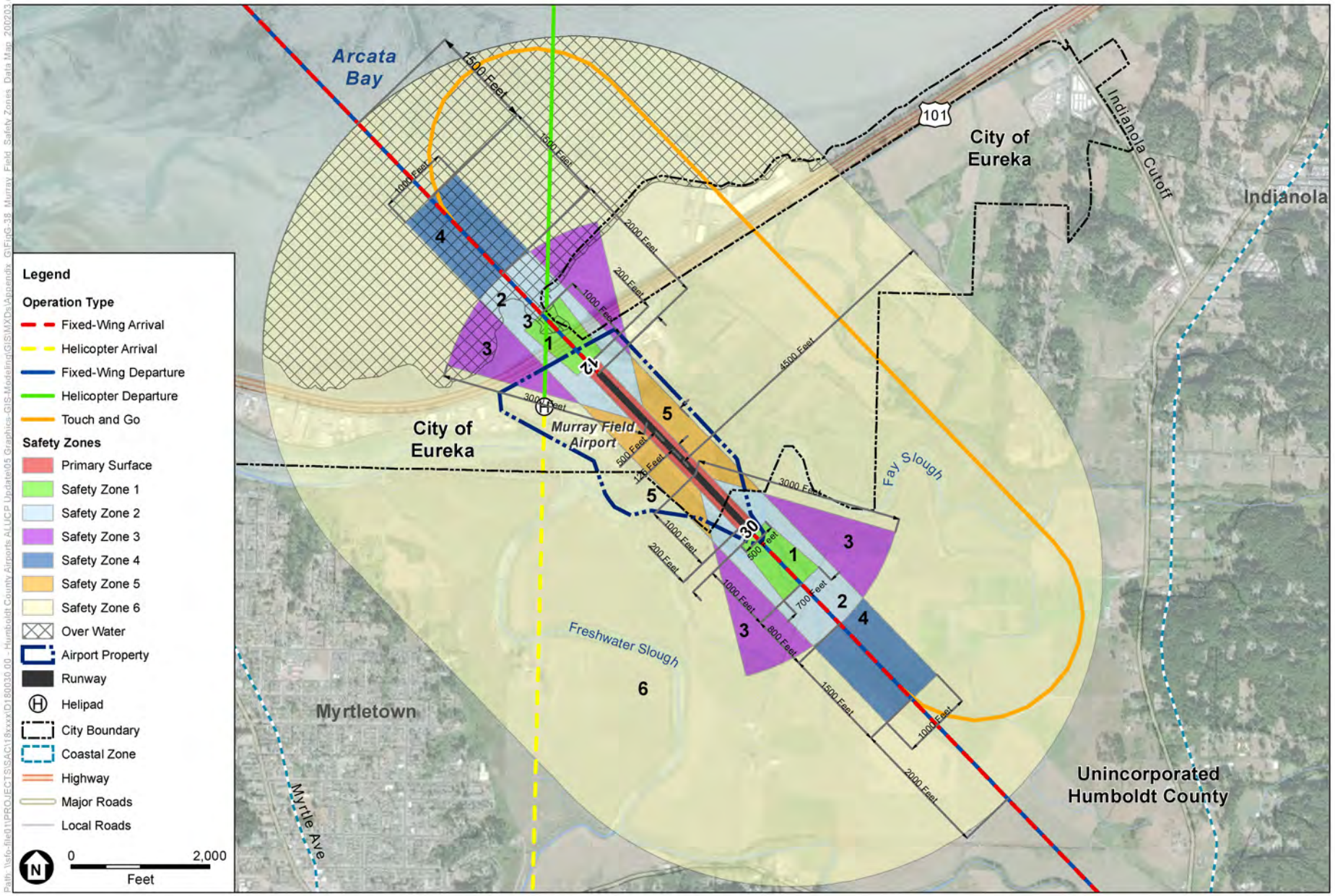
SOURCE: AEDT 2d; ESA, 2018; DigitalGlobe, October 2017; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-37**  
Noise Data Map  
Murray Field Airport



Path: \\ef01\PROJECTS\SACU\8xxxx\018000100 - Humboldt County Airports ALLCP Update\05 Graphics-GIS\Modeling\GIS\MXDs\Mapendix - G\FRIG-38 - Murray Field Safety Zones - Data Map - 2020203.mxd, tjones 4/14/2020



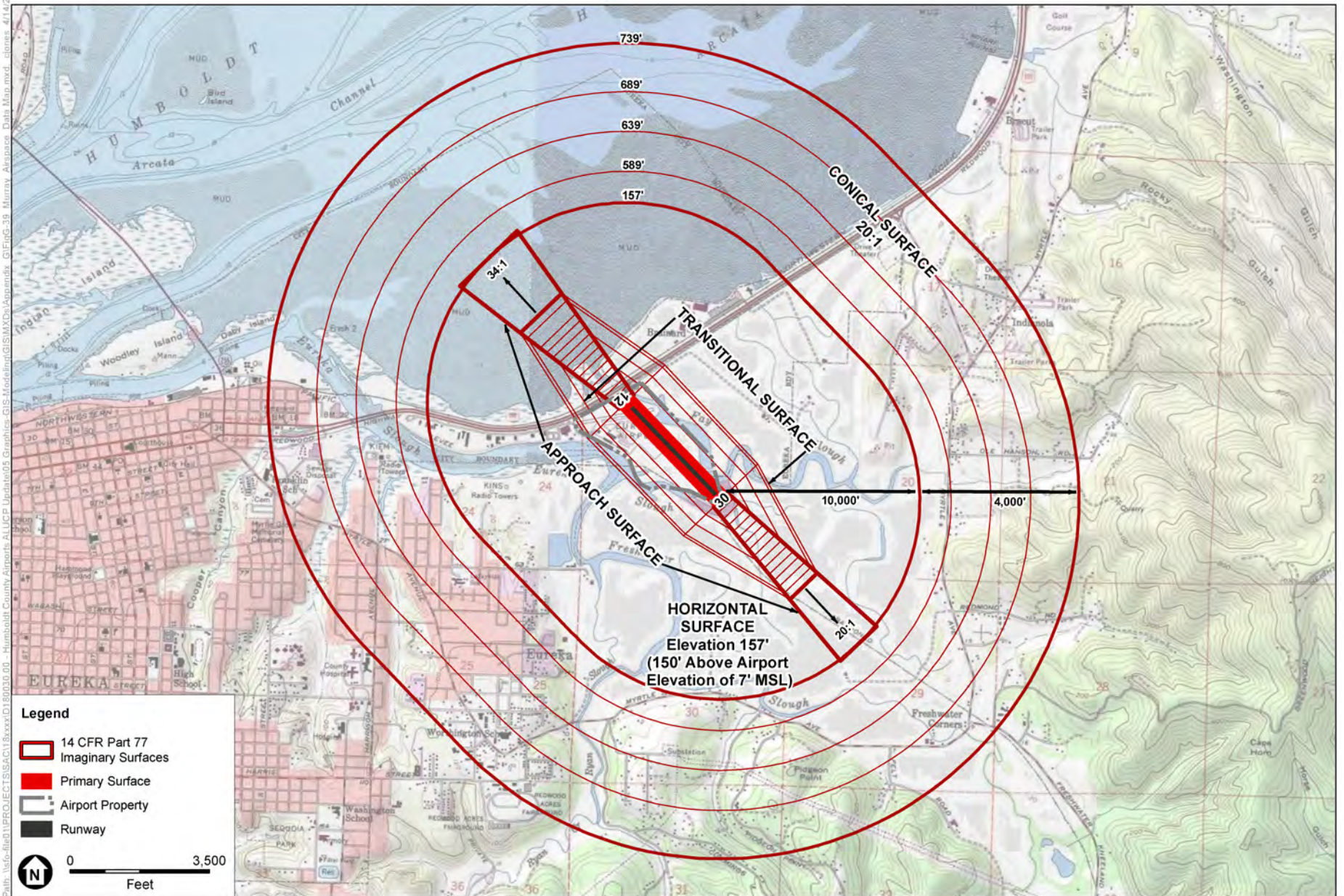
SOURCE: AEDT 2d; ESA, 2018; County of Humboldt, January 2019; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-38**  
Safety Zones Data Map  
Murray Field Airport



Path: \\ef0\l\PROJECTS\SACU\8xxxx\0180010000 - Humboldt County Airports ALLUCP Update\05 Graphics\GIS\Modeling\GISMXOs\Appendix\_G\FIG-39 Murray\_Airspace\_Data\_Map.mxd\_cjones\_4/14/2020

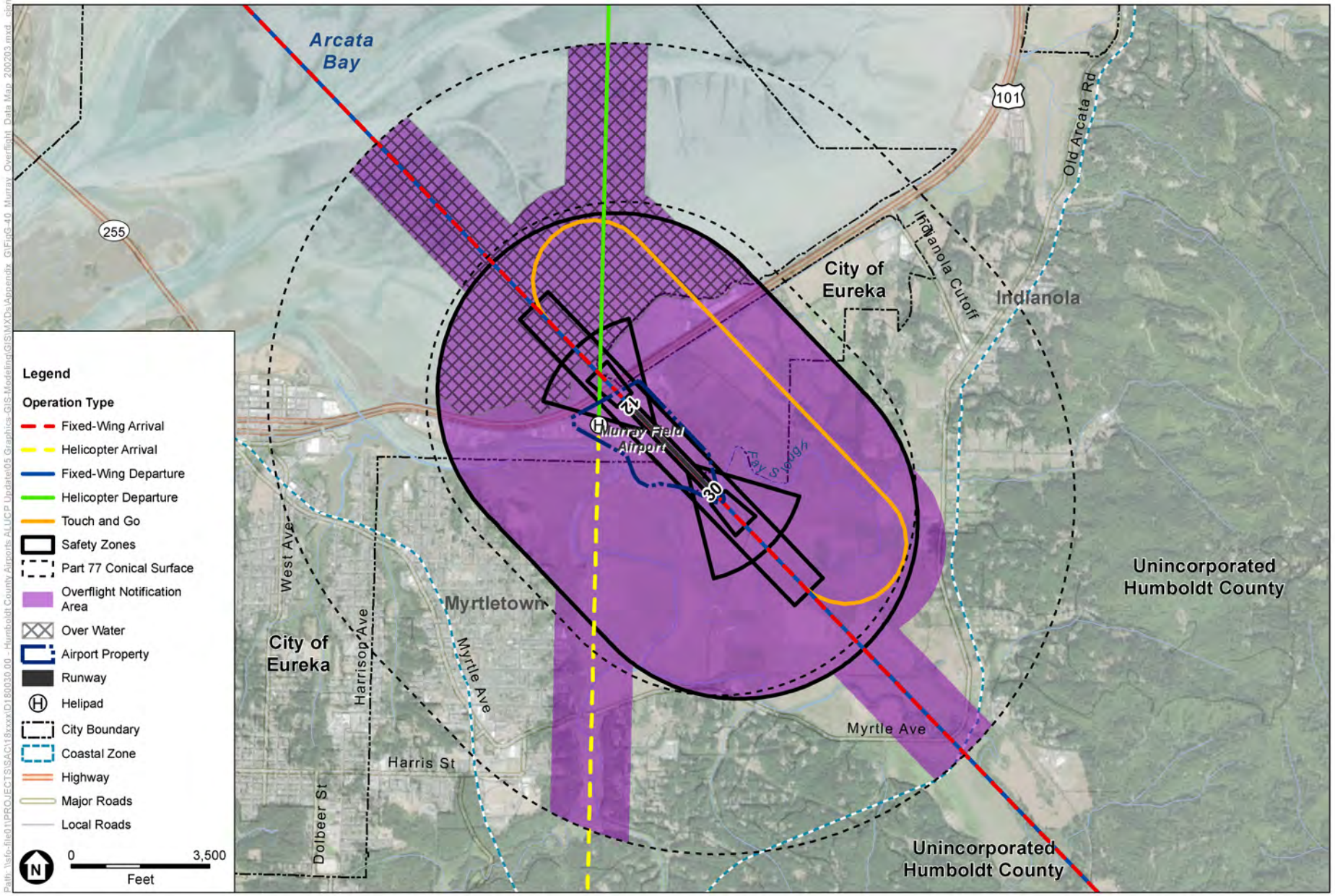


SOURCE: USDOT, FAA 14 CFR Part 77, Safe, Efficient Use and Preservation of Navigable Airspace, July 21, 2010; ESA, 2018

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-39**  
Airspace Protection Data Map  
Murray Field Airport

Path: \\ef0\PROJECTS\SAC\18xxxx\1800010\00 - Humboldt County Airports ALLCP Update\05\_Graphics-GIS-Modeling\GIS\MXDs\Appendix\_G\FigG-40\_Murray\_Field\_Airport\_Overflight\_Data\_Map\_200203.mxd, layers 4/14/2020



SOURCE: AEDT 2d; ESA, 2018; DigitalGlobe, October 2017; US Census Bureau, Geography Division, September 2018; USDOT, FAA 14 CFR Part 77, Safe, Efficient Use and Preservation of Navigable Airspace, July 21, 2010.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-40**  
Overflight Notification Data Map  
Murray Field Airport





## G.7 Rohnerville Airport

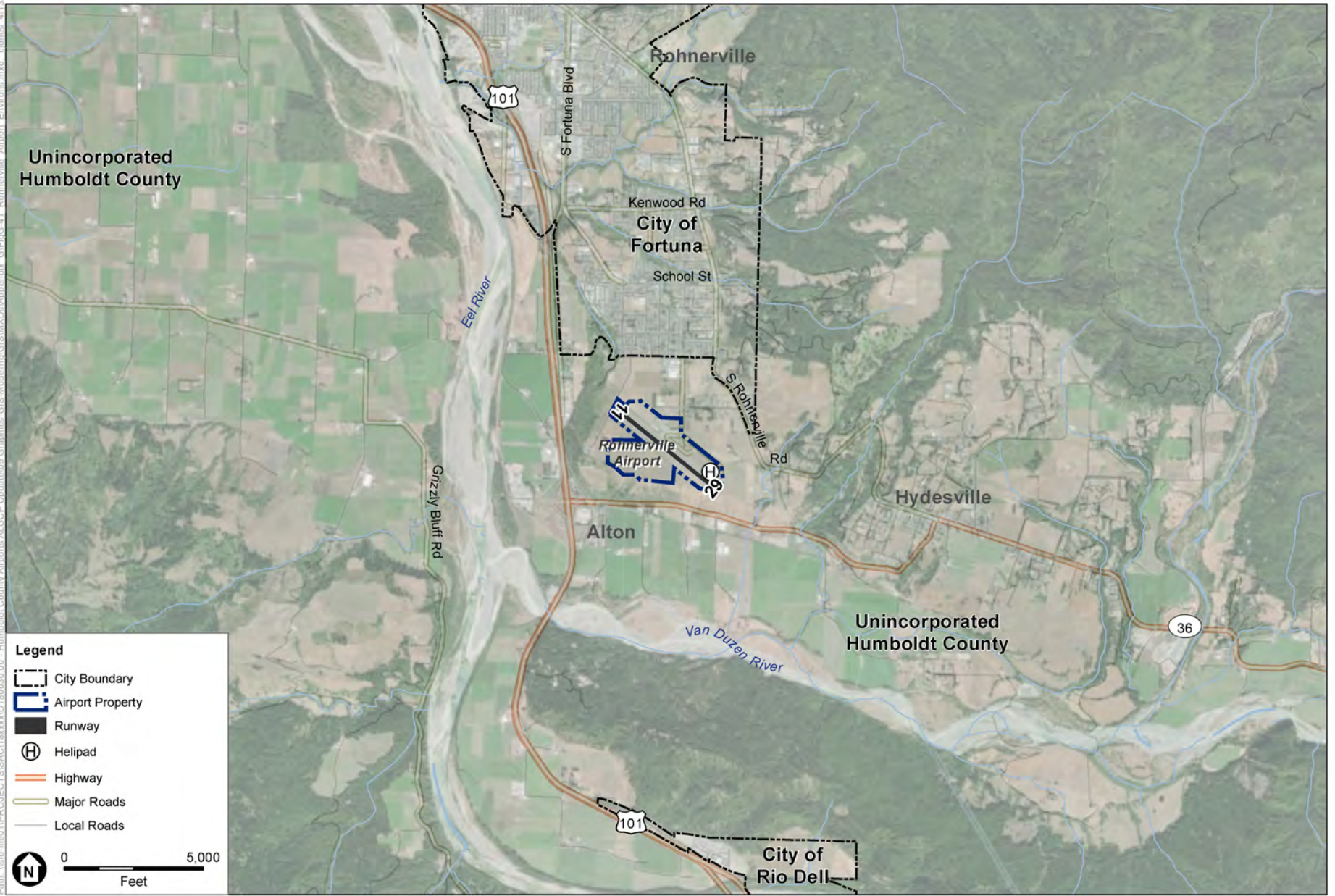
The following report provides a summary describing Rohnerville Airport (FOT or Airport), including a description of the Airport location, surrounding land uses, Airport facilities, and existing and projected operational activity at the Airport.

### G.7.1 Airport Background

The Airport is located approximately three miles southeast of the City of Fortuna. Rohnerville was annexed by the City of Fortuna in 1976. The Airport is located 0.8 miles south of Fortuna, and is located atop a plateau overlooking the Eel River, providing access to west-central Humboldt County and surrounding communities. **Figure G-41** presents an aerial view of the Airport and the immediate surrounding area.

The Airport was activated in February 1947, with construction completed in 1949. The Airport is a basic general aviation facility serving the communities of Rohnerville and Fortuna in west-central Humboldt County. The Airport is owned and operated by Humboldt County Aviation Division of Public Works.

Path: \\efo01\PROJECTS\SAC\118xxxx\11800030.00 - Humboldt County Airports ALUCP Update\05 Graphics-GIS-Modeling\GISMXDs\Appendix G\FigG-41 Rohnerville Airport Environs.mxd, 4/13/2020



SOURCE: ESA, 2018; DigitalGlobe, October 2017; County of Humboldt, February 2019; US Census Bureau, Geography Division, September 2018. Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-41**  
Airport Environs  
Rohnerville Airport

**Table G-19** provides a summary of Airport background information.

**TABLE G-19  
AIRPORT BACKGROUND SUMMARY – ROHNERVILLE AIRPORT**

<b>General Information</b>	<b>Description</b>
Airport Ownership	Public
Year Opened	1949
Airport Property Size	203 Acres Fee Simple 180 Avigation Easement
Airport Classification	General Aviation
Airport Elevation	392 feet MSL
<b>Airport Planning Documents</b>	<b>Description</b>
Airport Master Plan	Yes, January 2007
Airport Layout Plan	Yes, January 2007
<b>Planned Facility Improvements</b>	<b>Description</b>
Airside	<ul style="list-style-type: none"> <li>• Design Runway/Taxiway Lighting Upgrade</li> <li>• Design Runway/Taxiway Reconstruction and Rehabilitation</li> <li>• Construct Runway/Taxiway Lighting Upgrade</li> <li>• Design and Construct Phase I Improvements</li> <li>• Construct Runway/Taxiway Reconstruction and Rehabilitation</li> <li>• Design Ramp Reconstruction and Rehabilitation</li> <li>• Design and Construct Phase II Improvements</li> <li>• Design and Construct Phase III Improvements</li> </ul>
Landside	None

NOTES:

MSL = Mean Sea Level

Source: FAA Airport Master Record, Rohnerville Airport Master Plan and Airport Layout Plan, January 2007

## G.7.2 Airport Characteristics

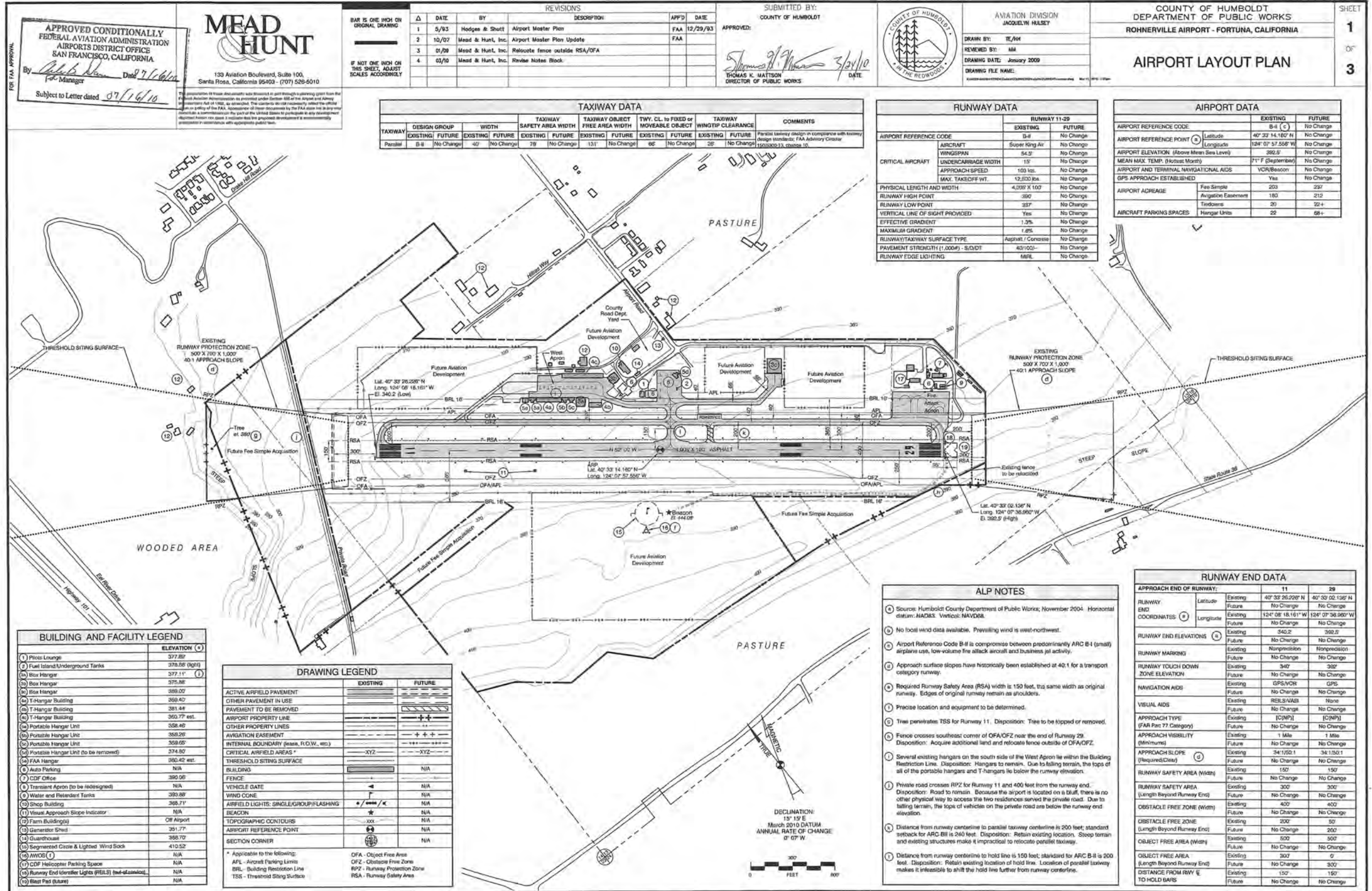
The Airport property is 203 acres in size of fee simple land, with 180 acres in aviation easement and has one runway, Runway 11-29. Runway 11-29 is an asphalt and concrete runway, 4,005 feet long by 100 feet wide oriented roughly northwest/southeast. A visual inspection of the pavement conditions revealed that the airfield pavement is in good condition; with minor areas where slight cracking and weed growth are visible. The runway pavement at Rohnerville Airport has a load-bearing capacity to accommodate aircraft weighing up to 40,000 pounds with main landing gear in a single-wheel configuration and 100,000 pounds for dual-wheel aircraft.

Rohnerville Airport is classified as a GA airport in the NPIAS as well as the CASP, with the sub category of Regional General Aviation Airport.

The Master Plan identified FOT as an ARC B-II facility with the majority of aircraft operating at the Airport being small single-engine piston aircraft, and twin engine aircraft. The most demanding or critical class of aircraft regularly using the Airport is the ARC B-II. For planning purposes, the Beech King Air 200 aircraft is assumed as the Airport's design aircraft by the Master Plan.

APL lines are established to define the appropriate location of aircraft parking positions. With one parallel taxiway, the appropriate setback from the runway centerline for an ARC B-II airport is 250 feet. The required setback is 66 feet from the taxiway centerline to a fixed or movable object. The APL on the south and north sides of the runway are in compliance with both of these FAA standards. At Rohnerville Airport, the APL is set 250 feet from the centerline of the runway. The ALP notes that there are 20 tie-down spaces, and 22 hangar units on site with an additional two or more tie-downs, and 46 or more hangar units anticipated for the future.

The ALP is depicted on **Figure G-42**.



**APPROVED CONDITIONALLY**  
 FEDERAL AVIATION ADMINISTRATION  
 AIRPORTS DISTRICT OFFICE  
 SAN FRANCISCO, CALIFORNIA

By: *[Signature]* Date: 7/16/10  
 Manager

Subject to Letter dated 07/16/10

**MEAD HUNT**

133 Aviation Boulevard, Suite 100,  
 Santa Rosa, California 95403 - (707) 529-5010

REVISIONS					
Δ	DATE	BY	DESCRIPTION	APP'D	DATE
1	5/9/03	Hodge & Shull	Airport Master Plan	FAA	12/29/03
2	10/07	Mead & Hunt, Inc.	Airport Master Plan Update	FAA	
3	01/09	Mead & Hunt, Inc.	Relocate fence outside RSA/OFA		
4	03/10	Mead & Hunt, Inc.	Revise Notes Block		

SUBMITTED BY:  
 COUNTY OF HUMBOLDT

APPROVED: *[Signature]* 3/21/10  
 THOMAS K. MATTHEW  
 DIRECTOR OF PUBLIC WORKS

**COUNTY OF HUMBOLDT**  
 DEPARTMENT OF PUBLIC WORKS  
 ROHNERVILLE AIRPORT - FORTUNA, CALIFORNIA

AVIATION DIVISION  
 JACQUELYN HULSEY

DRAWN BY: TE/AH  
 REVIEWED BY: AM  
 DRAWING DATE: January 2009  
 DRAWING FILE NAME:

SHEET  
**1**  
 OF  
**3**

**AIRPORT LAYOUT PLAN**

TAXIWAY DATA													
TAXIWAY	DESIGN GROUP		WIDTH		SAFETY AREA WIDTH		TAXIWAY OBJECT FREE AREA WIDTH		TWY. CL. TO FIXED OR MOVEABLE OBJECT		TAXIWAY CLEARANCE	COMMENTS	
	EXISTING	FUTURE	EXISTING	FUTURE	EXISTING	FUTURE	EXISTING	FUTURE	EXISTING	FUTURE			
Parallel	B-8	No Change	40'	No Change	78'	No Change	131'	No Change	66'	No Change	28'	No Change	Parallel taxiway design in compliance with taxiway design standards; FAA Advisory Circular 150/5300-13, section 10.

RUNWAY DATA		
AIRPORT REFERENCE CODE	RUNWAY 11-29	
	EXISTING	FUTURE
AIRCRAFT	Super King Air	No Change
WINGSPAN	54.5'	No Change
UNDERCARRIAGE WIDTH	15'	No Change
APPROACH SPEED	100 kts.	No Change
MAX. TAKEOFF WT.	12,000 lbs.	No Change
PHYSICAL LENGTH AND WIDTH	4,000' X 100'	No Change
RUNWAY HIGH POINT	390'	No Change
RUNWAY LOW POINT	357'	No Change
VERTICAL LINE OF SIGHT PROVIDED	Yes	No Change
EFFECTIVE GRADIENT	1.3%	No Change
MAXIMUM GRADIENT	1.8%	No Change
RUNWAY/TAXIWAY SURFACE TYPE	Asphalt / Concrete	No Change
PAVEMENT STRENGTH (1,000PSI) - S/DOT	40/1000	No Change
RUNWAY EDGE LIGHTING	MRL	No Change

AIRPORT DATA		
	EXISTING	FUTURE
AIRPORT REFERENCE CODE	B-4 (C)	No Change
AIRPORT REFERENCE POINT	Latitude: 40° 32' 14.160" N Longitude: 124° 07' 57.556" W	No Change
AIRPORT ELEVATION (Above Mean Sea Level)	392.5'	No Change
MEAN MAX. TEMP. (hottest month)	71° F (September)	No Change
AIRPORT AND TERMINAL NAVIGATIONAL AIDS	VOR/Beacon	No Change
GPS APPROACH ESTABLISHED	Yes	No Change
AIRPORT ACREAGE	Fee Simple	203
	Aviation Easement	180
AIRCRAFT PARKING SPACES	Tandems	20
	Hangar Units	22

BUILDING AND FACILITY LEGEND	
Symbol	ELEVATION (ft)
(1) Pilot Lounge	377.89'
(2) Fuel Island/Underground Tanks	378.58' (right)
(3) Box Hangar	377.11'
(4) Box Hangar	375.88'
(5) Box Hangar	389.00'
(6) T-Hangar Building	369.40'
(7) T-Hangar Building	381.44'
(8) T-Hangar Building	350.77' est.
(9) Portable Hangar Unit	358.40'
(10) Portable Hangar Unit	358.29'
(11) Portable Hangar Unit	359.65'
(12) Portable Hangar Unit (to be removed)	374.93'
(13) Portable Hangar Unit (to be removed)	360.42' est.
(14) FAA Hangar	N/A
(15) Auto Parking	389.00'
(16) CDOP Office	389.00'
(17) Transient Apron (to be redesigned)	N/A
(18) Water and Retention Tanks	393.88'
(19) Shop Building	385.71'
(20) Visual Approach Slope Indicator	N/A
(21) Farm Buildings	Off Airport
(22) Generator Shed	351.77'
(23) Guardhouse	388.70'
(24) Segmented Circle & Lighted Windsock	410.52'
(25) AWOS (I)	N/A
(26) Helicopter Parking Space	N/A
(27) CDOP Helicopter Parking Space	N/A
(28) Runway End Identifier Lights (REILS) (not at location)	N/A
(29) Best Past (future)	N/A

DRAWING LEGEND		
	EXISTING	FUTURE
ACTIVE AIRFIELD PAVEMENT	—	—
OTHER PAVEMENT IN USE	—	—
PAVEMENT TO BE REMOVED	—	—
AIRPORT PROPERTY LINE	—	—
OTHER PROPERTY LINES	—	—
AVIGATION EASEMENT	—	—
INTERNAL BOUNDARY (lease, P.O.W., etc.)	—	—
CRITICAL AIRFIELD AREAS*	—XYZ	—XYZ
THRESHOLD SITING SURFACE	—	—
BUILDINGS	—	N/A
FENCE	—	N/A
VEHICLE GATE	—	N/A
WIND CONE	—	N/A
AIRFIELD LIGHTS: SINGLE/GROUP/FLASHING	—	N/A
BEACON	—	N/A
TOPOGRAPHIC CONTOURS	—	N/A
AIRPORT REFERENCE POINT	—	N/A
SECTION CORNER	—	N/A

\* Applicable to the following:  
 OFA - Object Free Area  
 OFZ - Obstacle Free Zone  
 RPZ - Runway Protection Zone  
 RSA - Runway Safety Area

**ALP NOTES**

- Source: Humboldt County Department of Public Works; November 2004. Horizontal datum: NAD83. Vertical: NAVD83.
- No local wind data available. Prevailing wind is west-northwest.
- Airport Reference Code B-II is compromise between predominantly ARC B-I (small airplane use, low-volume fire attack aircraft and business jet activity).
- Approach surface slopes have historically been established at 40:1 for a transport category runway.
- Required Runway Safety Area (RSA) width is 150 feet, this same width as original runway. Edges of original runway remain as shoulders.
- Precise location and equipment to be determined.
- Tree penetrates TSS for Runway 11. Disposition: Tree to be topped or removed.
- Fence crosses southeast corner of OFA/OFZ near the end of Runway 29. Disposition: Acquire additional land and relocate fence outside of OFA/OFZ.
- Several existing hangars on the south side of the West Apron lie within the Building Restriction Line. Disposition: Hangars to remain. Due to falling terrain, the tops of all of the portable hangars and T-hangars lie below the runway end elevation.
- Private road crosses RPZ for Runway 11 and 400 feet from the runway end. Disposition: Road to remain. Because the airport is located on a bluff, there is no other physical way to access the two residences served by the private road. Due to falling terrain, the tops of vehicles on the private road are below the runway end elevation.
- Distance from runway centerline to parallel taxiway centerline is 200 feet; standard setback for ARC B-II is 240 feet. Disposition: Retain existing location. Steep terrain and existing structures make it impractical to relocate parallel taxiway.
- Distance from runway centerline to hold line is 150 feet; standard for ARC B-II is 200 feet. Disposition: Retain existing location of hold line. Location of parallel taxiway makes it infeasible to shift the hold line further from runway centerline.

RUNWAY END DATA			
APPROACH END OF RUNWAY:	Latitude	Runway	
		11	29
RUNWAY END COORDINATES	Existing	40° 32' 26.298" N	40° 30' 02.136" N
	Future	No Change	No Change
	Existing	124° 08' 18.161" W	124° 07' 58.900" W
	Future	No Change	No Change
RUNWAY END ELEVATIONS	Existing	342.2'	392.5'
	Future	No Change	No Change
RUNWAY MARKING	Existing	Nonprecision	Nonprecision
	Future	No Change	No Change
RUNWAY TOUCH DOWN ZONE ELEVATION	Existing	340'	390'
	Future	No Change	No Change
NAVIGATION AIDS	Existing	GPS/VOR	GPS
	Future	No Change	No Change
VISUAL AIDS	Existing	REILS/VASI	None
	Future	[CNP]	[CNP]
APPROACH TYPE (FAA Part 77 Category)	Existing	[CNP]	[CNP]
	Future	No Change	No Change
APPROACH VISIBILITY (Minimum)	Existing	1 Mile	1 Mile
	Future	No Change	No Change
APPROACH SLOPE (Required/Class)	Existing	34:1/50:1	34:1/50:1
	Future	No Change	No Change
RUNWAY SAFETY AREA (Width)	Existing	150'	150'
	Future	No Change	No Change
RUNWAY SAFETY AREA (Length Beyond Runway End)	Existing	300'	300'
	Future	No Change	No Change
OBSTACLE FREE ZONE (Width)	Existing	400'	400'
	Future	No Change	No Change
OBSTACLE FREE ZONE (Length Beyond Runway End)	Existing	200'	50'
	Future	No Change	200'
OBJECT FREE AREA (Width)	Existing	500'	500'
	Future	No Change	No Change
OBJECT FREE AREA (Length Beyond Runway End)	Existing	300'	0'
	Future	No Change	300'
DISTANCE FROM RWY TO HOLD BARS	Existing	150'	150'
	Future	No Change	No Change

SOURCE: Mead & Hunt, 2009

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-42**  
 Airport Layout Plan  
 Rohnerville Airport



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The Airport does not operate an ATCT. Visual aids at the Airport include a rotating beacon located midfield, west of the runway, runway end identifier lights (REIL), MIRL, and a visual approach slope indicator (VASI). The VASI provides pilots with visual descent guidance while on approach to Runway 11. Two navigational aids serve Rohnerville Airport. A Global Positioning System (GPS) utilizes a network of satellites to assist pilots determine a positional fix to the Airport. A Very-High-Frequency Omnidirectional Range VOR is another navigational aid used to provide bearing information to aircraft in route to the Airport.

The Airport is secured by perimeter fencing. Automated card access vehicle gates centrally located and at the CDF facility provide direct access to the building area and airfield. Direct vehicle access to the Airport is from Airport Road. Access from Highway 101 is via Drake Hill Road to Airport Road. Access to the airfield is limited to authorized persons only. A new security gate has been installed at the Airport entrance. On-airport access roads lead to the west apron area and to the CDF Fire Attack Base. Both roads are paved and are in fair condition. Public parking is available near the entrance to the Airport and adjacent to the pilot's lounge. CDF staff park their fire trucks in a parking lot located in the central part of their facility.

The County updated the Airport's Master Plan, including the ALP, in September 2007. Information provided on the approved ALP (and described in the Airport Master Plan Update) was used to prepare this document. The planned improvements to the Airport shown in the Master Plan and on the ALP include a 20-year plan that mostly discusses runway and taxiway reconstruction, rehabilitation, lighting improvements. In addition, design ramp and apron rehabilitation are discussed in the 20-year plan.

**Table G-20** presents a summary of the Airport's existing airside and landside facilities.

**TABLE G-20  
AIRPORT FACILITIES SUMMARY – ROHNERVILLE AIRPORT**

<b>Airside Facilities</b>	
<b>Runways</b>	<b>Description</b>
Runway Designation	Runway 11-29
Airport Reference Code (ARC)	B-II
Critical Design Aircraft	Super Beech King Air
Runway Dimensions	4,005 feet by 100 feet
Pavement Strength (1,000 lbs.) – S / D / DT	40 / 100 / - lbs.
Runway Lighting / Visual Approach Aids	MIRL, REILS, VASI, GPS, VOR
Taxiways	One Parallel Taxiway
Heliport/Helipad	None
<b>Approach Protection</b>	<b>Description</b>
Runway Protection Zones (RPZs)	
• Runway 11	500' x 700' x 1,000', 40:1 Approach Slope
• Runway 29	500' x 700' x 1,000', 40:1 Approach Slope
Approach Obstacles	none

**TABLE G-20**  
**AIRPORT FACILITIES SUMMARY – ROHNERVILLE AIRPORT**

<b>Traffic Patterns and Approach Procedures</b>	<b>Description</b>
Aircraft Traffic Patterns	
• Runway 11	Right
• Runway 29	Left
Pattern Altitude	1,192 feet MSL/800 feet AGL

<b>Instrument Approach Procedures</b>	<b>Type</b>	<b>Navigational Aids</b>	<b>Aircraft Category</b>	<b>Minimums</b>	
				<b>Ceiling (feet)</b>	<b>Visibility (miles/feet)</b>
VOR RWY 11	Straight	VOR	A, B	1,258'	1 mile
	Circling	VOR	A, B	1,248'	1¼ mile
GPS (RWY 11)	Straight	GPS	A	758'	1 mile
	Circling	GPS	A	748'	1 mile
GPS (RWY 29)	Straight	GPS	A, B	768'	1 mile
	Circling	GPS	A, B	768'	1 mile

<b>Landside Facilities</b>	
<b>Building Area</b>	<b>Description</b>
Aircraft Parking Location	Northeast side
Aircraft Parking Capacity	
• Hangar Spaces	20 hangars on the northeast side
• Tie-Down Spaces	20 hangars on the northeast side
Services	
• Fuel	none
• Other	none

## NOTES:

AGL = Above ground level  
DME= Distance measuring equipment  
S = Single wheel landing gear  
D = Dual wheel landing gear  
DT = Dual tandem landing gear  
GPS = Global Positioning System  
LOC = Localizer  
MIRL= Medium intensity runway lights  
MSL = Mean sea level

REIL = Runway edge indicator lights  
RNAV = Area navigation  
VASI = Visual Approach Slope Indicator  
VOR = Very high frequency omnidirectional radio range

Source: Rohnerville Airport Layout Plan, 2007; Rohnerville Airport Master Plan 2007



### G.7.3 Airport Activity

The policies in Chapters 2 and 3 of this Compatibility Plan are based on the following primary sources: The Aeronautics Act, the ALP and the Airport diagram for each of the Airports that are a subject of this Compatibility Plan and other State laws, regulations, and guidelines, including those in the California Airport Land Use Planning Handbook (Handbook) published by the Division of Aeronautics in October 2011. A copy of the Handbook is available for download on the Division of Aeronautics website at (<http://www.dot.ca.gov/hq/planning/aeronaut/documents/alucp/>).

A summary of existing airport activity is presented in Table G-21 as identified in the 2007 Master Plan and characterized on the ALP. In 2005, there were 36 aircraft based at the Airport, including 31 single-engine propeller aircraft, four multi-engine propeller aircraft, and one helicopter. The number of aircraft at the Airport has remained relatively stable over the years prior to 2005, remaining at 36 aircraft from 1990 to 2005. There were approximately 27,802 operations at the Airport in 2005, roughly split equally between local and itinerant operations.

**TABLE G-21  
AIRPORT ACTIVITY DATA – ROHNERVILLE AIRPORT**

<b>Based Aircraft</b>	<b>Master Plan Conditions (2005)</b>		<b>Master Plan Future Conditions (2025)</b>	
Single-engine prop	31		33	
Multi-engine prop	4		5	
Turbine/Jet	0		2	
Helicopter	1		1	
Other <sup>1</sup>	0		0	
<b>Total</b>	<b>36</b>		<b>41</b>	

<b>Aircraft Operations</b>	<b>Existing Conditions (2017)</b>		<b>Future Conditions (2039)</b>	
	<b>Number of Operations</b>	<b>Percentage by Aircraft Type</b>	<b>Number of Operations</b>	<b>Percentage by Aircraft Type</b>
Single-engine prop	26,126	95.0%	26,126	95.0%
Multi-engine prop	824	3.00%	824	3.00%
Turbine/Jet	164	0.60%	164	0.60%
Helicopter	386	1.4%	386	1.4%
Other <sup>1</sup>	0	0.00%	0	0.00%
<b>Total</b>	<b>27,500</b>	<b>100.00%</b>	<b>27,500</b>	<b>100.00%</b>

<b>Aircraft Type</b>	<b>Existing Conditions (2017)</b>		<b>Future Conditions (2039)</b>	
	<b>Percentage of Takeoffs</b>		<b>Percentage of Landings</b>	
	<b>Rwy 11</b>	<b>Rwy 29</b>	<b>Rwy 11</b>	<b>Rwy 29</b>
Single-engine prop	20.0	80.0	20.0	80.0
Multi-engine prop	20.0	80.0	20.0	80.0
Turbine/Jet	20.0	80.0	20.0	80.0

**TABLE G-21**  
**AIRPORT ACTIVITY DATA – ROHNERVILLE AIRPORT**

Aircraft Type	Existing Conditions (2017)		Future Conditions (2039)	
	Percentage of Takeoffs	Percentage of Landings	Percentage of Takeoffs	Percentage of Landings
	Rwy 11	Rwy 29	Rwy 11	Rwy 29
Helicopter	5.00	95.0	5.00	95.0
Other <sup>1</sup>	--	--	--	--

## NOTES:

<sup>1</sup> Other = lighter than air, gliders, or home-built aircraft.

Source: FAA TAF, 2018.

Prevailing winds are from the northwest and the majority of arrivals and departures are to/from Runway 29. Helicopter traffic is minimal and operates from the runway.

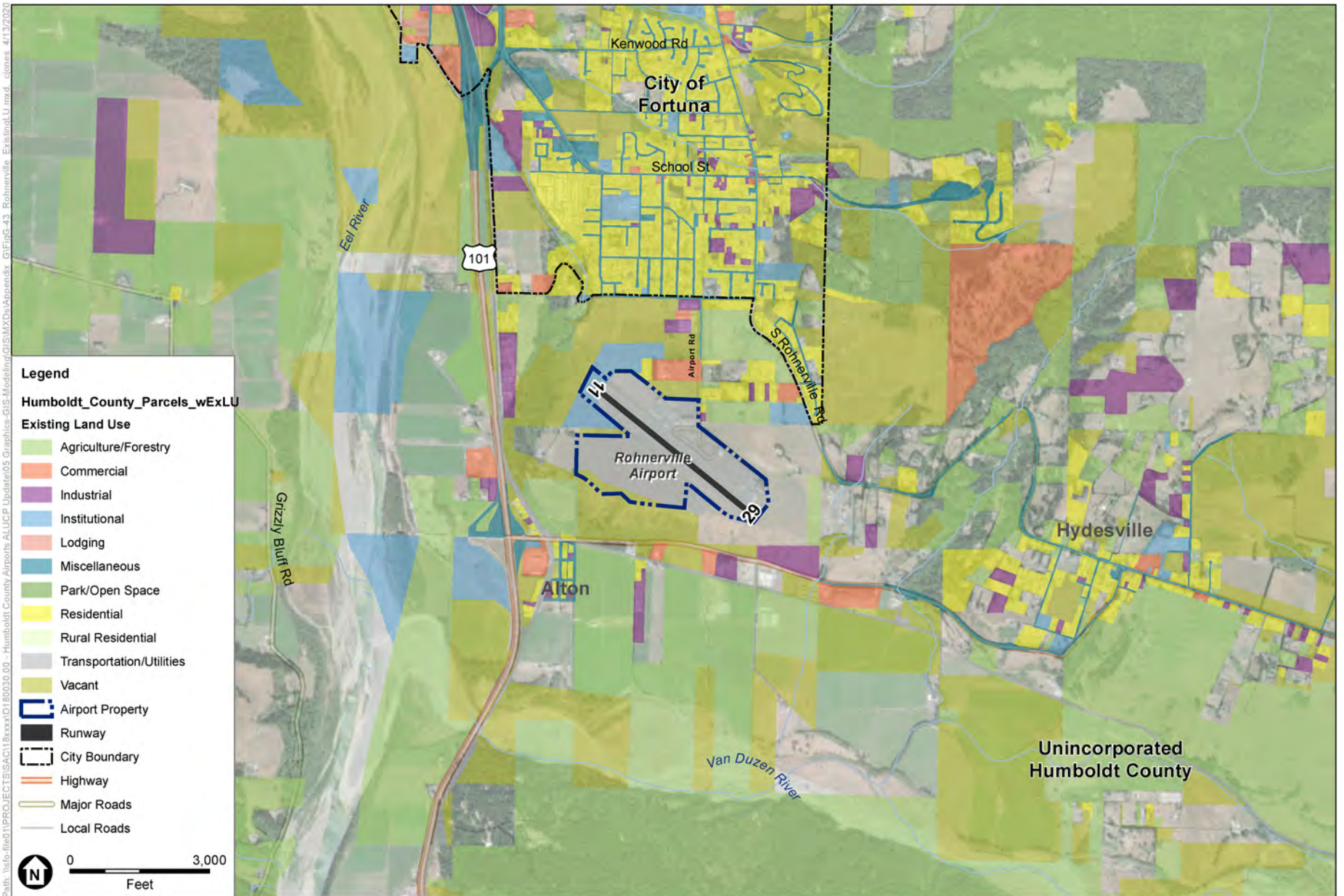
## G.7.4 Forecast Airport Activity

California state law requires that ALUCPs must be based on a long-range Airport Master Plan or an ALP that forecasts anticipated growth at an airport for the next 20 years. For purposes of this ALUCP update, the Rohnerville Airport Master Plan 20-year (2025) forecast, as well as the FAA's TAF, are used to characterize future airport activity. In 2025, 41 aircraft were forecast to be based at the Airport over the 20-year forecast period of the Master Plan. In 2005, there were 27,802 total annual operations at the Airport, of which 40 percent were itinerant, and 60 percent local. Approximately 34,600 annual operations were forecasted at the Airport for 2025 with most all operations being for general aviation.

Forecasted airport activity at the Airport is based on FAA TAF assumptions for years 2017 to 2039 and is summarized in Table G-23. The total amount of based aircraft is assumed to remain similar to existing conditions over the 20-year forecast period. Based on the estimated operations from the Master Plan, there is no increase in operations anticipated at the Airport over the next 20 years, with approximately 27,500 annual operations in 2017, and approximately the same amount (27,500 of annual operations) forecasted at the Airport in 2039.

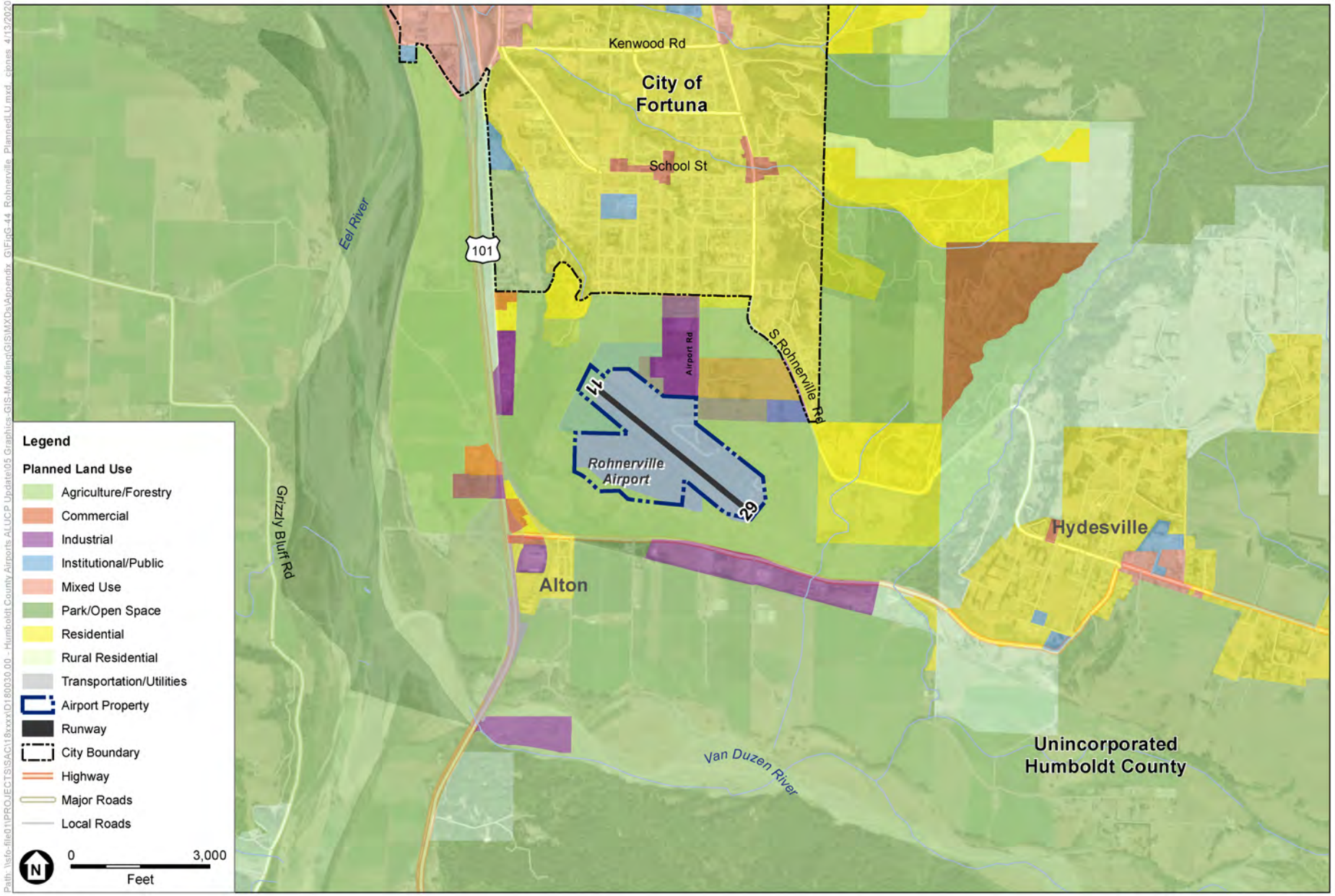
## G.7.5 Airport Environs

**Figure G-43** depicts existing land use in the area surrounding the Airport. **Figure G-44** depicts general plan land use in the area surrounding the Airport. Land use around the Airport is mostly dedicated to agricultural uses found to the south, and west of the Airport. General industrial uses are predominantly found to the north of the Airport. The closest residential land uses are located approximately 0.25 mile to the north and east of the Airport.



SOURCE: ESA, 2018; DigitalGlobe, October 2017; County of Humboldt, February 2019; US Census Bureau, Geography Division, September 2018. Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-43**  
Existing Land Use  
Rohnerville Airport



SOURCE: ESA, 2018; DigitalGlobe, October 2017; County of Humboldt, June 2019; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-44**  
Planned Land Use  
Rohnerville Airport



## G.7.6 Compatibility Factors

### Noise Compatibility Data

**Figure G-45** shows future conditions noise contours and generalized flight paths by operation type derived from the 2007 Airport Master Plan. As discussed above, the TAF estimates 27,500 annual operations, or approximately 76 annual average daily operations, for 2017 and 2039 conditions. The noise contours shown on Figure G-45 was modeled to reflect 2039 conditions signifying the planning horizon of the ALUCP. Therefore, the noise contour shown on Figure 9-1 represents a noise exposure at the Airport under 2039 conditions.

### Safety Compatibility Data

**Figure G-46** of this ALUCP shows the proposed safety zones for the Airport. As shown on Figure G-46 of the ALUCP, generalized traffic patterns taken from the Master Plan were used for the purpose of creating the safety zones at the Airport. The safety zones for Runway 11-29 were based on *Example 2: Medium General Aviation Runway*, included in the Caltrans Handbook. Example 2 assumes a runway length of 4,000 to 5,999 feet, approach visibility minimums greater than or equal to three quarters of mile and less than a mile, and RPZs of 1,000 feet by 1,510 feet by 1,700 feet. The runway is greater than 4,000 feet and less than 5,999 feet, with a visibility minimum of 1 mile and runway protection zones equal to the specified dimensions. The California Department of Forestry and Fire Protection (CALFIRE) conducts helicopter operations out of Rohnerville Airport, and the safety zones have been slightly adjusted to account for these. Safety Zone 4 on the east side of the Airport has been extended north to the edge of Safety Zone 2 to encompass the flight path of the CAL FIRE operations.

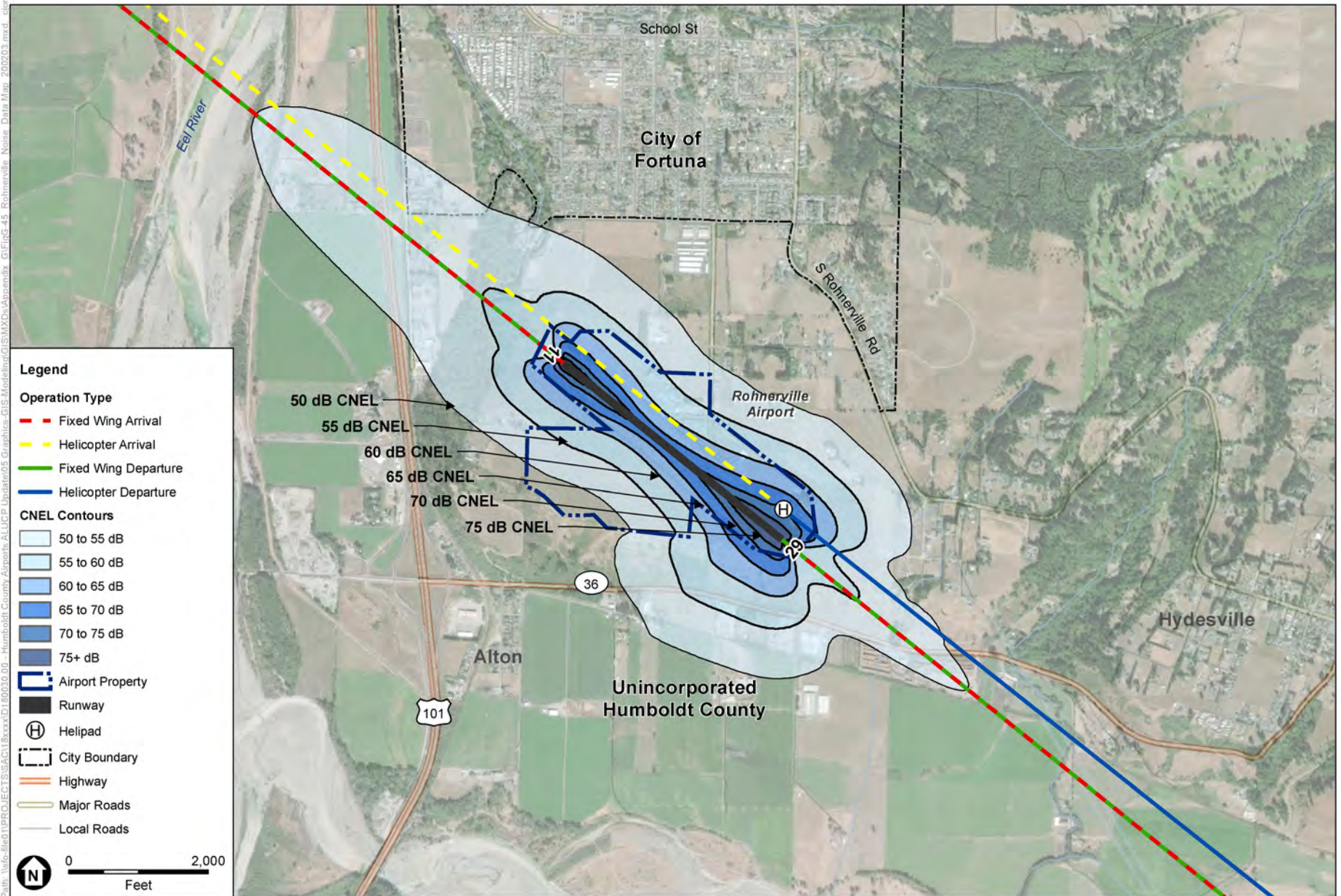
### 14 CFR Part 77 Airspace Compatibility Data

**Figure G-47** depicts the Part 77 airspace surfaces for the Airport as shown in the ALP. Part 77 airspace surfaces reflect areas around airports determined by FAA regulations that should be protected from obstructions and visual impacts that may interfere with the safe operation of aircraft. The current airport elevation is 392.5 feet MSL. The Part 77 airspace surfaces included in the current ALP/Master Plan are based on this elevation.

### Overflight Compatibility Data

**Figure G-48** shows the overflight notification area, generalized flight paths, safety zones, and conical surface for the Airport. The overflight notification area includes all areas covered by the Airport's Safety Zones as well as flight corridors based on the traffic patterns presented in the Master Plan, the ALP, and TAF estimates. General corridors centered on the traffic pattern flight tracks were created to account for normal dispersion in aircraft operations. The generalized flight corridors extend to the outer boundary of the Airport's conical surface.

Path: \\ef01\PROJECTS\SACU\8xxxx\1800030.00 - Humboldt County Airports ALLCP Update\05 Graphics\GIS\Modeling\GISMXDs\Appendix G\FigG-45 Rohnerville Noise Data Map 200203.mxd, expires 4/14/2020



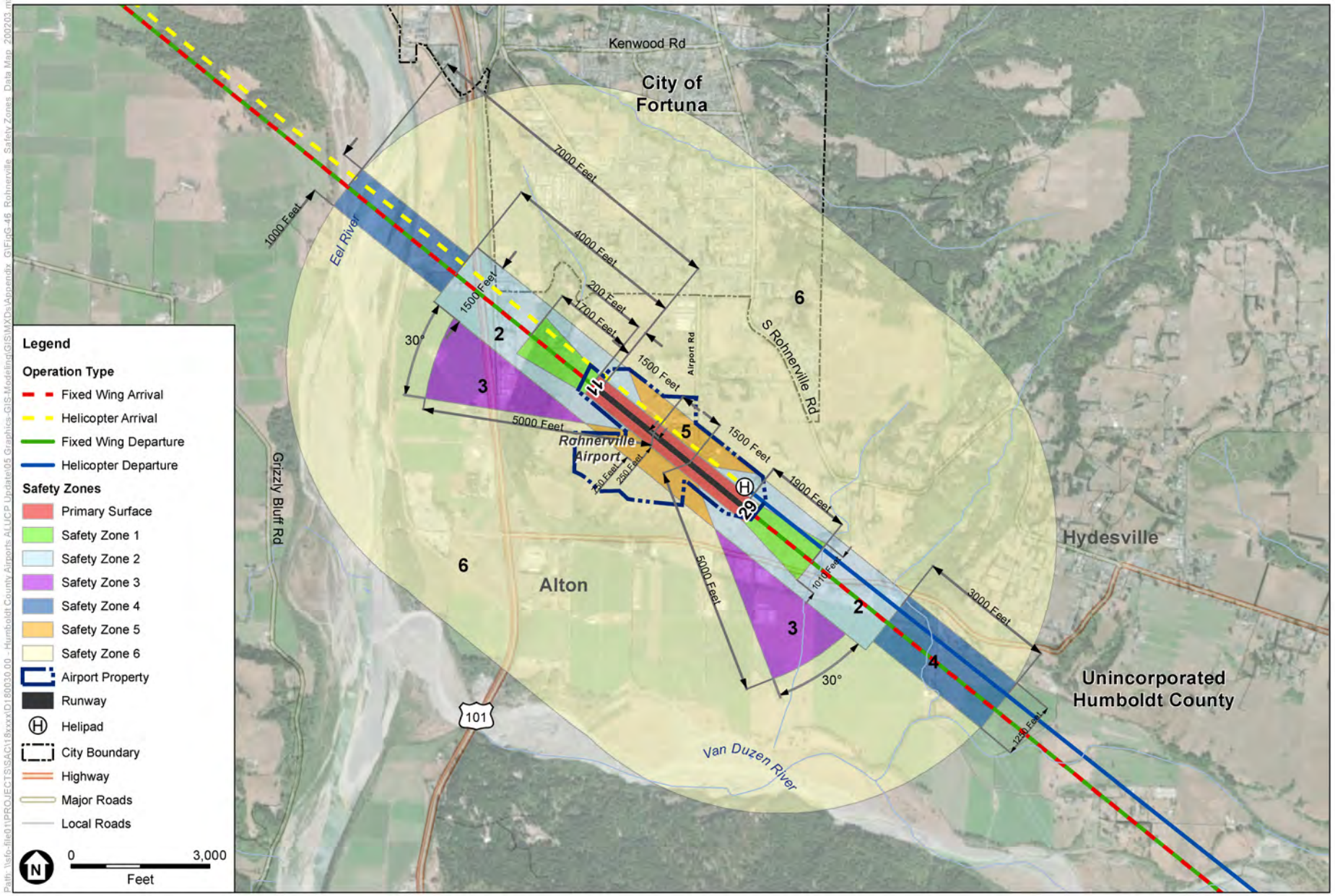
SOURCE: AEDT 2d; ESA, 2018; DigitalGlobe, October 2017; County of Humboldt, February 2019; US Census Bureau, Geography Division, September 2018.

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**Figure G-45**  
Noise Data Map  
Rohnerville Airport



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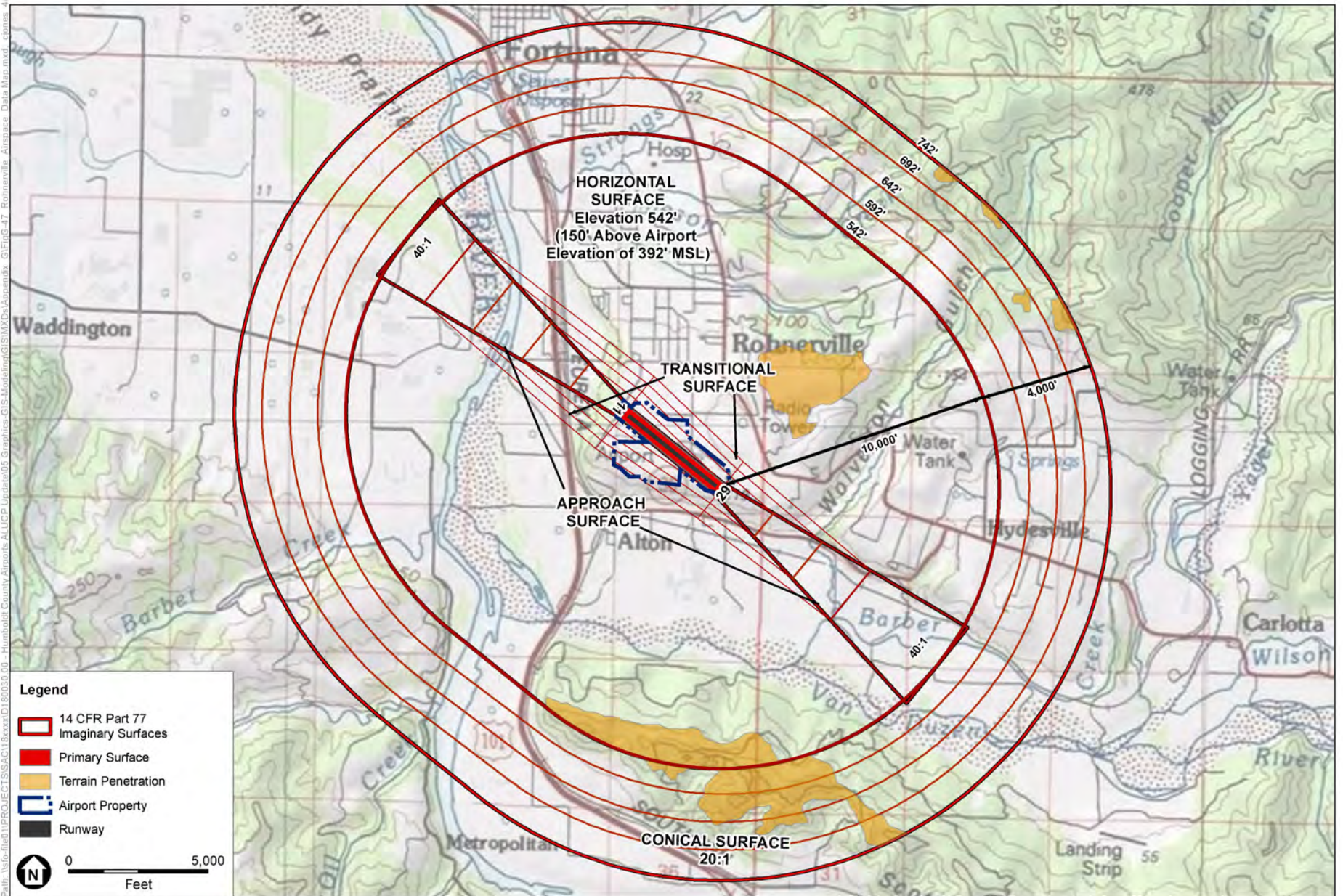
SOURCE: AEDT 2d; ESA, 2018; DigitalGlobe, October 2017; County of Humboldt, February 2019; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-46**  
Safety Zones Data Map  
Rohnerville Airport



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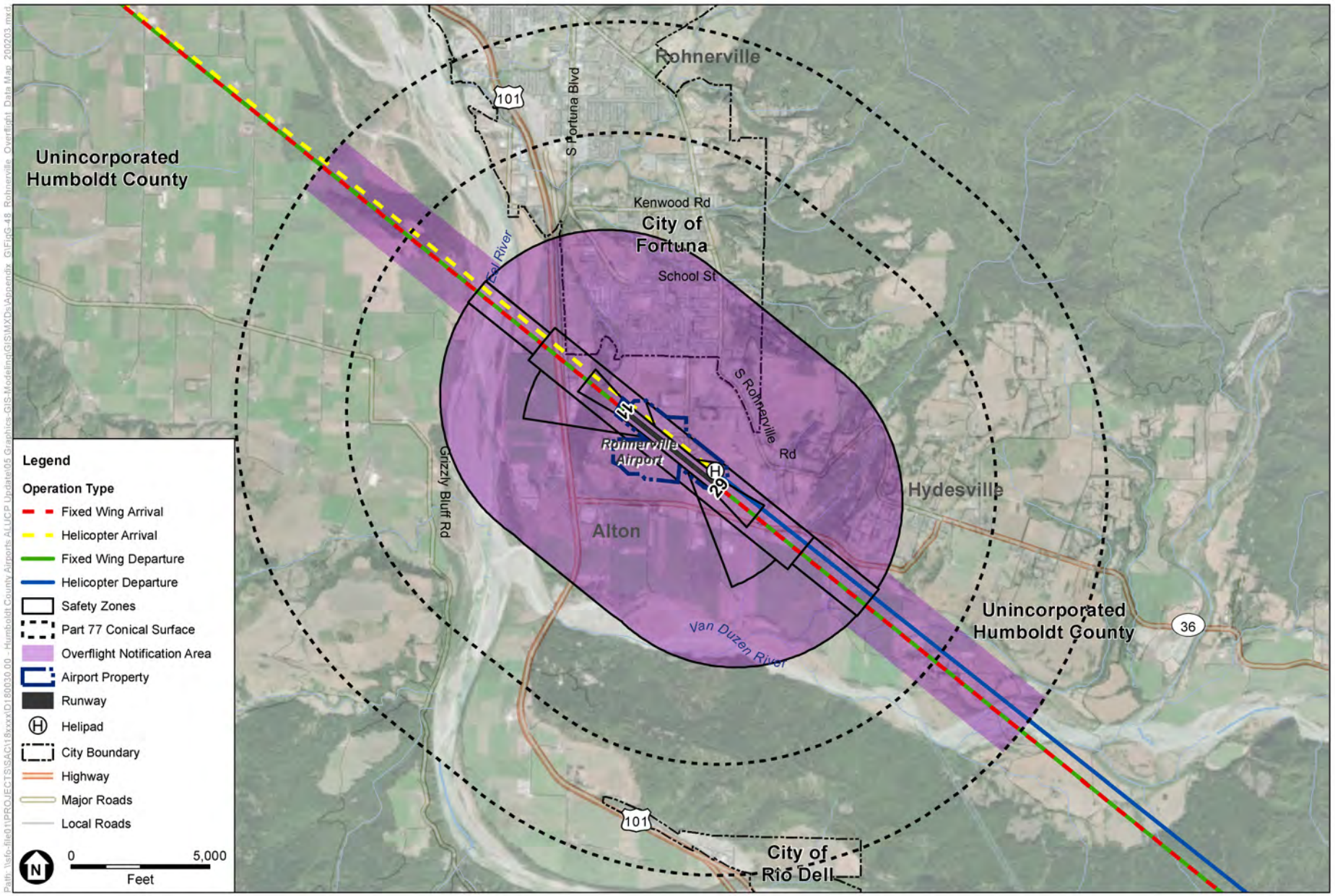
SOURCE: USDOT, FAA 14 CFR Part 77, Safe, Efficient Use and Preservation of Navigable Airspace, July 21, 2010; ESA, 2018

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-47**  
Airspace Protection Data Map  
Rohnerville Airport



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SOURCE: AEDT 2d; ESA, 2018; DigitalGlobe, October 2017; County of Humboldt, February 2019; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-48**  
Overflight Notification Data Map  
Rohnerville Airport



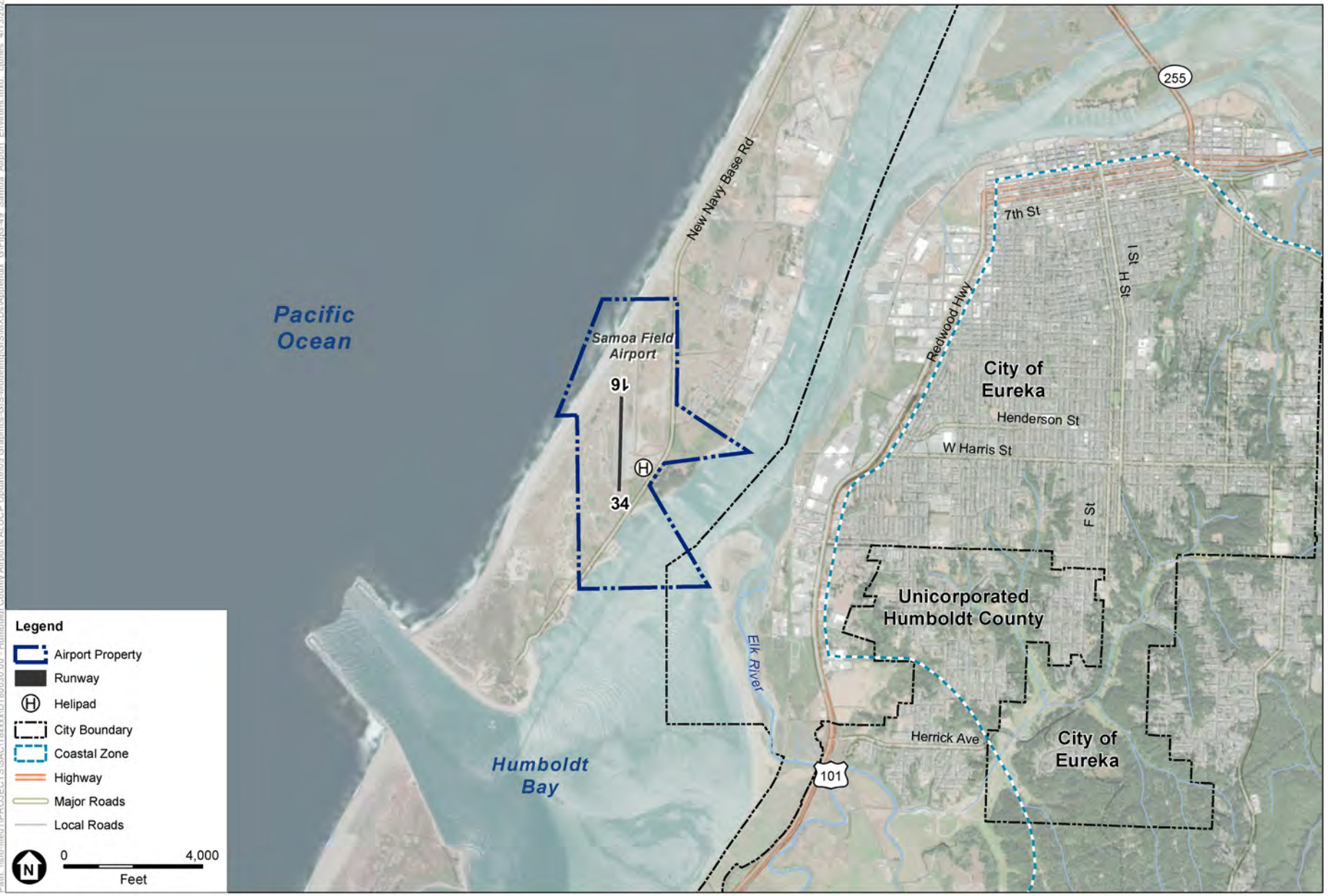
## G.8 Samoa Field Airport

The following report provides a summary describing Samoa Field Airport (O33 or Airport), including a description of the Airport location, surrounding land uses, Airport facilities, and existing and projected operational activity at the Airport.

### G.8.1 Airport Background

The Airport is located just outside of Eureka to the west, along the northern peninsula of Humboldt Bay in northwest Humboldt County, along the Pacific Ocean. **Figure G-49** presents an aerial view of the Airport and the immediate surrounding area. The Airport was opened in 1944 for World War II military purposes, and is currently operated as a city-owned public airport for general aviation purposes.

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SOURCE: ESA, 2018; DigitalGlobe, October 2017; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-49**  
Airport Environs  
Samoa Field Airport



**Table G-22** provides a summary of Airport background information.

**TABLE G-22  
AIRPORT BACKGROUND SUMMARY – SAMOA FIELD AIRPORT**

General Information	Description
Airport Ownership	Public
Year Opened	1944
Airport Property Size	400 Acres
Airport Classification	General Aviation
Airport Elevation	20 feet MSL
Airport Planning Documents	Description
Airport Master Plan	None
Airport Layout Plan	Yes, 2013
Planned Facility Improvements	Description
Airside	None
Landside	None
NOTES:	
MSL = Mean Sea Level	
Source: FAA Airport Master Record, Samoa Field Airport, July 2018.	

## G.8.2 Airport Characteristics

The Airport property is situated on 657 acres of City owned dunes with access to the ocean, and has one runway, Runway 16-34. Runway 16-34 is an asphalt runway, 2,700 feet long by 60 feet wide. The runway is reported to be in good condition, and aircraft parking is located east of the Runway 34 end.

The Airport is day use only, and no fuel is available at the site. Tie-downs are available at no cost and without reservation. The Airport is unmanned and offers no services. There are no visual or navigational aids at the Airport.

**Table G-23** presents a summary of the Airport’s existing airside and landside facilities. The Airport has an ALP, but no Master Plan document.

**TABLE G-23  
AIRPORT FACILITIES SUMMARY – SAMOA FIELD AIRPORT**

Airside Facilities	
Runways	Description
Runway Designation	Runway 16-34
Airport Reference Code (ARC)	N/A
Critical Design Aircraft	N/A
Runway Dimensions	2,7000 feet by 60 feet

**TABLE G-23**  
**AIRPORT FACILITIES SUMMARY – SAMOA FIELD AIRPORT**

<b>Runways</b>	<b>Description</b>				
Pavement Strength (1,000 lbs.) – S / D / DT	10/ - / - lbs.				
Runway Lighting / Visual Approach Aids	None				
Taxiways	None				
Heliport/Helipad	East of Runway 34, north of Admin Building				
<b>Approach Protection</b>	<b>Description</b>				
Runway Protection Zones (RPZs)	<ul style="list-style-type: none"> <li>• Runway 16 250' x 1,000' x 450'</li> <li>• Runway 34 500' x 700' x 1,000'</li> </ul>				
Approach Obstacles	None				
<b>Traffic Patterns and Approach Procedures</b>	<b>Description</b>				
Aircraft Traffic Patterns	<ul style="list-style-type: none"> <li>• Runway 16 Right</li> <li>• Runway 34 Left</li> </ul>				
Pattern Altitude	820 feet MSL/800 feet AGL				
<b>Instrument Approach Procedures</b>	<b>Type</b>	<b>Navigational Aids</b>	<b>Aircraft Category</b>	<b>Minimums</b>	
				<b>Ceiling (feet)</b>	<b>Visibility (miles/feet)</b>
None	--	--	--	--	--
	--	--	--	--	--
<b>Landside Facilities</b>					
<b>Building Area</b>	<b>Description</b>				
Aircraft Parking Location	East side				
Aircraft Parking Capacity	<ul style="list-style-type: none"> <li>• Hangar Spaces 3 hangars on the southeast side</li> <li>• Tie-Down Spaces 10 on the southeast side</li> </ul>				
Services	<ul style="list-style-type: none"> <li>• Fuel None</li> <li>• Other None</li> </ul>				

## NOTES:

AGL = Above ground level  
DME= Distance measuring equipment  
S = Single wheel landing gear  
D = Dual wheel landing gear  
DT = Dual tandem landing gear  
GPS = Global Positioning System  
LOC = Localizer  
MIRL= Medium intensity runway lights  
MSL = Mean sea level

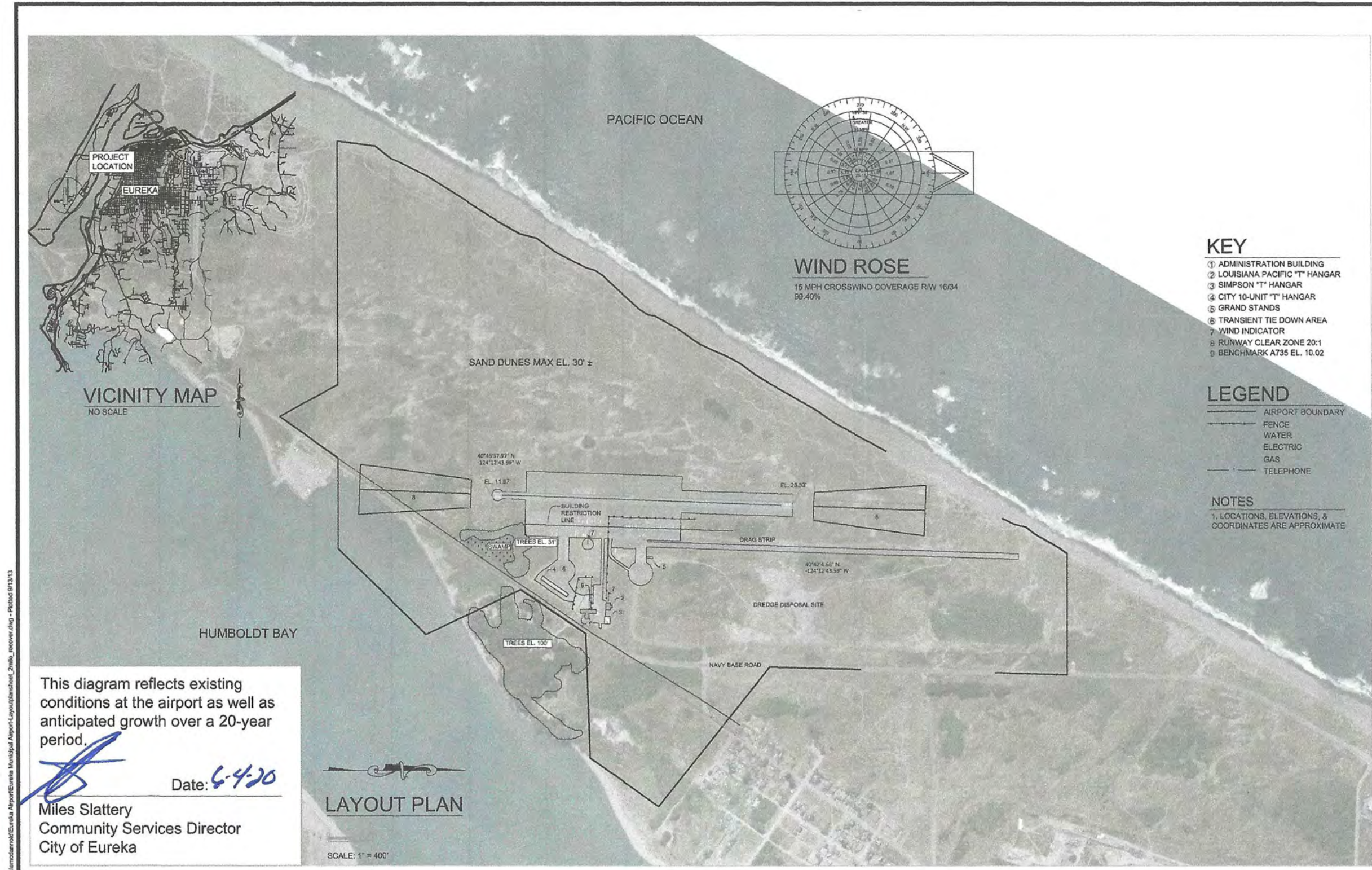
REIL = Runway edge indicator lights  
RNAV = Area navigation  
VASI = Visual Approach Slope Indicator  
VOR = Very high frequency omnidirectional radio range

Source: Samoa Field Airport Layout Plan, 2007; FAA Master Records Report 2017

The Airport does not operate an ATCT. There are no visual aids at the Airport except for a segmented circle, and wind indicator located to the east of runway 34. There are currently no published instrument approach procedures to the Airport, with no established visibility minimums at the Airport.

Aircraft parking aprons are located on the eastern side of the runway with three hangar units, and tie-downs for transient aircraft. There are no full service fixed-base operators (FBOs) at the Airport, however there is an administration building on site, but no additional services are provided at the Airport.

**Figure G-50** presents a diagram of the Samoa Field facilities and airfield. The City updated the diagram, in March 2013, and information provided on the diagram, as well as in the FAA Master Record reports was used to prepare this document. There are no planned improvements to the Airport shown on the diagram.



- KEY**
- ① ADMINISTRATION BUILDING
  - ② LOUISIANA PACIFIC "T" HANGAR
  - ③ SIMPSON "T" HANGAR
  - ④ CITY 10-UNIT "T" HANGAR
  - ⑤ GRAND STANDS
  - ⑥ TRANSIENT TIE DOWN AREA
  - ⑦ WIND INDICATOR
  - ⑧ RUNWAY CLEAR ZONE 20:1
  - ⑨ BENCHMARK A735 EL. 10.02

- LEGEND**
- AIRPORT BOUNDARY
  - FENCE
  - WATER
  - ELECTRIC
  - GAS
  - TELEPHONE

**NOTES**

1. LOCATIONS, ELEVATIONS, & COORDINATES ARE APPROXIMATE

This diagram reflects existing conditions at the airport as well as anticipated growth over a 20-year period.

*[Signature]*  
Date: 6-4-20

Miles Slattery  
Community Services Director  
City of Eureka

**LAYOUT PLAN**

SCALE: 1" = 400'

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Graphic Scale: <i>[Blank]</i>		
Measurements in feet and inches		
<b>CITY OF EUREKA</b>		
Public Works Dept. Engineering Division 531 K Street, Eureka, CA 95501 (707) 441-4194 ph (707) 441-4207 fax		
<b>EUREKA</b> CALIFORNIA		
<b>EUREKA MUNICIPAL AIRPORT</b>		
<b>LAYOUT PLAN</b>		
<b>HUMBOLDT COUNTY ALUCP</b>		
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SOURCE: City of Eureka, 2013

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-50**  
Airport Diagram  
Samoa Field Airport



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### G.8.3 Airport Activity

The policies in Chapters 2 and 3 of this Compatibility Plan are based on the following primary sources: The Aeronautics Act, the ALP and the airport diagram for each of the Airports that are a subject of this Compatibility Plan and other State laws, regulations, and guidelines, including those in the California Airport Land Use Planning Handbook (Handbook) published by the Division of Aeronautics in October 2011. A copy of the Handbook is available for download on the Division of Aeronautics website at (<http://www.dot.ca.gov/hq/planning/aeronaut/documents/alucp/>).

**Table G-24** summarizes existing and forecast airport activity at the Airport as identified in the 2007 Master Plan and characterized on the ALP. In 2005, there were 101 aircraft based at the Airport, including 90 single-engine propeller aircraft, and 11 multi-engine propeller aircraft. The number of aircraft at the Airport has remained the same over the Airport activity historical tracking period. There were approximately 66,170 operations at the Airport in 2005, roughly split 31 percent for local and 69 percent for itinerant operations.

Prevailing winds are from the northwest and the majority of arrivals and departures are to/from Runway 30. Helicopter traffic is minimal and operates from the runway.

### G.8.4 Forecast Airport Activity

California state law requires that ALUCPs must be based on a long-range Airport Master Plan or an ALP that forecasts anticipated growth at an airport for the next 20 years. For purposes of this ALUCP update, the Samoa Field Airport Layout Plan, as well as the FAA's TAF and discussions with the Airport operator, were used to characterize future activity at the Airport. In 2017, 10 aircraft were forecasted to be based at the Airport over the next 20 years. In 2039, there would be 2,500 total annual fixed-wing operations and 264 helicopter operations at the Airport. Approximately 40 percent of fixed wing operations were itinerant, and 60 percent were local. All helicopter operations would be local. Forecasted airport activity is summarized in **Table G-24**.

**TABLE G-24**  
**AIRPORT ACTIVITY DATA – SAMOA FIELD AIRPORT**

Based Aircraft	Master Plan Conditions (2017)	Master Plan Future Conditions (2025)
Single-engine prop	8	8
Multi-engine prop	0	0
Turbine/Jet	0	0
Helicopter	0	0
Other <sup>1</sup>	2	2
Total	10	10

**TABLE G-24**  
**AIRPORT ACTIVITY DATA – SAMOA FIELD AIRPORT**

Aircraft Operations	Existing Conditions (2017)		Future Conditions (2039)	
	Number of Operations	Percentage by Aircraft Type	Number of Operations	Percentage by Aircraft Type
Single-engine prop	2,500	90.4%	2,500	90.4%
Multi-engine prop	0	0.00%	0	0.00%
Turbine/Jet	0	0.00%	0	0.00%
Helicopter	-264	--%	-264	--%
Other <sup>1</sup>	0	9.6%	0	9.6%
<b>Total</b>	<b>2,764</b>	<b>100.00%</b>	<b>2,764</b>	<b>100.00%</b>

Aircraft Type	Existing Conditions (2017)		Future Conditions (2039)	
	Percentage of Takeoffs		Percentage of Landings	
	Rwy 16	Rwy 34	Rwy 16	Rwy 34
Single-engine prop	80.0	20.0	20.0	80.0
Multi-engine prop	--	--	--	--
Turbine/Jet	--	--	--	--
Helicopter	--	--	--	--
Other <sup>1</sup>	80.0	20.0	20.0	80.0

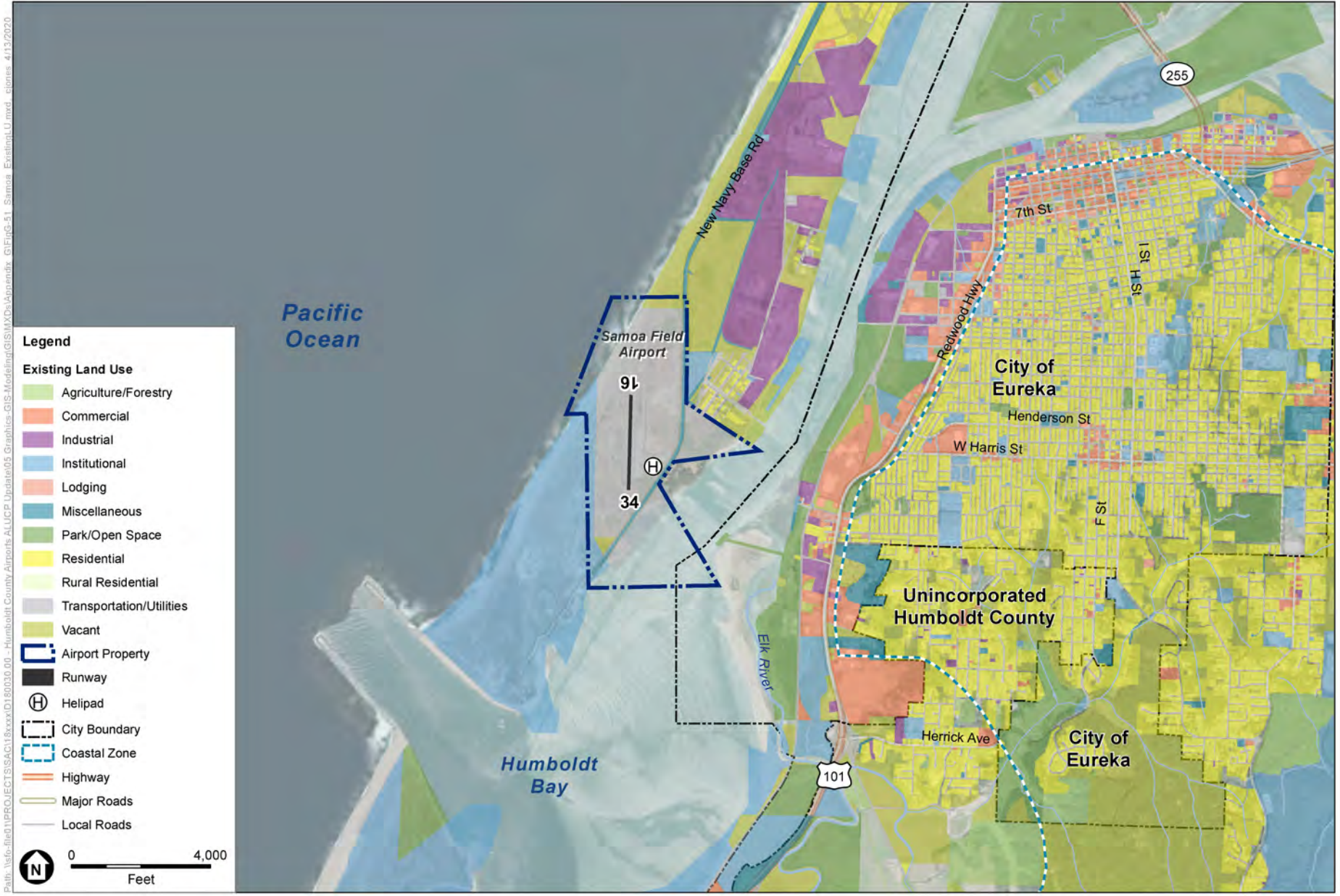
## NOTES:

<sup>1</sup> Other = lighter than air, gliders, or home-built aircraft.

Source: FAA TAF, 2018.

## G.8.5 Airport Environs

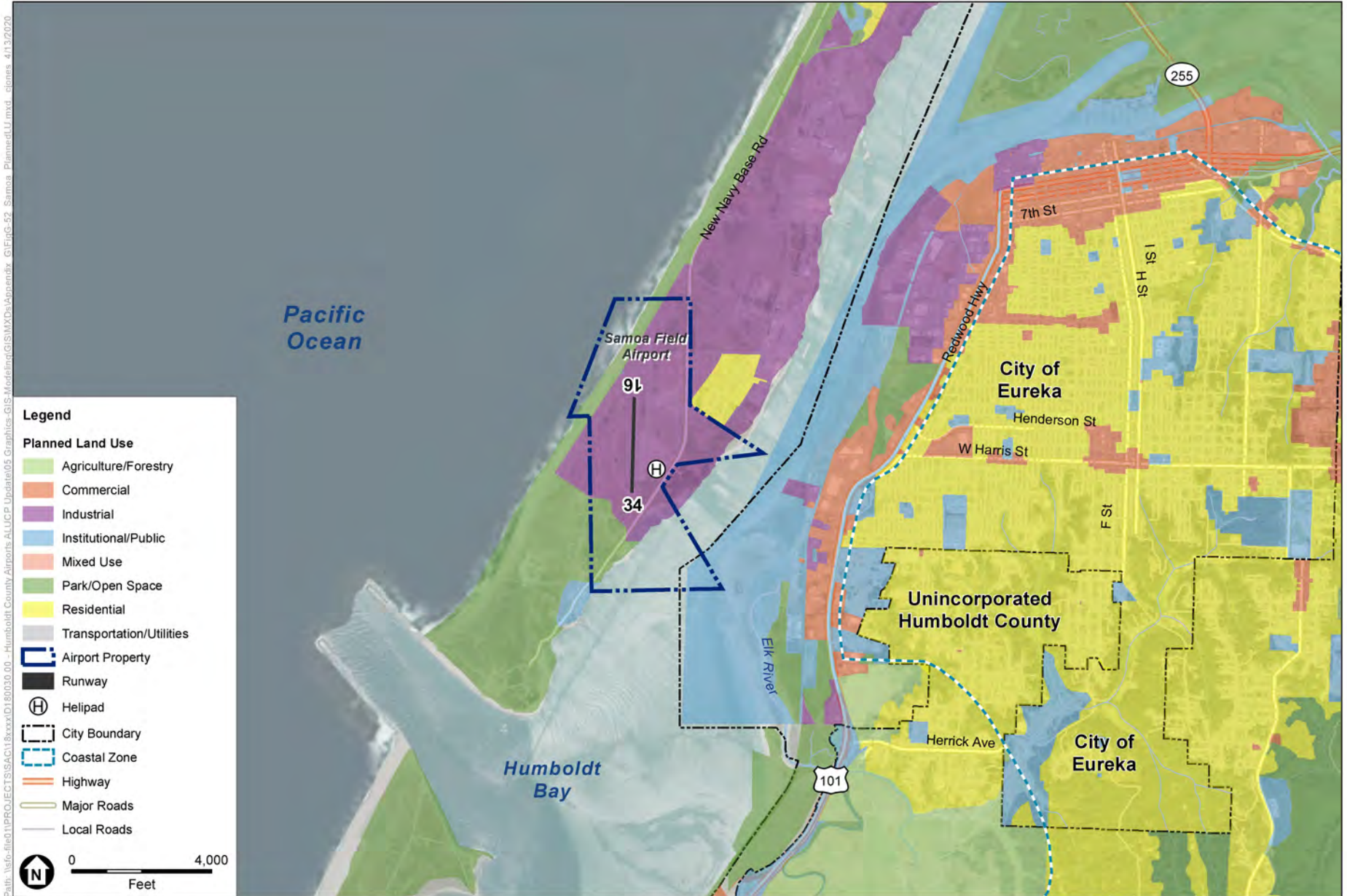
**Figure G-51** depicts existing land use in the area surrounding the Airport. **Figure G-52** depicts general plan land use in the area surrounding the Airport. Land use around the Airport is varied with mostly parks and open space, natural resource, and some residential uses found to the east of the Airport, across Arcata Bay. The closest residential land uses are low density residential or estate residential uses east of the Airport as well as uses across Arcata Bay and within the City of Eureka limits.



SOURCE: ESA, 2018; DigitalGlobe, October 2017; County of Humboldt, January 2019; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-51**  
Existing Land Use  
Samoa Field Airport



SOURCE: ESA, 2018; DigitalGlobe, October 2017; County of Humboldt, June 2019; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-52**  
Planned Land Use  
Samoa Field Airport

## G.8.6 Compatibility Factors

### Noise Compatibility Data

**Figure G-53** shows noise contours and generalized flight paths by operation type derived from the 2013 Airport Layout Plan and Future Conditions Noise Contours. As discussed above, the forecast estimates 2,764 annual operations, or approximately eight annual average daily operations, for 2017 and 2039 conditions. The U.S. Coast Guard operates helicopters from facilities at Garberville airport. An estimated 264 helicopter operations are estimated for 2039 conditions. The noise contours shown on Figure G-53 was modeled to reflect 2039 conditions signifying the planning horizon of the ALUCP. Therefore, the noise contours represent a noise exposure at the Airport under 2039 conditions.

### Safety Compatibility Data

**Figure G-54** of this ALUCP shows the proposed safety zones for the Airport. As shown on Figure G-54, generalized traffic patterns taken from the ALP and FAA TAF were used for the purpose of creating the safety zones at the Airport. The safety zones for Runway 16-34 were based on *Example 1: Short General Aviation Runway*, included in the Handbook. Example 1 assumes a runway length less than 4,000 feet, approach visibility minimums greater than or equal to one mile, and runway protection zones (RPZs) of 250 feet by 450 feet by 1,000 feet. The runway is less than 4,000 feet, with a visual approach minimum, and runway protection zones equal to the specified dimensions. Because there is a single-sided traffic pattern on the west side of the Airport, the Safety Zones 3 have not been included on the east side.

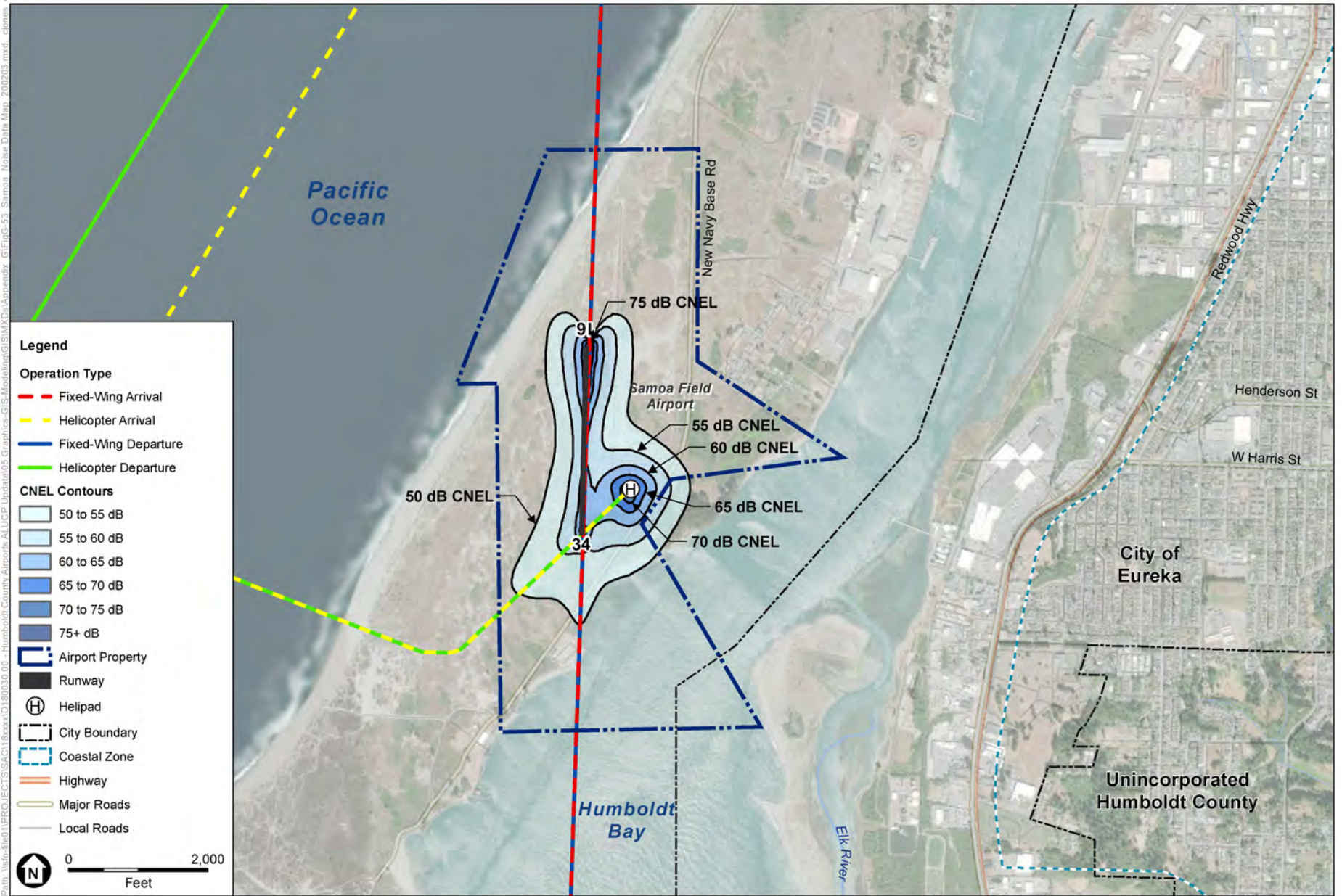
### 14 CFR Part 77 Airspace Compatibility Data

**Figure G-55** of this ALUCP, depicts the Part 77 airspace surfaces for the Airport as shown in the ALP. Part 77 airspace surfaces reflect areas around airports determined by FAA regulations that should be protected from obstructions and visual impacts that may interfere with the safe operation of aircraft. The current airport elevation is 20 feet MSL. The Part 77 airspace surfaces included in the current ALP are based on this elevation.

### Overflight Compatibility Data

**Figure G-56** shows the overflight notification area, generalized flight paths, and safety zones for the Airport. The overflight notification area includes all areas covered by the Airport's Safety Zones as well as flight corridors based on the traffic patterns presented in the ALP, and TAF estimates.

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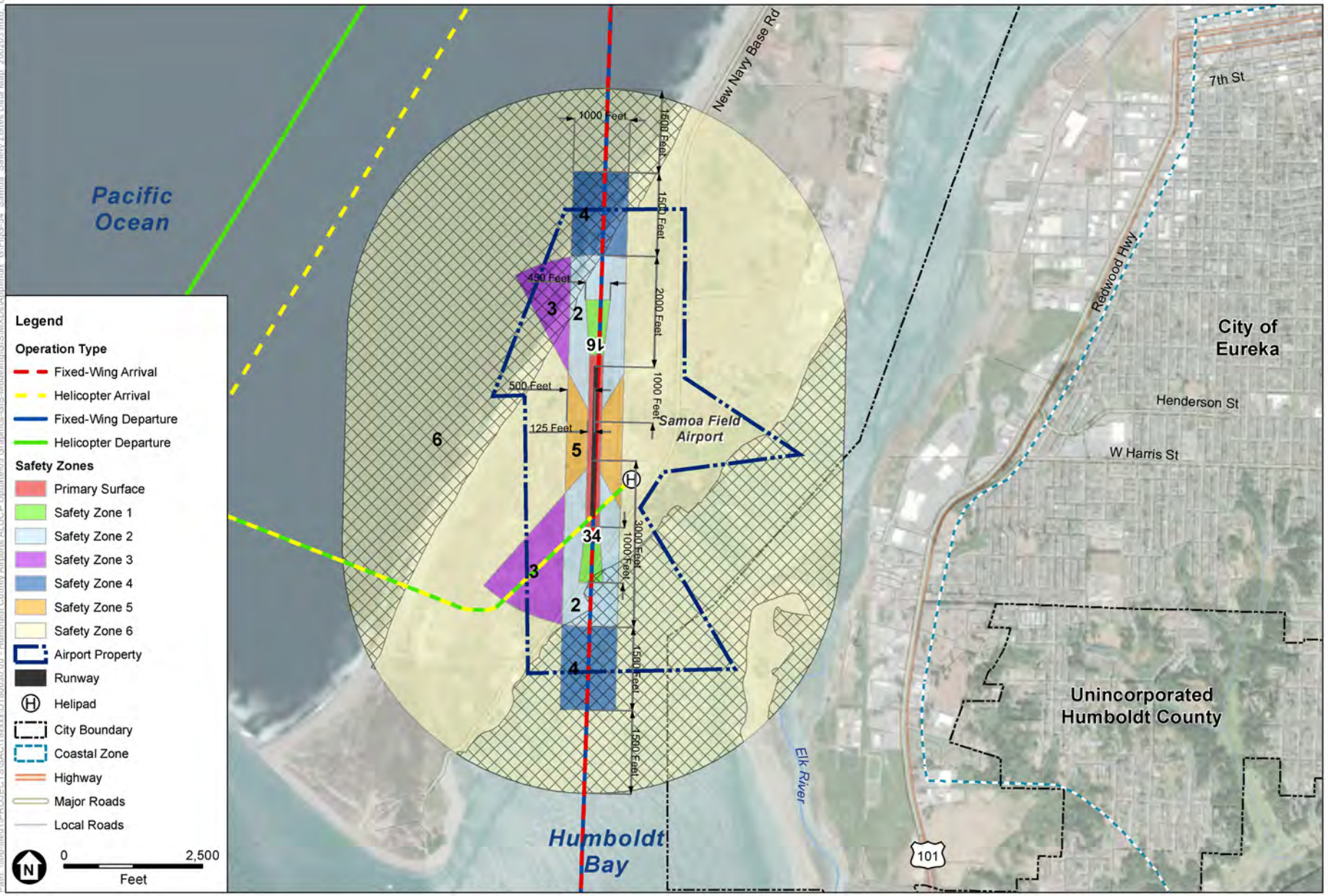
SOURCE: AEDT 2d; ESA, 2018; DigitalGlobe, October 2017; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-53**  
Noise Data Map  
Samoa Field Airport



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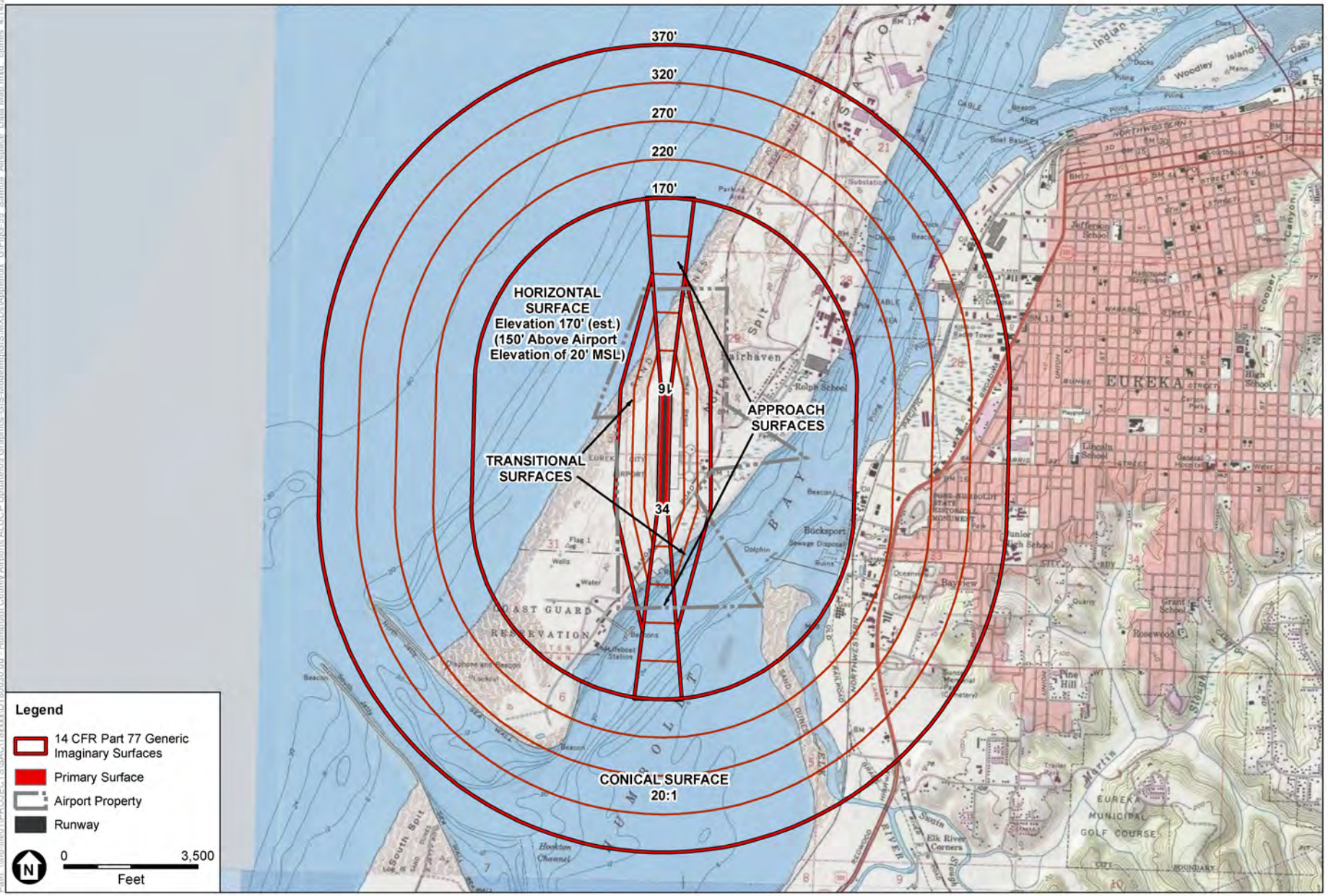
SOURCE: AEDT 2d; ESA, 2018; DigitalGlobe, October 2017; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-54**  
Safety Zones Data Map  
Samoa Field Airport



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SOURCE: USDOT, FAA 14 CFR Part 77, Safe, Efficient Use and Preservation of Navigable Airspace, July 21, 2010; ESA, 2018

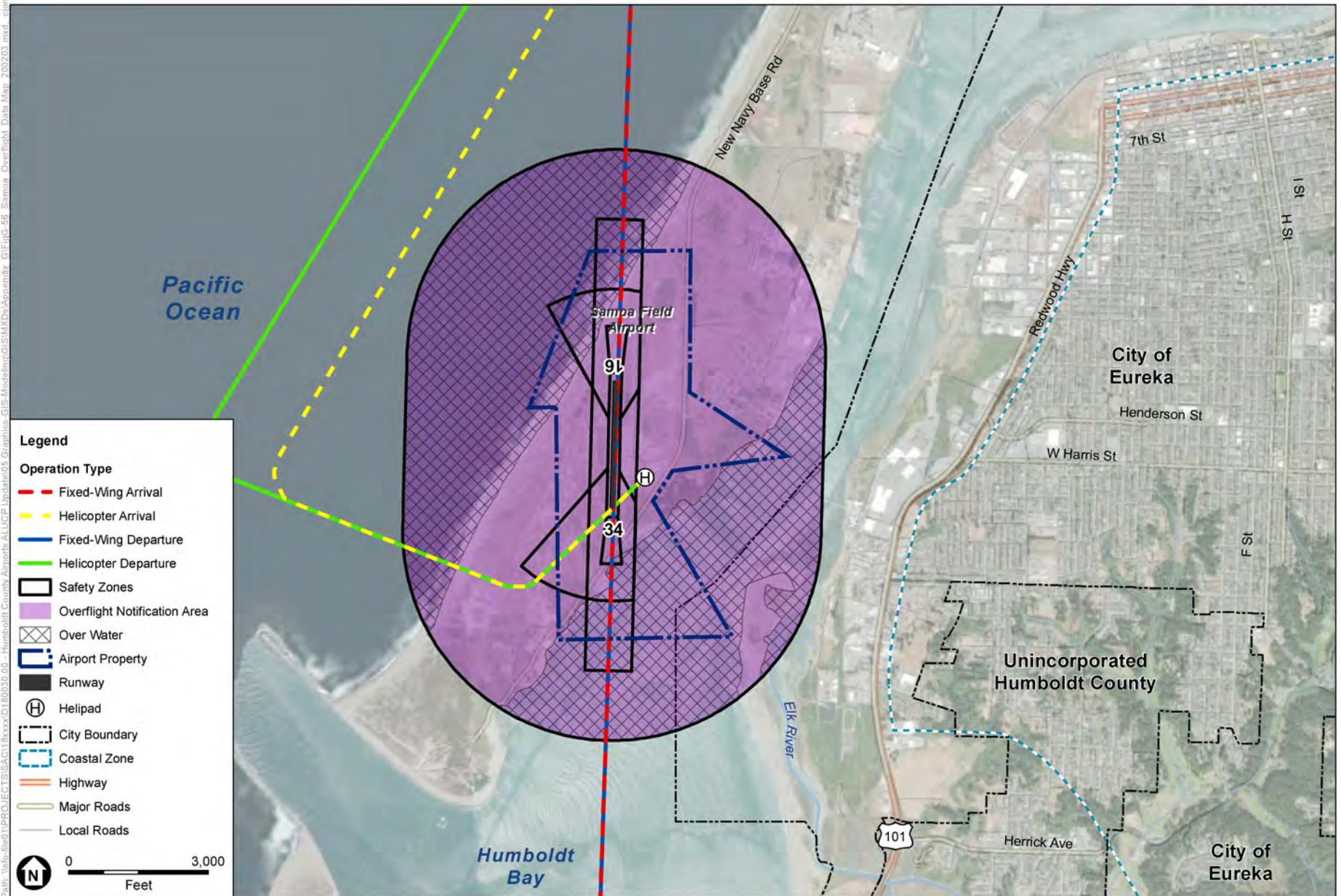
Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-55**  
Airspace Protection Data Map  
Samoa Field Airport





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SOURCE: AEDT 2d; ESA, 2018; DigitalGlobe, October 2017; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-56**  
Overflight Notification Area Data Map  
Samoa Field Airport



## G.9 Shelter Cover Airport

The following report provides a summary describing Shelter Cove Airport (0Q5 or Airport), including a description of the Airport location, surrounding land uses, Airport facilities, and existing and projected operational activity at the Airport.

### G.9.1 Airport Background

The Airport is located one mile west of the Town of Shelter Cove on approximately 50 acres of land and approximately 54 miles south of the City of Eureka and along the Pacific Ocean coast.

**Figure G-57** presents an aerial view of the Airport and the immediate surrounding area.

The Airport was opened in June 1950 and is operated as a public facility by the Airport owner, the Shelter Cove Resort Improvement District, as general aviation airport.

Path: \\efo-1\PROJECTS\SAC\118xxxx\11800030\_00 - Humboldt County Airports ALLUCP Update\05 Graphics-GIS-Modeling\GISMXDs\Appendix G\FigG-57 Shelter Cove Airport Environs.mxd - clones 4/13/2020



SOURCE: ESA, 2018; DigitalGlobe, June 2017; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-57**  
Airport Environs  
Shelter Cove Airport

**Table G-25** provides a summary of Airport background information.

**TABLE G-25  
AIRPORT BACKGROUND SUMMARY – SHELTER COVE AIRPORT**

<b>General Information</b>	<b>Description</b>
Airport Ownership	Public
Year Opened	1950
Airport Property Size	50 Acres
Airport Classification	General Aviation
Airport Elevation	73.3 feet MSL
<b>Airport Planning Documents</b>	<b>Description</b>
Airport Master Plan	None
Airport Layout Plan	None
<b>Planned Facility Improvements</b>	<b>Description</b>
Airside	None
Landside	None

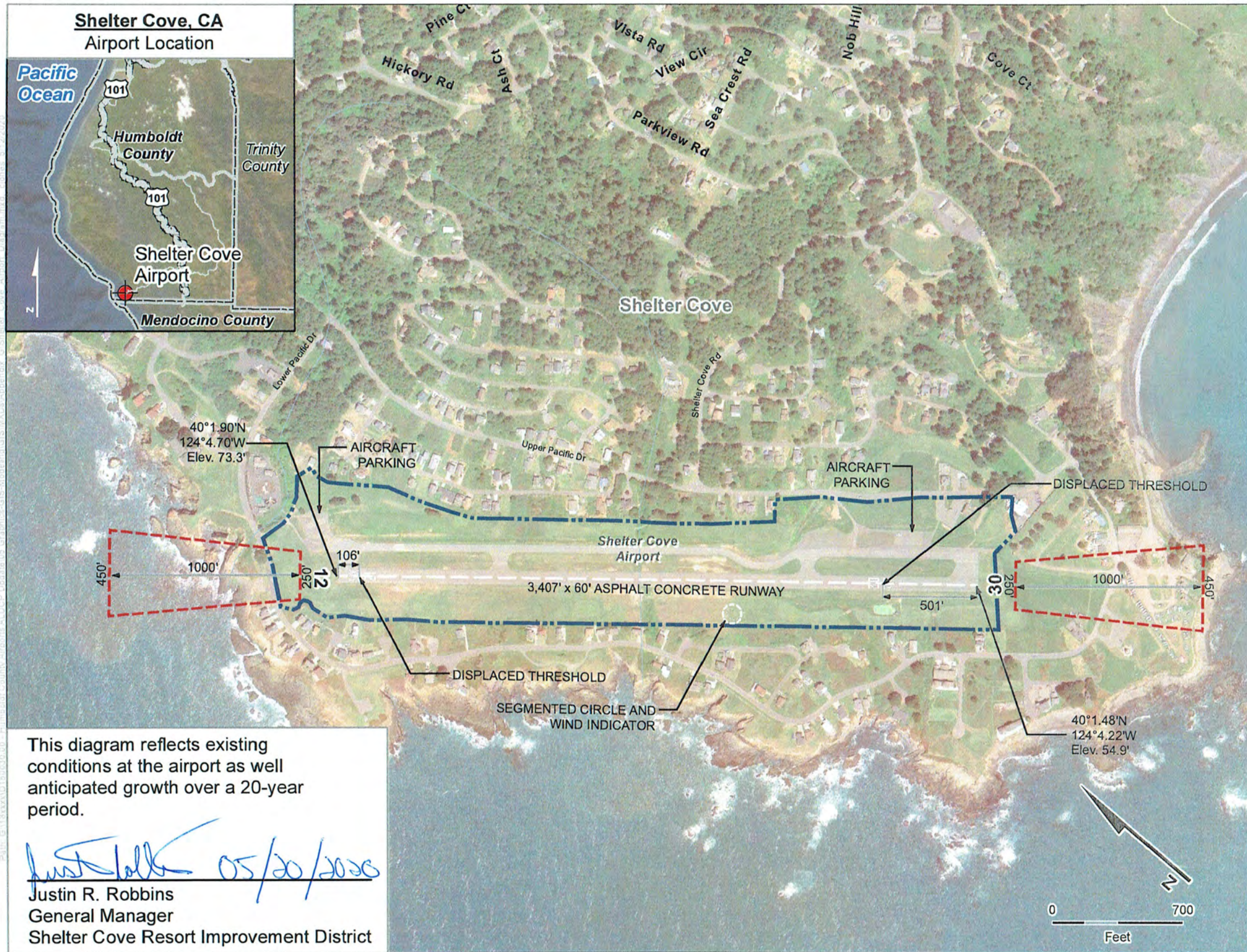
NOTES:  
MSL = Mean Sea Level  
Source: FAA Airport Master Record, Shelter Cove Airport, July 2018.

## G.9.2 Airport Characteristics

The Airport property is 50 acres in size and has one runway, Runway 12-30 which is an asphalt runway, 3,407 feet long by 60 feet wide. The runway is reported to be in good condition, and aircraft parking is located along the southeastern portion of the Runway 30 end.

The Airport is unmanned and offers no services. The Airport does not operate an ATCT. Visual and navigational aids at the Airport are minimal with a segmented circle, and wind indicator in place, with no runway lighting. As the Airport does not have an ALP or Master Plan document, there are no planned improvements to the Airport identified at this time.

**Figure G-58** presents a diagram of the Shelter Cove Airport facilities and airfield.



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SOURCE: ESA, 2020

Humboldt County Draft Airport Land Use Compatibility Plan



**Figure G-58**  
Airport Diagram  
Shelter Cove Airport

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**Table G-26** presents a summary of the Airport's existing airside and landside facilities.

**TABLE G-26  
AIRPORT FACILITIES SUMMARY –SHELTER COVE AIRPORT**

<b>Airside Facilities</b>				
<b>Runways</b>		<b>Description</b>		
Runway Designation		Runway 12-30		
Airport Reference Code (ARC)		N/A		
Critical Design Aircraft		N/A		
Runway Dimensions		3,407 ft. x 60 feet		
Pavement Strength (1,000 lbs.) – S / D / DT		20 / - / - lbs.		
Runway Lighting / Visual Approach Aids		none		
Taxiways		none		
Heliport/Helipad		None		
<b>Approach Protection</b>		<b>Description</b>		
Runway Protection Zones (RPZs)				
	• Runway 12	250' x 1000' x 450'; 22:1 Approach Slope		
	• Runway 30	250' x 1000' x 450'; 22:1 Approach Slope		
Approach Obstacles		none		
<b>Traffic Patterns and Approach Procedures</b>		<b>Description</b>		
Aircraft Traffic Patterns				
	• Runway 12	Right		
	• Runway 30	Left		
Pattern Altitude		Not specified		
<b>Instrument Approach Procedures</b>		<b>Minimums</b>		
	<b>Type</b>	<b>Navigational Aids</b>	<b>Aircraft Category</b>	<b>Ceiling (feet)</b> <b>Visibility (miles/feet)</b>
None		No specified approach procedures, navigational aids, or visibility minimums.		

**TABLE G-26**  
**AIRPORT FACILITIES SUMMARY –SHELTER COVE AIRPORT**

Landside Facilities	
Building Area	Description
Aircraft Parking Location	Northeast side
Aircraft Parking Capacity	
<ul style="list-style-type: none"> <li>• Hangar Spaces</li> <li>• Tie-Down Spaces</li> </ul>	<p>0 hangars on the northeast side</p> <p>6 tie-downs on the northeast side</p>
Services	
<ul style="list-style-type: none"> <li>• Fuel</li> <li>• Other</li> </ul>	<p>none</p> <p>none</p>

## NOTES:

AGL = Above ground level  
DME= Distance measuring equipment  
S = Single wheel landing gear  
D = Dual wheel landing gear  
DT = Dual tandem landing gear  
GPS = Global Positioning System  
LOC = Localizer  
MIRL= Medium intensity runway lights  
MSL = Mean sea level

REIL = Runway edge indicator lights  
RNAV = Area navigation  
VASI = Visual Approach Slope Indicator  
VOR = Very high frequency omnidirectional radio range

Source: Shelter Cove Airport Diagram, 2018; Shelter Cove Airport Aeronautical Charts. Skyvector. <https://skyvector.com/airport/0Q5/Shelter-Cove-Airport> accessed October 22, 2018., and AirNav FAA Info, 2018. Shelter Cove Airport. <https://www.airnav.com/airport/0Q5> accessed October 23, 2018.

## G.9.3 Airport Activity

The policies in Chapters 2 and 3 of this Compatibility Plan are based on the following primary sources: The Aeronautics Act, the airport diagram for each of the Airports that are a subject of this Compatibility Plan, and other State laws, regulations, and guidelines, including those in the California Airport Land Use Planning Handbook (Handbook) published by the Division of Aeronautics in October 2011. A copy of the Handbook is available for download on the Division of Aeronautics website at (<http://www.dot.ca.gov/hq/planning/aeronaut/documents/alucp/>).

**Table G-27** summarizes existing airport activity at the Airport as identified from a phone call with Justin Robbins and Sue Sack from the Shelter Cove Airport. In 2018, there were no aircraft based at the Airport, and this has been the case for a number of years. There were approximately 3,000 operations at the Airport in 2018, based on estimates of 250 operations per month. Most operations are local and small single-engine aircraft.

There are no early morning flights due to regular morning fog, and with no lights on the runway, flights tend to arrive before evening. Arrivals are mostly on Runway 30, and takeoffs are mostly on Runway 12, with all patterns typically straight in/out. Learjet and helicopter operations are very rare occurrences, and only occur less than once a year.



## G.9.4 Forecast Airport Activity

California state law requires that ALUCPs must be based on a long-range Airport Master Plan or an ALP that forecasts anticipated growth at an airport for the next 20 years. For purposes of this ALUCP update, the Shelter Cove Airport data assumptions from conversations with the Shelter Cove Airport manager, as well as the FAA's TAF, are used to characterize future airport activity. For 2039 assumption, it is estimated that 50 percent of operations would be for GA Single Engine Variable Pitched Aircraft (GASEPV), and 50 percent GA Single Engine Fixed Pitch Propeller Aircraft (GASEPF). The assumed off-season operations would be about 0.43 takeoffs & landings per day, or roughly three per week, and assumptions would be that there would still be roughly three operations per week around storms. During the on-season, it would be assumed that 8.2 takeoffs and landings per day would occur, or roughly 250 operations per month from May through August. All flights would be assumed to occur during the daytime due to conditions, and all flight would be straight in and out arrivals on Runway 30, and takeoffs on Runway 12.

Forecasted airport activity at the Airport are summarized in Table G-27. The total amount of based aircraft is assumed to remain similar to existing conditions over the 20-year forecast period. Operations are anticipated to remain flat at the Airport over the next 20 years, with approximately 2,208 annual operations in 2017, and approximately the same amount (2,208 annual operations) forecasted at the Airport in 2039.

**TABLE G-27**  
**AIRPORT ACTIVITY DATA – SHELTER COVE AIRPORT**

<b>Based Aircraft</b>	<b>Master Plan Conditions (2017)</b>		<b>Master Plan Future Conditions (2039)</b>	
Single-engine prop	0		0	
Multi-engine prop	0		0	
Turbine/Jet	0		0	
Helicopter	0		0	
Other <sup>1</sup>	0		0	
Total	0		0	

<b>Aircraft Operations</b>	<b>Existing Conditions (2017)</b>		<b>Future Conditions (2039)</b>	
	<b>Number of Operations</b>	<b>Percentage by Aircraft Type</b>	<b>Number of Operations</b>	<b>Percentage by Aircraft Type</b>
Single-engine prop	2,208	99.3%	2,208	99.3%
Multi-engine prop	0	0.00%	0	0.00%
Turbine/Jet	0	0.00%	0	0.00%
Helicopter	0	0.7%	0	0.7%
Other <sup>1</sup>	0	0.00%	0	0.00%
Total	2,208	100.00%	2,208	100.00%

**TABLE G-27**  
**AIRPORT ACTIVITY DATA – SHELTER COVE AIRPORT**

Aircraft Type	Existing Conditions (2017)		Future Conditions (2039)	
	Percentage of Takeoffs		Percentage of Landings	
	Rwy 12	Rwy 30	Rwy 12	Rwy 30
Single-engine prop	100.00	0.00	0.00	100.00
Multi-engine prop	0.00	0.00	0.00	0.00
Turbine/Jet	0.00	0.00	0.00	0.00
Helicopter	0.00	0.00	0.00	0.00
Other <sup>1</sup>	--	--	--	--

## NOTES:

<sup>1</sup> Other = lighter than air, gliders, or home-built aircraft.

Source: FAA TAF, 2018.

## G.9.5 Airport Environs

**Figure G-59** depicts existing land use in the area surrounding the Airport. **Figure G-60** depicts general plan land use in the area surrounding the Airport. Land use around the Airport is varied, with mostly residential and commercial uses found to surround the Airport, along the coast, as well as to the east of the Airport. Commercial recreation, and low to medium density residential uses are predominantly found to the west and east of the Airport, while commercial recreational uses are found to the north and south of both runway ends. The closest residential land uses are located approximately within 0.25 mile of the Airport.

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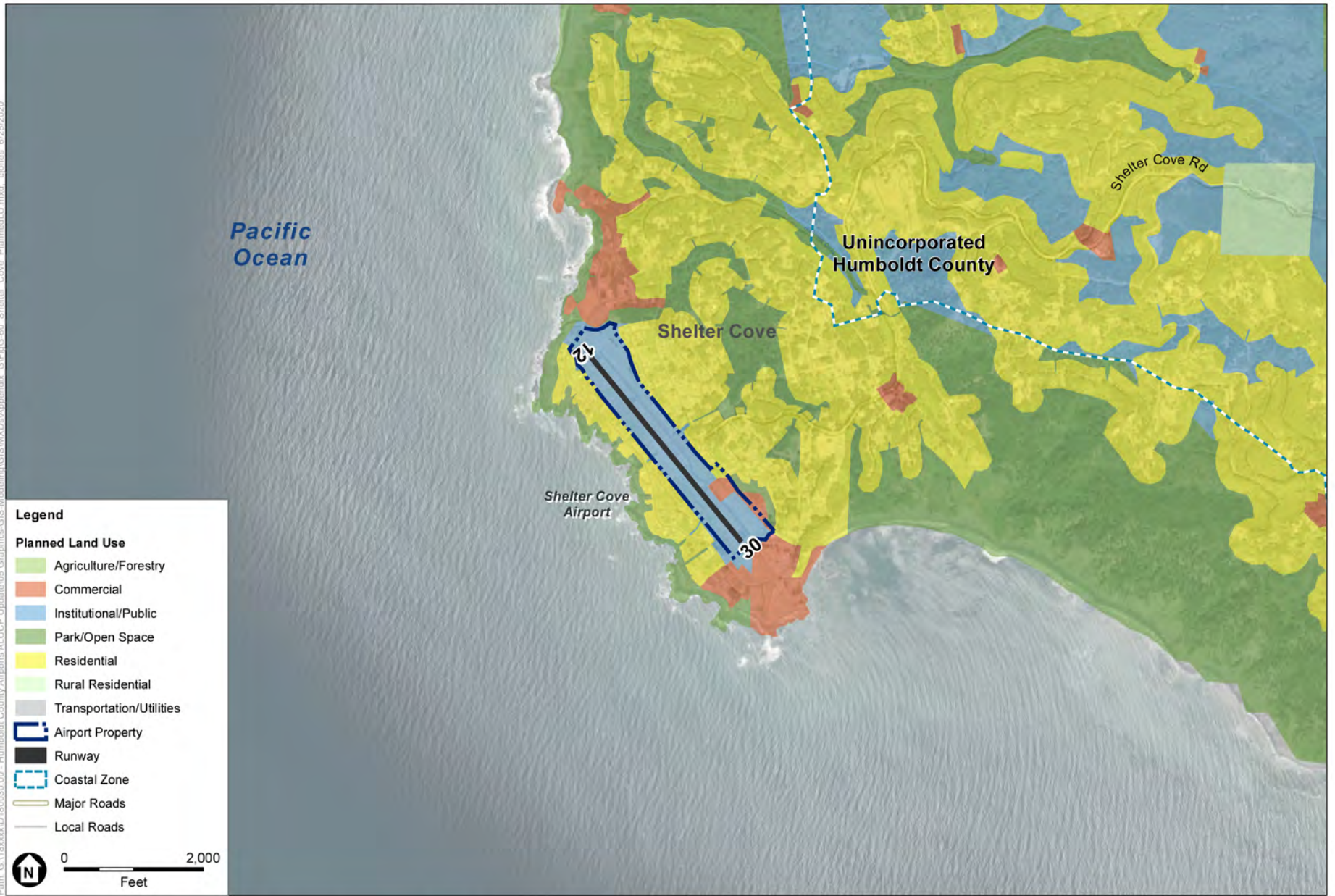


SOURCE: ESA, 2018; DigitalGlobe, June 2017; County of Humboldt, January 2019; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-59**  
Existing Land Use  
Shelter Cove Airport

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SOURCE: ESA, 2018; DigitalGlobe, June 2017; County of Humboldt, June 2019; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-60**  
Planned Land Use  
Shelter Cove Airport

## G.9.6 Compatibility Factors

### Noise Compatibility Data

**Figure G-61** depicts noise contours and generalized flight paths by operation type derived from phone calls with Shelter Cove Airport Managers Justin Robbins and Sue Sack, as well as the 2018 Airport Master Record and Future Conditions Noise Contours. An estimated 2,208 annual operations, or approximately 6 annual average daily operations, for 2018 and continuing through 2039 conditions. The noise contour shown on Figure 11-1 of this ALUCP was modeled to reflect 2039 conditions signifying the planning horizon of the ALUCP. Therefore, the noise contours shown on Figure G-61 represents noise exposure at the Airport under 2039 conditions.

### Safety Compatibility Data

**Figure G-62** shows the proposed safety zones and generalized flight paths for the Airport. As shown on Figure G-62, generalized traffic patterns taken from the FAA Master Record, and communications with airport managers were used for the purpose of creating the safety zones at the Airport. The safety zones for Runway 12-30 were based on *Example 1: Short General Aviation Runway*, included in the Handbook. Example 1 assumes a runway length less than 4,000 feet, approach visibility minimums greater than or equal to one mile, and runway protection zones (RPZs) of 250 feet by 450 feet by 1,000 feet. The runway is less than 4,000 feet, with a visibility minimum of 1 mile and runway protection zones larger than the specified dimensions. Because there is a single-sided traffic pattern over the ocean on the south side of the Airport, the Safety Zones 3 have not been included on the north side over land.

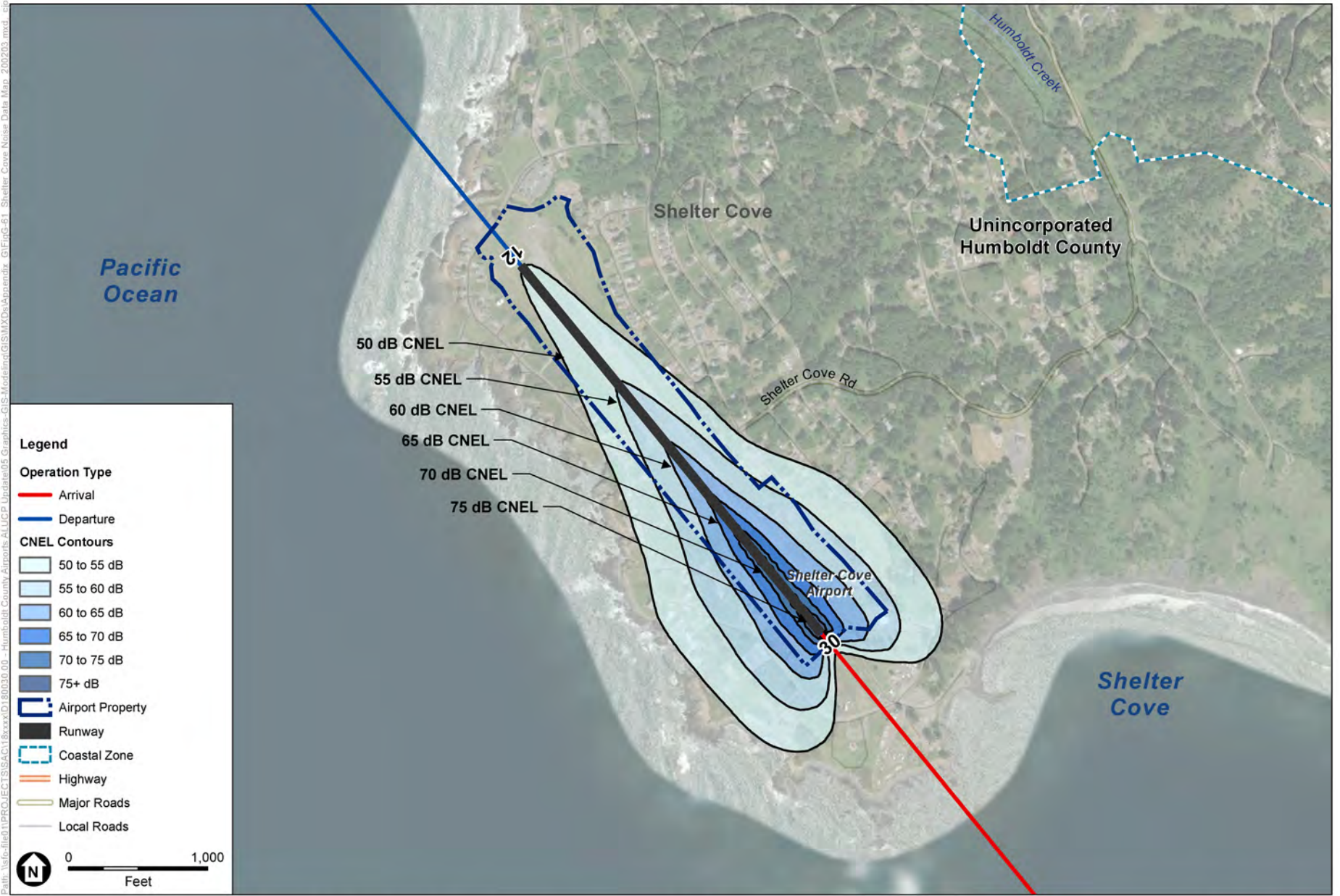
### 14 CFR Part 77 Airspace Compatibility Data

**Figure G-63** depicts the Part 77 airspace surfaces for the Airport as shown in the ALP. Part 77 airspace surfaces reflect areas around airports determined by FAA regulations that should be protected from obstructions and visual impacts that may interfere with the safe operation of aircraft. The current airport elevation is 73.3 feet MSL. The Part 77 airspace surfaces included in the current Airport diagram are based on this elevation.

### Overflight Compatibility Data

**Figure G-64** shows the overflight notification area, generalized flight paths, safety zones and conical surface for the Airport. The overflight notification area includes all areas covered by the Airport's safety zones as well as flight corridors based on the traffic patterns presented in the Airport diagram, and TAF estimates. General corridors centered on the traffic pattern flight tracks were created to account for normal dispersion in aircraft operations. The generalized flight corridors extend to the outer boundary of the Airport's conical surface.

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SOURCE: AEDT 2d; ESA, 2018; DigitalGlobe, June 2017; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-61**  
Noise Data Map  
Shelter Cove Airport



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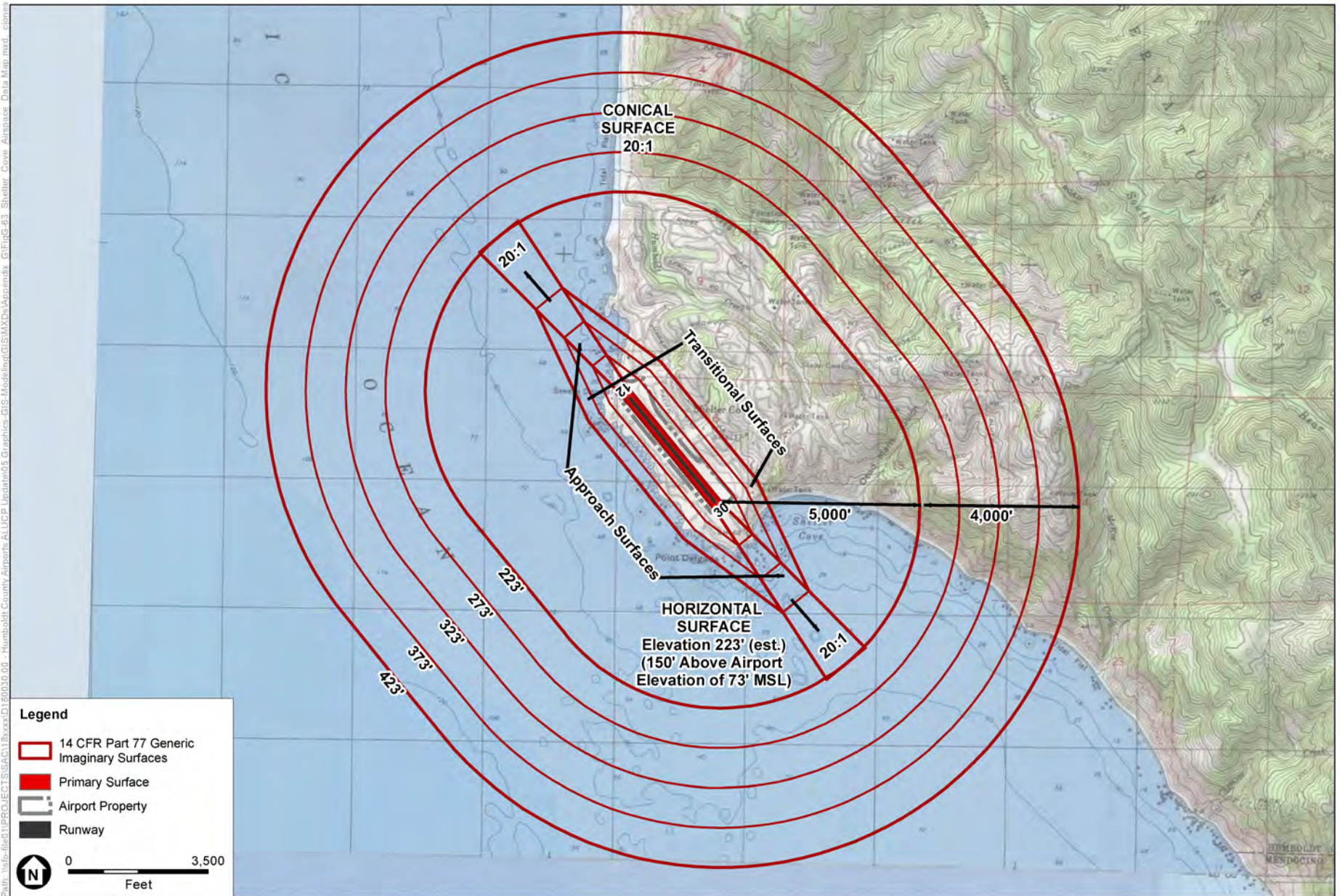


SOURCE: AEDT 2d; ESA, 2018; DigitalGlobe, June 2017; US Census Bureau, Geography Division, September 2018.

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**Figure G-62**  
Safety Zones Data Map  
Shelter Cove Airport





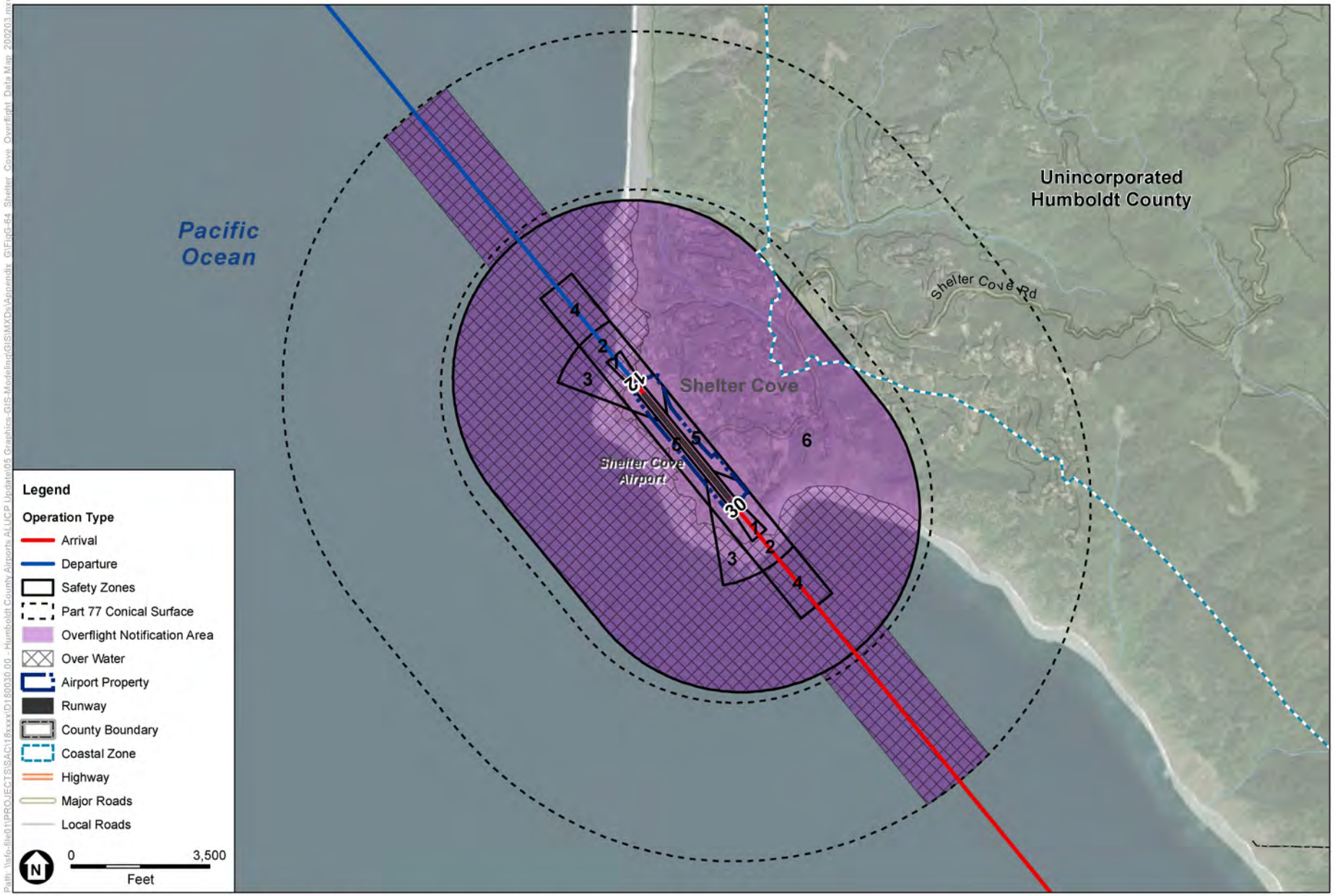
SOURCE: USDOT, FAA 14 CFR Part 77, Safe, Efficient Use and Preservation of Navigable Airspace, July 21, 2010; ESA, 2018

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**Figure G-63**  
Airspace Protection Data Map  
Shelter Cove Airport



Path: \\ef01\PROJECTS\SACV\8xxxx\0180001000 - Humboldt County Airports ALLCP Update\05 Graphics-GIS-Modeling\GISMXDs\Appendix G\FigG-64 Shelter Cove Overflight Data Map 200203.mxd, c:\jones 4/14/2020



SOURCE: AEDT 2d; ESA, 2018; DigitalGlobe, June 2017; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure G-64**  
Overflight Notification Area Data Map  
Shelter Cove Airport



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# Appendix H

## **Noise Modeling Assumptions**

# APPENDIX H

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## Noise Modeling Assumptions

This report describes the assumptions used to complete the noise modeling analysis conducted for the Humboldt County ALUCP update.

### H.1 General Characteristics of Aircraft Noise

Sound, when transmitted through the air and upon reaching one's ears, may be perceived as desirable or unwanted. People normally refer to noise as unwanted sound. Because the response to sound is subjective, individuals have different perceptions, sensitivities, and reactions to noise. Loud sounds may bother some people, while others may be bothered by certain rhythms or frequencies of sound. Sounds that occur during sleeping hours are usually considered to be more objectionable than those that occur during waking hours and hours of activity (typically daytime).

Aircraft noise originates from both the engines and the airframe of an aircraft. Meteorological conditions affect the transmission of sound through the air. Wind speed and direction, and the temperature immediately above ground level, cause diffraction and displacement of sound waves. Humidity and temperature materially affect the transmission of air-to-ground sound through absorption associated with the instability and viscosity of the air.

Noise is defined as unwanted sound. Sound, traveling in the form of waves from a source, exerts a sound pressure level (referred to as sound level) which is measured in decibels (dB), with zero dB corresponding roughly to the threshold of human hearing, and 120 to 140 dB corresponding to the threshold of pain. Pressure waves traveling through air exert a force registered by the human ear as sound.

Sound pressure fluctuations can be measured in units of hertz (Hz), which correspond to the frequency of a particular sound. Typically, sound does not consist of a single frequency, but rather a broad band of frequencies varying in levels of magnitude (sound power). When all the audible frequencies of a sound are measured, a sound spectrum is plotted consisting of a range of frequencies spanning 20 to 20,000 Hz. The sound pressure level, therefore, constitutes the additive force exerted by a sound corresponding to the sound frequency/sound power level spectrum.

The typical human ear is not equally sensitive to all frequencies of the audible sound spectrum. As a consequence, when assessing potential noise impacts, sound is measured using an electronic filter that de-emphasizes the frequencies below 1,000 Hz and above 5,000 Hz in a manner corresponding to the human ear's decreased sensitivity to extremely low and extremely high

frequencies. This method of frequency weighting is referred to as A-weighting and is expressed in units of A-weighted decibels (dBA). A-weighting follows an international standard methodology of frequency weighting and is typically applied to community noise measurements. Some representative noise sources and their corresponding A-weighted noise levels are shown on **Figure H-1**.

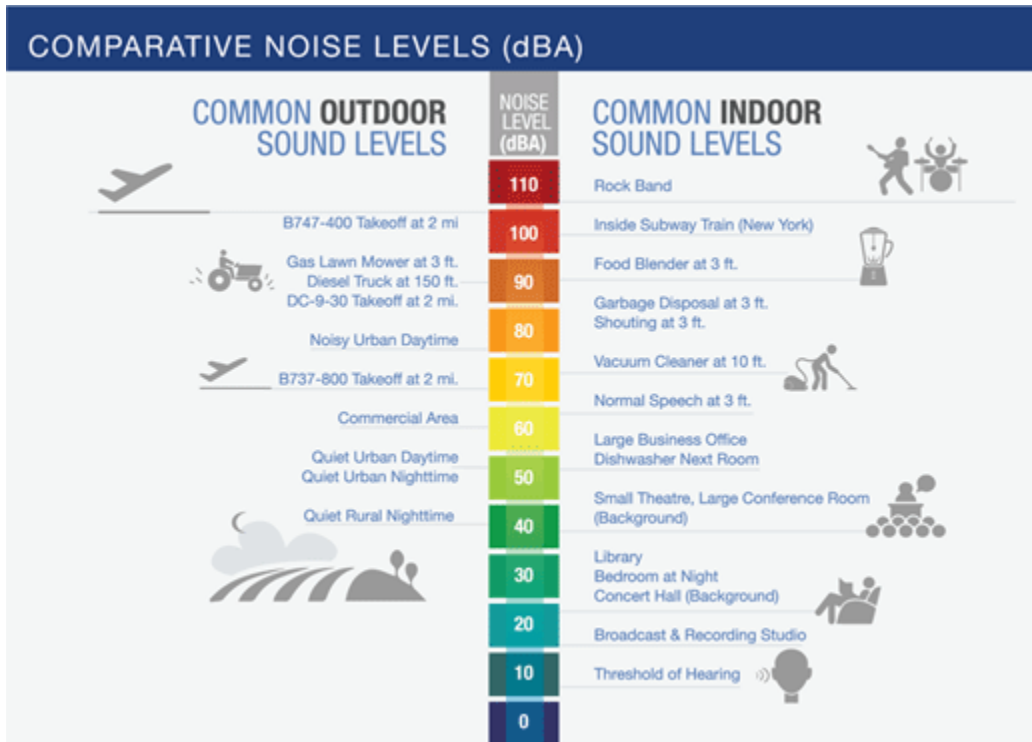
## H.2 Community Noise Equivalent Level (CNEL) Noise Metric

Noise levels are measured using a variety of scientific metrics. As a result of the 1979 Aviation Safety and Noise Abatement Act (ASNA), Congress required the Federal Aviation Administration (FAA) to select a single metric to standardize the evaluation of aircraft noise, and the FAA then formally adopted the Day-Night Average Sound Level (DNL) as its primary metric for evaluating aircraft noise to ensure consistency across the country. Before the FAA moved forward with the introduction of DNL, California introduced Community Noise Equivalent Level (CNEL) as its own noise metric to be used with respect to environmental actions. For land use planning purposes in the State of California the use of the CNEL is the required metric to determine the significance threshold for noise and noise-compatible land use in areas around airports. The California Airport Noise Standards establishes CNEL 65 dB as the threshold for the basic limit of acceptable aircraft noise exposure for residential and other noise-sensitive land uses (21 CCR § 5012). However, the California Department of Transportation (Caltrans) Division of Aeronautics recommends that for compatible land use planning purposes, Airport Land Use Commissions (ALUCs) set a lower standard for new residential and other noise-sensitive development.

To understand CNEL, one must first understand decibels and the units in which CNEL is expressed, A-weighted decibels. Sound is a wave of alternating high and low pressure levels that travels through the air; any undesirable sound is considered noise. The decibel (dB) is a unit used to describe levels of sound. When working with values with units of dB, it is important to note that decibels are logarithmic, which means they cannot be summed together like other numbers. For example, if two sound sources each produce 100 dB, when they are operated together they will produce 103 dB, not 200 dB. Four 100 dB sources operating together double the sound energy again, resulting in a total SPL of 106 dB, and so on.

Frequency is a direct measurement of how rapidly a sound wave alternates between high and low pressures and is described in cycles per second, known as Hertz (Hz). The normal range of frequencies that a young adult can hear is 20 Hz to 20,000 Hz, while the frequency range for aircraft noise is typically 50 Hz to 5,000 Hz. Because the human ear is not sensitive to all frequencies, the magnitudes of individual aircraft noise events are typically determined through emphasis of frequencies where the human ear is most sensitive. These “frequency-weighted” magnitudes are expressed as A-weighted decibels (dBA). The DNL metric is measured in units of A-weight decibels (dBA).

When expressed in dBA, the sound has been filtered to reduce the effect of very low and very high frequency sounds, much as the human ear filters sound frequencies. Without this filtering, calculated and measured sound levels would include events that the human ear cannot hear (e.g., dog whistles and low frequency sounds, such as the groaning sounds emanating from large buildings with changes in temperature and wind). Some common sounds on the dBA scale are listed in **Figure H-1**.



SOURCE: U.S. Federal Aviation Administration, Fundamentals of Noise and Sound, [https://www.faa.gov/regulations\\_policies/policy\\_guidance/noise/basics/](https://www.faa.gov/regulations_policies/policy_guidance/noise/basics/)

Humboldt County ALUCP Update

**Figure H-1**  
Common Sounds On The A-Weighted Decibel Scale

To simultaneously describe both the magnitude and duration of an individual aircraft noise event, the single-event noise metric known as Sound Exposure Level (SEL) can be used. SEL expresses what magnitude would result if the entire noise event were to occur over a duration of one second. SEL is computed from instantaneous dBA levels that occur across the duration of the noise event.

To describe the average noise level of multiple events over a specific period of time, the cumulative noise metric known as Equivalent Continuous Sound Level ( $L_{eq}$ ) can be used. To produce an  $L_{eq}$  value, all noise energy occurring during a specified period of time is averaged.  $L_{eq}$  can be measured for any time period, but typical  $L_{eq}$  time periods are 15 minutes, 1 hour, or 24 hours in length.

CNEL is an  $L_{eq}$  representing a 24-hour period with noise penalties added during the evening (7:00 pm to 9:59 pm) and nighttime (10:00 pm to 6:59 am) periods. CNEL includes the cumulative effects of a number of sound events rather than a single event. It also accounts for increased sensitivity to noise during relaxation and sleeping hours due to the evening and nighttime noise penalties. In the calculation of CNEL, for each hour during the evening period, the sound levels are increased by 4.77 decibel-weighting penalty. For the nighttime period, the sound levels are increased by a 10 decibel-weighting penalty (equivalent to a 10-fold increase in aircraft operations). These penalties are included when the 24-hour value is computed.

## H.3 Noise Modeling Methodology Overview

The methodology for analyzing noise from most transportation or community noise sources, including aircraft, follows a generally accepted process that includes the application of a computer model to estimate noise levels and compare them to those for baseline conditions and future alternatives. The aircraft noise modeling analyses performed for this ALUCP update followed the methodology outlined in the FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*, and the FAA's 1050.1F Desk Reference.

### H.3.1 AEDT Model Overview

The AEDT is the FAA-approved, industry-accepted, state-of-the-art tool for determining the total effect of aircraft noise exposure in the vicinity of an airport. AEDT allows calculation of CNEL values at thousands of locations around an airport and is regularly updated for both aircraft noise characteristics and computational algorithms.

The AEDT uses runway and flight track information, aircraft operation levels distributed by time of day, aircraft fleet mix, and aircraft performance characteristics as inputs. The AEDT calculates noise exposure levels at a series of “noise grids,” and produces noise exposure contours based on the grid results. The number of point within these “noise grids” is set by the user and should be considered on any AEDT run. As you add more points to your grid, the distance between the points gets smaller and smaller so the precision of the resulting noise contour is increased but increasing points results in longer run times. These noise exposure contours are also used for land use compatibility maps. The program includes a built-in Geographic Information System (GIS) platform, tools for comparing contours, and utilities that facilitate easy export to other GIS software suites. The model can also calculate predicted noise at specific sites such as hospitals, schools, or other noise-sensitive locations. For these discrete locations, the AEDT has the capability to report noise exposure levels at the specific location.

The most current version of the AEDT when these analyses were initiated was Version 2d. The FAA has made detailed information available related to the updates to AEDT 2d via release notes located on its website: <http://aedt.faa.gov>.

### H.3.1.1 AEDT Input Data and Assumptions

In order for the AEDT to generate aircraft CNEL contours, the following inputs to the model are required:

- A physical description of the airport layout, including location, length and orientation of all runways, and airport elevation
- The Annual Average Day (AAD) aircraft fleet mix
- The number of daytime flight operations (7:00 a.m. to 6:59 p.m.)
- The number of evening flight operations (7:00 p.m. to 9:59 p.m.)
- The number of nighttime flight operations (10:00 p.m. to 6:59 a.m.)
- Runway utilization rates
- Aircraft flight tracks, and flight track utilization rates

Each of these input factors is discussed below, along with the AAD concept.

Noise levels are measured using a variety of scientific metrics. As a result of extensive research into the characteristics of transportation-related noise and human response to that noise, standard noise descriptors have been developed for use in noise exposure analyses.

The noise descriptor most commonly used to describe aircraft and surface transportation noise is referred to as a “cumulative” noise descriptor. Such descriptors present the amount of noise occurring at a given location over a defined period of time in numerical terms. Depending upon the descriptor used, this period can be as brief as one hour, but is usually calculated for an annualized 24-hour period. Cumulative noise descriptors can be used to present noise exposure from a specific source, such as a roadway or an airport, to describe total noise exposure from all noise sources affecting a specific location.

The noise descriptors used in this analysis are described as follows:

#### ***Aircraft Fleet Mix***

Fleet mix defines the various types of aircraft using an airport and includes specific data needed for noise modeling, such as engine type, noise levels, and aircraft performance characteristics. The AEDT aircraft database contains actual noise and performance data for approximately 5,000 combinations of airframe and engine type. This database includes information for most, but not all, aircraft types that typically use commercial service airports. For the airports below, aircraft fleet information was gathered from the previous ALUCP documents as well as conversations with the airport operators about changes to the airport fleet in recent years. For Humboldt County Airport and Murray Field Airport, three months of historical Flightaware data was purchased and used to expand upon the fleets stated in the previous ALUCP. Research was also completed on emergency aircraft located at each airport and related operational information in order to better



model operations of this type. The aircraft fleet information for the existing year (2017) and the future year (2039) are listed for each airport in the sections below.

### ***Daytime, Evening, and Nighttime Operations***

For aircraft CNEL calculations, AAD aircraft operations are used in the AEDT. The number of annual operations by each AEDT aircraft type is divided by 365 to arrive at the AAD level. This representation of airport activity does not reflect any particular day, but gives an accurate picture of operations throughout the year. As noted above, the CNEL metric weights evening noise by an additional 4.77 dB and nighttime noise by an additional 10 dB in comparison with daytime noise. Therefore, daytime, evening, and nighttime AAD operations are entered separately into the AEDT. Daytime, Evening, and Nighttime splits were used from the previous ALUCPs and confirmed in conversations with airport representatives. The daytime, evening, and nighttime splits for each airport are summarized below.

### ***Runway Utilization Rates***

In the AEDT, runways are defined by runway end in terms of latitude and longitude coordinates as well as elevation. A runway may include a displaced take-off or landing threshold. The portions of the runway outside of the thresholds are defined to be unavailable for that type of operation for safety or noise reasons (e.g., obstruction clearance). Displaced thresholds are identified in the AEDT, which uses the input to determine actual start-of-take-off or touchdown points along the runway.

Runway use for departures or arrivals is typically a function of prevailing wind and weather; lengths and widths of the runways; runway instrumentation; and effects of other airports or air traffic facilities in the area. Runway use may also be influenced by the direction of flight of an arriving or departing aircraft; the aircraft parking position; and/or periodic closures of runways and taxiways. The runway use information is determined through a review of previous ALUCP and discussion with airport representatives. The runway utilization rates for each airport are further discussed below.

### ***Aircraft Flight Tracks and Flight Track Utilization Rates***

Flight tracks depict the paths of aircraft over the ground for aircraft arrival, departure, closed-pattern (touch-and-go), and overflight operations as relevant to the airport of study. In order to calculate the noise exposure, it is necessary to identify the predominant arrival, departure and pattern flight tracks for each runway end, and the number of aircraft that used or will use each runway end and flight track. The use of individual flight tracks is dependent on a variety of factors such as standard procedures, the aircraft's origin or destination, aircraft performance, and weather conditions.

Flight tracks are defined to represent the typical paths of the large majority of aircraft located throughout the study area. Flight tracks are defined in AEDT before aircraft operations are entered. The number of operations is entered for each aircraft type, runway end, and flight track for an AAD condition. Flight tracks were built for each airport and in most cases consist of

default straight-out departures and straight-in arrivals. The flight tracks were built in greater complexity at California Redwood Coast – Humboldt County Airport given the amount of traffic there with three departure and three arrival tracks being built at each runway end. For Dinsmore, Garberville, and Murray Field Airports, the straight-in and straight-out tracks were adjusted to consider local terrain and obstacles in the area of each airport; these adjustments were made in consultation with airport representatives.

## H.4 Existing and Future Conditions Noise Modeling Assumptions: California Redwood Coast – Humboldt County Airport

Noise exposure contours were developed for the California Redwood Coast – Humboldt County Airport (ACV) using the latest version of the FAA’s AEDT. The following sections summarize the data/inputs used to develop the existing (2017) and future (2039) conditions CNEL contours. The 2039 CNEL contours are presented in Chapter 4 of this ALUCP. All of aircraft operational conditions would remain unchanged in the existing (2017) and future (2039) conditions except the number of aircraft operations.

### H.4.1 Aircraft Operations and Fleet Mix

**Table H-1** identifies the aircraft fleet mix and number of operations used to model noise under both 2017 and 2039 conditions.

**TABLE H-1  
AIRCRAFT MIX, ESTIMATED ACTIVITY LEVEL –  
CALIFORNIA REDWOOD COAST – HUMBOLDT COUNTY AIRPORT**

Aircraft Group	Aircraft Type	Annual (2017)	Annual (2039)
2	Cessna 421 Golden Eagle	205	205
2	Raytheon Beech 55 Baron	205	205
2	Raytheon Beech Bonanza 36	1,059	1,059
1	Mooney M20-K	33	33
1	Cessna 172 Skyhawk	50	50
1	Robin DR 400	53	53
1	Cessna 206	100	100
1	Cessna 182	130	130
1	Cessna 210 Centurion	283	283
1	Cirrus SR22	350	350
1	Cessna 208 Caravan	1,996	1,996
1	Cessna 402	105	105
1	Cessna 340	178	178
1	Pilatus PC-12	1,551	1,551
3	Piper PA-32 Cherokee Six	72	72

**TABLE H-1  
AIRCRAFT MIX, ESTIMATED ACTIVITY LEVEL –  
CALIFORNIA REDWOOD COAST – HUMBOLDT COUNTY AIRPORT**

Aircraft Group	Aircraft Type	Annual (2017)	Annual (2039)
3	Piper PA46-TP Meridian	123	123
3	Piper PA-34 Seneca	145	145
3	Raytheon Super King Air 300	173	173
3	Piper PA-28 Cherokee Series	246	246
3	Piper PA-31T Cheyenne	744	744
3	Raytheon King Air 90	1,228	1,228
3	Raytheon Super King Air 200	1,554	1,554
Air Carrier	Bombardier CRJ-700 (Air Carrier/Skywest)	5,248	-
Air Carrier	Embraer ERJ175 (Air Carrier/Skywest)	-	5,978
Air Carrier	Saab 340-B (Air Carrier, Penair)	492	-
Coast Guard	Eurocopter HH-65A (Coast Guard)	25,750	25,750
	<b>Total</b>	<b>42,074</b>	<b>42,312</b>

Source: ESA, 2019.

## H.4.2 Time of Day

**Table H-2** identifies the percentage of operations assigned to day, evening, and nighttime hours for purposes of modeling noise under both 2017 and 2039 conditions.

**TABLE H-2  
TIME OF DAY PERCENTAGE OF OPERATIONS BY AIRCRAFT TYPE – CALIFORNIA REDWOOD COAST –  
HUMBOLDT COUNTY AIRPORT**

Aircraft Category		Day 7:00 am- 7:00 pm	Evening 7:00 pm- 10:00 pm	Night 10:00 pm – 7:00 am
Aircraft Group #1	Takeoff	87.0	10.0	3.0
	Landing	87.0	10.0	3.0
Aircraft Group #2	Takeoff	87.0	10.0	3.0
	Landing	87.0	10.0	3.0
Aircraft Group #3	Takeoff	80.0	13.0	7.0
	Landing	80.0	13.0	7.0
Air Carrier	Takeoff	95.8	4.2	0.0
	Landing	95.8	4.2	0.0
Coast Guard	Takeoff	80.0	13.0	7.0
	Landing	80.0	13.0	7.0

Source: ESA, 2019.

## H.4.3 Runway Use

**Table H-3** identifies the runway use percentage used in modeling noise under both 2017 and 2039 conditions.

**TABLE H-3  
RUNWAY USE – CALIFORNIA REDWOOD COAST – HUMBOLDT COUNTY AIRPORT**

Aircraft Type		Percentage of Takeoffs			Percentage of Landings				
Aircraft Group #1	Day	5.0	80.0	10.0	5.0	5.0	80.0	10.0	5.0
	Evening	5.0	80.0	10.0	5.0	5.0	80.0	10.0	5.0
	Night	5.0	80.0	10.0	5.0	5.0	80.0	10.0	5.0
Aircraft Group #2	Day	5.0	85.0	5.0	5.0	5.0	85.0	5.0	5.0
	Evening	5.0	85.0	5.0	5.0	5.0	85.0	5.0	5.0
	Night	5.0	85.0	5.0	5.0	5.0	85.0	5.0	5.0
Aircraft Group #3	Day	5.0	92.0	—	3.0	5.0	92.0	—	3.0
	Evening	5.0	92.0	—	3.0	5.0	92.0	—	3.0
	Night	5.0	92.0	—	3.0	5.0	92.0	—	3.0
Coast Guard, Turbine Helicopter	Day	—	—	—	100.0	—	25.0	75.0	—
	Evening	—	—	—	100.0	—	25.0	75.0	—
	Night	—	—	—	100.0	—	25.0	75.0	—
Air Carrier Aircraft	Day	5.0	95.0	—	—	—	—	5.0	95.0
	Evening	5.0	95.0	—	—	—	—	5.0	95.0
	Night	5.0	95.0	—	—	—	—	5.0	95.0

Source: ESA, 2019.

## H.4.4 Flight Tracks and Flight Track Use

This section identifies the flight tracks and flight track usage employed in modeling noise under both 2017 and 2039 conditions.

### Takeoffs:

- Runway 14: Straight Out, 45 Degree Right Turn, 45 Degree Left Turn, Traffic Split Evenly
- Runway 32: Straight Out, 45 Degree Right Turn, 45 Degree Left Turn, Traffic Split Evenly
- Runway 1: Straight Out, 45 Degree Right Turn, 45 Degree Left Turn, Traffic Split Evenly
- Runway 19: Straight Out, 45 Degree Right Turn, 45 Degree Left Turn, Traffic Split Evenly

### Landings:

- Runway 14: Straight In, 45 Degree Right Turn, 45 Degree Left Turn, Traffic Split Evenly
- Runway 32: Straight In, 45 Degree Right Turn, 45 Degree Left Turn, Traffic Split Evenly
- Runway 1: Straight In, 45 Degree Right Turn, 45 Degree Left Turn, Traffic Split Evenly
- Runway 19: Straight In, 45 Degree Right Turn, 45 Degree Left Turn, Traffic Split Evenly

### Helicopters:

- Based on information gained during discussions with airport representatives, helicopters depart to the southwest from the helipad area and turn south over the water. Arriving helicopters follow the path of the Instrument Landing System (ILS) for Runway 32.

## H.5 Existing and Future Conditions Noise Modeling Assumptions: Murray Field Airport

Noise exposure contours were developed for the Murray Field Airport (KEKA) using the latest version of the FAA's AEDT. The following sections summarize the data/inputs used to develop the existing (2017) and future (2039) conditions CNEL contours. The 2039 CNEL contours are presented in Chapter 8 of this ALUCP. All of aircraft operational conditions would remain unchanged in the existing (2017) and future (2039) conditions except the number of aircraft operations.

### H.5.1 Aircraft Operations and Fleet Mix

**Table H-4** identifies the aircraft fleet mix and number of operations used to model noise under both 2017 and 2039 conditions.

**TABLE H-4**  
**AIRCRAFT MIX, ESTIMATED ACTIVITY LEVEL – MURRAY FIELD AIRPORT**

Aircraft Group	Aircraft Type	Annual (2017)	Annual (2039)	Touch and Gos (2017/2039)
2	Cessna 402	3,600	3,600	0
2	Piper PA-34 Seneca	1,680	1,680	0
2	Pilatus PC-12	960	960	0
2	Piper PA-28 Cherokee Series	480	480	7
2	Piper PA-24 Comanche	240	240	13
2	Piper PA-30 Twin Comanche	240	240	0
1	Cessna 208 Caravan	21,434	21,434	2
1	Cessna 172 Skyhawk	10,445	10,445	6
1	Mooney M20-K	5,426	5,426	2
1	Cessna 182	4,477	4,477	0
1	Cessna 206	1,764	1,764	28
1	Cessna 210 Centurion	1,764	1,764	0
1	Piper PA-31T Cheyenne	1,085	1,085	0
1	Piper PA-32 Cherokee Six	407	407	0
5	Cessna 525 CitationJet	66	66	1
4	Raytheon Super King Air 200	407	407	0
4	Cessna 310	91	91	0
3	Raytheon Beech 99	329	329	0
3	Raytheon Beech Baron 58	150	150	0

**TABLE H-4  
AIRCRAFT MIX, ESTIMATED ACTIVITY LEVEL – MURRAY FIELD AIRPORT**

Aircraft Group	Aircraft Type	Annual (2017)	Annual (2039)	Touch and Gos (2017/2039)
3	Raytheon Beech Bonanza 36	60	60	1
3	Raytheon Beech 55 Baron	15	15	0
Helicopter	Eurocopter EC-155B1	330	330	0
	<b>Total</b>	<b>55,450</b>	<b>55,450</b>	<b>60</b>

Source: ESA, 2019.

## H.5.2 Time of Day

**Table H-5** identifies the percentage of operations assigned to day, evening, and nighttime hours for purposes of modeling noise under both 2017 and 2039 conditions.

**TABLE H-5  
TIME OF DAY PERCENTAGE OF OPERATIONS BY AIRCRAFT TYPE – MURRAY FIELD AIRPORT**

Aircraft Type		Day 7:00 am-7:00 pm	Evening 7:00 pm-10:00 pm	Night 10:00 pm – 7:00 am
Aircraft Group #1	Ldg & T/O	90	7	3
	Touch & Go	95	4	1
Aircraft Group #2	Ldg & T/O	85	10	5
Aircraft Group #3	Ldg & T/O	85	10	5
Aircraft Group #4	Ldg & T/O	85	10	5
Aircraft Group #5	Ldg & T/O	85	10	5
Coast Guard Helicopter (Dolphin HH-65A)	Ldg & T/O	85	10	5

Source: ESA, 2019.

## H.5.3 Runway Use

**Table H-6** identifies the runway use percentage used in modeling noise under both 2017 and 2039 conditions.

**TABLE H-6  
RUNWAY USE – MURRAY FIELD AIRPORT**

Aircraft Type	Percentage of Landings		Percentage of Takeoffs	
	Rwy 12	Rwy 30	Rwy 12	Rwy 30
Aircraft Group #1	37	63	35	65
Aircraft Group #2	35	65	35	65
Aircraft Group #3	35	65	35	65
Aircraft Group #4	35	65	35	65
Aircraft Group #5	35	65	35	65

Source: ESA, 2019.

## H.5.4 Flight Tracks and Flight Track Use

This section identifies the flight tracks used to model noise under both 2017 and 2039 conditions.

### Landings:

- Runway 11: Straight In
- Runway 29: Straight In

### Takeoffs:

- Runway 11: Straight Out
- Runway 29: Straight Out

Table H-7 defines the percentage of landings by runway.

**TABLE H-7**  
**RUNWAY 11-29 LANDINGS – MURRAY FIELD AIRPORT**

Aircraft Type	Runway 11	Runway 29
	Straight In	Straight In
Aircraft Group #1	30	70
Aircraft Group #2	30	70
Aircraft Group #3	35	65
Aircraft Group #4	35	65
Aircraft Group #5	35	65

Source: ESA, 2019.

Table H-8 defines the percentage of takeoffs by runway.

**TABLE H-8**  
**RUNWAY 11-29 TAKEOFFS – MURRAY FIELD AIRPORT**

Aircraft Type	Runway 11	Runway 29
	Straight Out	Straight Out
Aircraft Group #1	30	55
Aircraft Group #2	35	65
Aircraft Group #3	35	65
Aircraft Group #4	35	65
Aircraft Group #5	35	65

Source: ESA, 2019.

## H.6 Existing and Future Conditions Noise Modeling Assumptions: Dinsmore Airport

Noise exposure contours were developed for the Dinsmore Airport (D63) using the latest version of the FAA's AEDT. The following sections summarize the data/inputs used to develop the existing (2017) and future (2039) conditions CNEL contours. The 2039 CNEL contours are presented in Chapter 5 of this ALUCP. All of aircraft operational conditions would remain unchanged in the existing (2017) and future (2039) conditions except the number of aircraft operations.

### H.6.1 Aircraft Operations and Fleet Mix

**Table H-9** identifies the aircraft fleet mix and number of operations used to model noise under both 2017 and 2039 conditions.

**TABLE H-9  
AIRCRAFT MIX, ESTIMATED ACTIVITY LEVEL – DINSMORE AIRPORT**

Aircraft Type	Annual (2017)	Annual (2039)
Single-Engine, Fixed Pitch (GA Operations) (GASEPF)	768	768
Single-Engine, Variable Pitch (GA Operations) (GASEPV)	800	800
Raytheon Beech Baron 58 (Light Twin-Engine, Piston)	32	32
Total	1,600	1,600

Source: ESA, 2019.

### H.6.2 Time of Day

**Table H-10** identifies the percentage of operations assigned to day, evening, and nighttime hours for purposes of modeling noise under both 2017 and 2039 conditions.

**TABLE H-10  
TIME OF DAY PERCENTAGE OF OPERATIONS BY AIRCRAFT TYPE – DINSMORE AIRPORT**

Aircraft Type		Day 7:00 am – 7:00 pm	Evening 7:00 pm – 10:00 pm	Night 10:00 pm – 7:00 am
Single-Engine, Fixed Pitch (GA Operations)	Ldg & T/O	99	1	0
Single-Engine, Variable Pitch (GA Operations)	Ldg & T/O	99	1	0
Raytheon Beech Baron 58 (Light Twin-Engine, Piston)	Ldg & T/O	99	1	0

Source: ESA, 2019.



### H.6.3 Runway Use

**Table H-11** identifies the runway use percentage used in modeling noise under both 2017 and 2039 conditions.

**TABLE H-11  
RUNWAY USE – DINSMORE AIRPORT**

Aircraft Type	Percentage of Landings		Percentage of Takeoffs	
	Rwy 9	Rwy 27	Rwy 9	Rwy 27
Single-Engine, Fixed Pitch (GA Operations)	10	90	40	60
Single-Engine, Variable Pitch (GA Operations)	10	90	40	60
Raytheon Beech Baron 58 (Light Twin-Engine, Piston)	0	100	100	0

Source: ESA, 2019.

### H.6.4 Flight Tracks and Flight Track Use

This section identifies the flight tracks used to model noise under both 2017 and 2039 conditions.

#### Landings:

- Runway 9: Straight In (adjusted for terrain)
- Runway 16: Straight In (adjusted for terrain)

#### Takeoffs:

- Runway 9: Straight Out (adjusted for terrain)
- Runway 16: Straight Out (adjusted for terrain)

**Table H-12** defines the percentage of landings by runway.

**TABLE H-12  
RUNWAY 9-16 LANDINGS – DINSMORE AIRPORT**

Aircraft Type	Runway 9	Runway 16
	Straight In	Straight In
Single-Engine, Fixed Pitch (GA Operations)	10	90
Single-Engine, Variable Pitch (GA Operations)	10	90
Raytheon Beech Baron 58 (Light Twin-Engine, Piston)	0	100

Source: ESA, 2019.

**Table H-13** defines the percentage of takeoffs by runway.

**TABLE H-13  
RUNWAY 9-16 TAKEOFFS – DINSMORE AIRPORT**

Aircraft Type	Runway 9	Runway 16
	Straight Out	Straight Out
Single-Engine, Fixed Pitch (GA Operations)	40	60
Single-Engine, Variable Pitch (GA Operations)	40	60
Raytheon Beech Baron 58 (Light Twin-Engine, Piston)	0	100

Source: ESA, 2019.

## H.7 Existing and Future Conditions Noise Modeling Assumptions: Garberville Airport

Noise exposure contours were developed for the Garberville Airport (O16) using the latest version of the FAA’s AEDT. The following sections summarize the data/inputs used to develop the existing (2017) and future (2039) conditions CNEL contours. The 2039 CNEL contours are presented in Chapter 6 of this ALUCP. All of aircraft operational conditions would remain unchanged in the existing (2016) and future (2039) conditions except the number of aircraft operations.

### H.7.1 Aircraft Operations and Fleet Mix

**Table H-14** identifies the aircraft fleet mix and number of operations used to model noise under both 2017 and 2039 conditions.

**TABLE H-14  
AIRCRAFT MIX, ESTIMATED ACTIVITY LEVEL – GARBERVILLE AIRPORT**

Aircraft Mix, Estimated Activity Level (2002)  Aircraft Type	Total Operations		Touch & Go (2017 & 2039)
	Annual (2017)	Annual (2039)	% of Operations
Single-Engine, Fixed Pitch (GASEPF)	8,250	8,250	40
Single-Engine, Variable Pitch (GASEPV)	7,260	7,260	15
Raytheon Beech Baron 58	825	825	0
Cessna 425 Conquest I	83	83	0
Cessna 525 CitationJet	82	82	0
<b>Total</b>	<b>16,500</b>	<b>16,500</b>	<b>26.6</b>

Source: ESA, 2019.

## H.7.2 Time of Day

**Table H-15** identifies the percentage of operations assigned to day, evening, and nighttime hours for purposes of modeling noise under both 2017 and 2039 conditions.

**TABLE H-15  
TIME OF DAY PERCENTAGE OF OPERATIONS BY AIRCRAFT TYPE – GARBERVILLE AIRPORT**

Aircraft Type		Day 7:00 am- 7:00 pm	Evening 7:00 pm- 10:00 pm	Night 10:00 pm – 7:00 am
Single-Engine, Fixed Pitch	Ldg & T/O	90	10	0
	Touch & G	95	5	0
Single-Engine, Variable Pitch	Ldg & T/O	90	10	0
	Touch & Go	95	5	0
Raytheon Beech Baron 58	Ldg & T/O	85	15	0
Cessna 425 Conquest I	Ldg & T/O	85	15	0
Cessna 525 CitationJet	Ldg & T/O	85	15	0

Source: ESA, 2019.

## H.7.3 Runway Use

**Table H-16** identifies the runway use percentage used in modeling noise under both 2017 and 2039 conditions.

**TABLE H-16  
RUNWAY USE – GARBERVILLE AIRPORT**

Aircraft Type	Percentage of Landings		Percentage of Takeoffs	
	Rwy 18	Rwy 36	Rwy 18	Rwy 36
Single-Engine, Fixed Pitch	20	80	20	80
Single-Engine, Variable Pitch	20	80	20	80
Raytheon Beech Baron 58	20	80	20	80
Cessna 425 Conquest I	20	80	20	80
Cessna 525 CitationJet	20	80	20	80

Source: ESA, 2019.

## H.7.4 Flight Tracks and Flight Track Use

This section identifies the flight tracks used to model noise under both 2017 and 2039 conditions.

### Landings:

- Runway 18: Straight In (adjusted for terrain)
- Runway 36: Straight In (adjusted for terrain)

### Takeoffs:

- Runway 18: Straight Out (adjusted for terrain)

- Runway 36: Straight Out (adjusted for terrain)

**Table H-17** defines the percentage of landings by runway.

**TABLE H-17  
RUNWAY 18-36 LANDINGS – GARBERVILLE AIRPORT**

Aircraft Type	Runway 18	Runway 36
	Straight In	Straight In
Single-Engine, Fixed Pitch	20	80
Single-Engine, Variable Pitch	20	80
Light Twin-Engine, Piston (e.g. Beech Baron)	20	80
Light Twin-Engine, Turboprop (e.g. Cessna Conquest)	20	80
Small Business Jet (e.g. Cessna Citation)	20	80

Source: ESA, 2019.

**Table H-18** defines the percentage of takeoffs by runway.

**TABLE H-18  
RUNWAY 18-36 TAKEOFFS – GARBERVILLE AIRPORT**

Aircraft Type	Runway 18	Runway 36
	Straight Out	Straight Out
Single-Engine, Fixed Pitch	20	80
Single-Engine, Variable Pitch	20	80
Light Twin-Engine, Piston (e.g. Beech Baron)	20	80
Light Twin-Engine, Turboprop (e.g. Cessna Conquest)	20	80
Small Business Jet (e.g. Cessna Citation)	20	80

Source: ESA, 2019.

**Table H-19** defines the percentage of takeoffs by runway.

**TABLE H-19  
RUNWAY 18-36 TBD – GARBERVILLE AIRPORT**

Aircraft Type	Runway 18	Runway 36
	TBD	TBD
Single-Engine, Fixed Pitch	20	80
Single-Engine, Variable Pitch	20	80

Source: ESA, 2019.

## H.8 Existing and Future Conditions Noise Modeling Assumptions: Kneeland Airport

Noise exposure contours were developed for the Kneeland Airport (O19) using the latest version of the FAA's AEDT. The following sections summarize the data/inputs used to develop the existing (2017) and future (2039) conditions CNEL contours. The 2039 CNEL contours are presented in Chapter 7 of this ALUCP. All of aircraft operational conditions would remain unchanged in the existing (2016) and future (2039) conditions except the number of aircraft operations.

### H.8.1 Aircraft Operations and Fleet Mix

**Table H-20** identifies the aircraft fleet mix and number of operations used to model noise under both 2017 and 2039 conditions.

**H-20**  
**AIRCRAFT MIX, ESTIMATED ACTIVITY LEVEL – KNEELAND AIRPORT**

Aircraft Mix, Estimated Activity Level (2001)	Total Operations		
	Annual (2017)	Annual (2039)	Percentage
Single-Engine, Propeller, Fixed Pitch (GASEPF)	4,084	4,084	58.3%
Single-Engine, Propeller, Variable Pitch (GASEPV)	2,800	2,800	40.0%
Cessna 208 Caravan	58	58	0.8%
Raytheon Beech Baron 58	58	58	0.8%
Total	7,000	7,000	100.0%

Source: ESA, 2019.

### H.8.2 Time of Day

**Table H-21** identifies the percentage of operations assigned to day, evening, and nighttime hours for purposes of modeling noise under both 2017 and 2039 conditions.

**H-21**  
**TIME OF DAY PERCENTAGE OF OPERATIONS BY AIRCRAFT TYPE – KNEELAND AIRPORT**

Aircraft Type		Day 7:00 am – 7:00 pm	Evening 7:00 pm – 10:00 pm	Night 10:00 pm – 7:00 am
All Aircraft	Takeoff	85.0	15.0	0.0
	Landing	85.0	15.0	0.0

Source: ESA, 2019.

### H.8.3 Runway and Flight Track Usage

This section identifies the flight tracks used to model noise under both 2017 and 2039 conditions.

#### Landings:

- Runway 15: Straight In
- Runway 33: Straight In

#### Takeoffs:

- Runway 15: Straight Out
- Runway 33: Straight Out

Table H-22 defines the percentage of landings and takeoffs by runway.

**TABLE H-22**  
**RUNWAY 15-33 USE – KNEELAND AIRPORT**

Aircraft Type		Percentage of Takeoffs and Landings and Track Usage	
		Rwy 15	Rwy 33
		Straight In/Out	Straight In/Out
All Aircraft	Day	20.0	80.0
	Evening	20.0	80.0
	Night	20.0	80.0

Source: ESA, 2019.

## H.9 Existing and Future Conditions Noise Modeling Assumptions: Rohnerville Airport

Noise exposure contours were developed for the Rohnerville Airport (KFOT) using the latest version of the FAA's AEDT. The following sections summarize the data/inputs used to develop the existing (2017) and future (2039) conditions CNEL contours. The 2039 CNEL contours are presented in Chapter 9 of this ALUCP. All of aircraft operational conditions would remain unchanged in the existing (2016) and future (2039) conditions except the number of aircraft operations.

### H.9.1 Aircraft Operations and Fleet Mix

Table H-23 identifies the aircraft fleet mix and number of operations used to model noise under both 2017 and 2039 conditions.

**TABLE H-23**  
**AIRCRAFT MIX, ESTIMATED ACTIVITY LEVEL – ROHNERVILLE AIRPORT**

Aircraft Mix, Estimated Activity Level (2017)	Total Operations		Touch & Go
Aircraft Type	Annual (2017)	Annual (2039)	% of Operations
Single-Engine, Fixed Pitch	16,500	16,500	50
Single-Engine, Variable Pitch	9,626	9,626	0
Raytheon Beech Baron 58 (BEC58P)	412	412	0
Cessna 425 Conquest I (Cessna 425)	412	412	0
Cessna 525 CitationJet (Cessna 525)	164	164	0
Bell 212 Huey (Bell 212 Huey)	386	386	0
Total	27,500	27,500	

Source: ESA, 2019.

## H.9.2 Time of Day

**Table H-24** identifies the percentage of operations assigned to day, evening, and nighttime hours for purposes of modeling noise under both 2017 and 2039 conditions.

**TABLE H-24**  
**TIME OF DAY PERCENTAGE OF OPERATIONS BY AIRCRAFT TYPE – ROHNERVILLE AIRPORT**

Aircraft Type		Day 7:00 am – 7:00 pm	Evening 7:00 pm – 10:00 pm	Night 10:00 pm – 7:00 am
Single-Engine, Fixed Pitch	Ldg & T/O Touch & Go	94 99	5 0.9	1 0.1
Single-Engine, Variable Pitch	Ldg & T/O	94	5	1
Raytheon Beech Baron 58	Ldg & T/O	92	6	2
Cessna 425 Conquest I	Ldg & T/O	92	6	2
Cessna 525 CitationJet	Ldg & T/O	92	6	2
Bell 212 Huey		98	2	0

Source: ESA, 2019.

## H.9.3 Runway Use

**Table H-25** identifies the runway use percentage used in modeling noise under both 2017 and 2039 conditions.

**TABLE H-25  
RUNWAY USE BY AIRCRAFT TYPE – ROHNERVILLE AIRPORT**

Aircraft Type	Percentage of Landings		Percentage of Takeoffs	
	Rwy 11	Rwy 29	Rwy 11	Rwy 29
Single-Engine, Fixed Pitch	20	80	20	80
Single-Engine, Variable Pitch	20	80	20	80
Raytheon Beech Baron 58	20	80	20	80
Cessna 425 Conquest I	20	80	20	80
Cessna 525 CitationJet	20	80	20	80
Bell 212 Huey	5	95	5	95

Source: ESA, 2019.

## H.9.4 Flight Tracks and Flight Track Use

This section identifies the flight tracks used to model noise under both 2017 and 2039 conditions.

### Landings:

- Runway 11: Straight In
- Runway 29: Straight In

### Takeoffs:

- Runway 11: Straight Out
- Runway 29: Straight Out

**Table H-26** defines the percentage of landings by runway.

**TABLE H-26  
RUNWAY 11-29 LANDINGS – ROHNERVILLE AIRPORT**

Aircraft Type	Runway 11	Runway 29
	Straight In	Straight In
Single-Engine, Fixed Pitch	20	80
Single-Engine, Variable Pitch	20	80
Light Twin-Engine, Piston (e.g. Beech Baron)	20	80
Light Twin-Engine, Turboprop (e.g. Cessna Conquest)	20	80
Small Business Jet (e.g. Cessna Citation)	20	80
Fire Attack Aircraft	5	95

Source: ESA, 2019.



**Table H-27** defines the percentage of takeoffs by runway.

**TABLE H-27  
RUNWAY 11-29 TAKEOFFS – ROHNERVILLE AIRPORT**

Aircraft Type	Runway 11	Runway 29
	Straight Out	Straight Out
Single-Engine, Fixed Pitch	20	80
Single-Engine, Variable Pitch	20	80
Light Twin-Engine, Piston (e.g. Beech Baron)	20	80
Light Twin-Engine, Turboprop (e.g. Cessna Conquest)	20	80
Small Business Jet (e.g. Cessna Citation)	20	80
Fire Attack Aircraft	5	95

Source: ESA, 2019.

## H.10 Existing and Future Conditions Noise Modeling Assumptions: Samoa Field Airport

Noise exposure contours were developed for the Samoa Field Airport (O33) using the latest version of the FAA’s AEDT. The following sections summarize the data/inputs used to develop the existing (2017) and future (2039) conditions CNEL contours. The 2039 CNEL contours are presented in Chapter 10 of this ALUCP. All of aircraft operational conditions would remain unchanged in the existing (2017) and future (2039) conditions except the number of aircraft operations.

### H.10.1 Aircraft Operations and Fleet Mix

**Table H-28** identifies the aircraft fleet mix and number of operations used to model noise under both 2017 and 2039 conditions.

**TABLE H-28  
AIRCRAFT MIX, ESTIMATED ACTIVITY LEVEL – SAMOA FIELD AIRPORT**

Aircraft Mix, Estimated Activity Level	Total Operations	
	Annual (2017)	Annual (2039)
Cessna 150 Series (2-seater, GASEPF)	2,227	2,227
GASEPV (Ultralight AEDT Aircraft Type)	273	273
Coast Guard Helicopter Operations	264	264
<b>Total</b>	<b>2,764</b>	<b>2,764</b>

Source: ESA, 2019.

## H.10.2 Time of Day

**Table H-29** identifies the percentage of operations assigned to day, evening, and nighttime hours for purposes of modeling noise under both 2017 and 2039 conditions.

**TABLE H-29**  
**TIME OF DAY PERCENTAGE OF OPERATIONS BY AIRCRAFT TYPE – SAMOA FIELD AIRPORT**

Aircraft Type	Day 7:00 am- 7:00 pm	Evening 7:00 pm- 10:00 pm	Night 10:00 pm – 7:00 am
Cessna 150 Series (2-seater, GASEPF)	60	40	0
GASEPV (Ultralight AEDT Aircraft Type)	60	40	0
Coast Guard Helicopter Operations	90.123	0	9.877

Source: ESA, 2019.

## H.10.3 Runway Use

**Table H-30** identifies the runway use percentage used in modeling noise under both 2017 and 2039 conditions.

**TABLE H-30**  
**RUNWAY USE BY AIRCRAFT TYPE – SAMOA FIELD AIRPORT**

Aircraft Type	Percentage of Landings		Percentage of Takeoffs	
	Runway 16	Runway 34	Runway 16	Runway 34
Cessna 150 Series (2-seater, GASEPF)	20	80	80	20
GASEPV (Ultralight AEDT Aircraft Type)	20	80	80	20

Source: ESA, 2019.

## H.10.4 Flight Tracks and Flight Track Use

This section identifies the flight tracks used to model noise under both 2017 and 2039 conditions. The Flight Track utilization will match the Runway Utilization since there is only one flight track for each runway end and landing/takeoff combination.

### Landings:

- Runway 16: Straight In
- Runway 34: Straight In

### Takeoffs:

- Runway 16: Straight Out
- Runway 34: Straight Out

## H.11 Existing and Future Conditions Noise Modeling Assumptions: Shelter Cove Airport

Noise exposure contours were developed for the Shelter Cove Airport (0Q5) using the latest version of the FAA's AEDT. The following sections summarize the data/inputs used to develop the existing (2017) and future (2039) conditions CNEL contours. The 2039 CNEL contours are presented in Chapter 11 of this ALUCP. All of aircraft operational conditions would remain unchanged in the existing (2017) and future (2039) conditions except the number of aircraft operations.

### H.11.1 Aircraft Operations and Fleet Mix

**Table H-31** identifies the aircraft fleet mix and number of operations used to model noise under both 2017 and 2039 conditions.

**TABLE H-31  
AIRCRAFT MIX, ESTIMATED ACTIVITY LEVEL – SHELTER COVE AIRPORT**

Aircraft Type	Total Operations	
	Annual (2017)	Annual (2039)
Cessna 206	1,104	1,104
Piper PA46-TP Meridian	1,104	1,104
Total	2,208	2,208

Source: ESA, 2019.

### H.11.2 Time of Day

All operations at the airport occur during daytime hours.

### H.11.3 Runway Use

**Table H-32** identifies the runway use percentage used in modeling noise under both 2017 and 2039 conditions.

**TABLE H-32  
RUNWAY USE BY AIRCRAFT TYPE – SHELTER COVE AIRPORT**

Aircraft Type	Percentage of Landings		Percentage of Takeoffs	
	Runway 12	Runway 30	Runway 12	Runway 30
Cessna 206	0	100	100	0
Piper PA46-TP Meridian	0	100	100	0

Source: ESA, 2019.

## H.11.4 Flight Tracks and Flight Track Use

This section identifies the flight tracks used to model noise under both 2017 and 2039 conditions.

### **Landings:**

- Runway 30: Straight In

### **Takeoffs:**

- Runway 12: Straight Out

The Flight Track utilization will match the Runway Utilization since there is only one flight track for each runway end and landing/takeoff combination.

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Appendix I  
**State Laws Related to Airport  
Land Use Planning**

# State Laws Related to Airport Land Use Planning Table of Contents

(as of March 2019)

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**AERONAUTICS LAW**  
**PUBLIC UTILITIES CODE**  
**Division 9 — Aviation**  
**Part 1 — State Aeronautics Act**  
**Chapter 4 — Airports and Air Navigation Facilities**  
  
**Article 3.5**  
**AIRPORT LAND USE COMMISSION**

(As of April 2015)

**21670. Creation; Membership; Selection**

(a) The Legislature hereby finds and declares that:

- (1) It is in the public interest to provide for the orderly development of each public use airport in this state and the area surrounding these airports so as to promote the overall goals and objectives of the California airport noise standards adopted pursuant to Section 21669 and to prevent the creation of new noise and safety problems.
- (2) It is the purpose of this article to protect public health, safety, and welfare by ensuring the orderly expansion of airports and the adoption of land use measures that minimize the public's exposure to excessive noise and safety hazards within areas around public airports to the extent that these areas are not already devoted to incompatible uses.

(b) In order to achieve the purposes of this article, every county in which there is located an airport which is served by a scheduled airline shall establish an airport land use commission. Every county, in which there is located an airport which is not served by a scheduled airline, but is operated for the benefit of the general public, shall establish an airport land use commission, except that the board of supervisors of the county may, after consultation with the appropriate airport operators and affected local entities and after a public hearing, adopt a resolution finding that there are no noise, public safety, or land use issues affecting any airport in the county which require the creation of a commission and declaring the county exempt from that requirement. The board shall, in this event, transmit a copy of the resolution to the Director of Transportation. For purposes of this section, "commission" means an airport land use commission. Each commission shall consist of seven members to be selected as follows:

- (1) Two representing the cities in the county, appointed by a city selection committee comprised of the mayors of all the cities within that county, except that if there are any cities contiguous or adjacent to the qualifying airport, at least one representative shall be appointed therefrom. If there are no cities within a county, the number of representatives provided for by paragraphs (2) and (3) shall each be increased by one.
- (2) Two representing the county, appointed by the board of supervisors.
- (3) Two having expertise in aviation, appointed by a selection committee comprised of the managers of all of the public airports within that county.

- (4) One representing the general public, appointed by the other six members of the commission.
- (c) Public officers, whether elected or appointed, may be appointed and serve as members of the commission during their terms of public office.
- (d) Each member shall promptly appoint a single proxy to represent him or her in commission affairs and to vote on all matters when the member is not in attendance. The proxy shall be designated in a signed written instrument which shall be kept on file at the commission offices, and the proxy shall serve at the pleasure of the appointing member. A vacancy in the office of proxy shall be filled promptly by appointment of a new proxy.
- (e) A person having an “expertise in aviation” means a person who, by way of education, training, business, experience, vocation, or avocation has acquired and possesses particular knowledge of, and familiarity with, the function, operation, and role of airports, or is an elected official of a local agency which owns or operates an airport.
- (f) It is the intent of the Legislature to clarify that, for the purposes of this article, that special districts, school districts, and community college districts are included among the local agencies that are subject to airport land use laws and other requirements of this article.

**21670.1. Action by Designated Body Instead of Commission**

- (a) Notwithstanding any other provision of this article, if the board of supervisors and the city selection committee of mayors in the county each makes a determination by a majority vote that proper land use planning can be accomplished through the actions of an appropriately designated body, then the body so designated shall assume the planning responsibilities of an airport land use commission as provided for in this article, and a commission need not be formed in that county.
- (b) A body designated pursuant to subdivision (a) that does not include among its membership at least two members having expertise in aviation, as defined in subdivision (e) of Section 21670, shall, when acting in the capacity of an airport land use commission, be augmented so that body, as augmented, will have at least two members having that expertise. The commission shall be constituted pursuant to this section on and after March 1, 1988.
- (c) (1) Notwithstanding subdivisions (a) and (b), and subdivision (b) of Section 21670, if the board of supervisors of a county and each affected city in that county each makes a determination that proper land use planning pursuant to this article can be accomplished pursuant to this subdivision, then a commission need not be formed in that county.
- (2) If the board of supervisors of a county and each affected city makes a determination that proper land use planning may be accomplished and a commission is not formed pursuant to paragraph (1), that county and the appropriate affected cities having jurisdiction over an airport, subject to the review and approval by the Division of Aeronautics of the department, shall do all of the following:
  - (A) Adopt processes for the preparation, adoption, and amendment of the airport land use compatibility plan for each airport that is served by a scheduled airline or operated for the benefit of the general public.

- (B) Adopt processes for the notification of the general public, landowners, interested groups, and other public agencies regarding the preparation, adoption, and amendment of the airport land use compatibility plans.
  - (C) Adopt processes for the mediation of disputes arising from the preparation, adoption, and amendment of the airport land use compatibility plans.
  - (D) Adopt processes for the amendment of general and specific plans to be consistent with the airport land use compatibility plans.
  - (E) Designate the agency that shall be responsible for the preparation, adoption, and amendment of each airport land use compatibility plan.
- (3) The Division of Aeronautics of the department shall review the processes adopted pursuant to paragraph (2), and shall approve the processes if the division determines that the processes are consistent with the procedure required by this article and will do all of the following:
- (A) Result in the preparation, adoption, and implementation of plans within a reasonable amount of time.
  - (B) Rely on the height, use, noise, safety, and density criteria that are compatible with airport operations, as established by this article, and referred to as the Airport Land Use Planning Handbook, published by the division, and any applicable federal aviation regulations, including, but not limited to, Part 77 (commencing with Section 77.1) of Title 14 of the Code of Federal Regulations.
  - (C) Provide adequate opportunities for notice to, review of, and comment by the general public, landowners, interested groups, and other public agencies.
- (4) If the county does not comply with the requirements of paragraph (2) within 120 days, then the airport land use compatibility plan and amendments shall not be considered adopted pursuant to this article and a commission shall be established within 90 days of the determination of noncompliance by the division and an airport land use compatibility plan shall be adopted pursuant to this article within 90 days of the establishment of the commission.
- (d) A commission need not be formed in a county that has contracted for the preparation of airport land use compatibility plans with the Division of Aeronautics under the California Aid to Airports Program (Chapter 4 (commencing with Section 4050) of Title 21 of the California Code of Regulations), Project Ker-VAR 90-1, and that submits all of the following information to the Division of Aeronautics for review and comment that the county and the cities affected by the airports within the county, as defined by the airport land use compatibility plans:
- (1) Agree to adopt and implement the airport land use compatibility plans that have been developed under contract.
  - (2) Incorporated the height, use, noise, safety, and density criteria that are compatible with airport operations as established by this article, and referred to as the Airport Land Use Planning Handbook, published by the division, and any applicable federal aviation

regulations, including, but not limited to, Part 77 (commencing with Section 77.1) of Title 14 of the Code of Federal Regulations, as part of the general and specific plans for the county and for each affected city.

(3) If the county does not comply with this subdivision on or before May 1, 1995, then a commission shall be established in accordance with this article.

(e) (1) A commission need not be formed in a county if all of the following conditions are met:

(A) The county has only one public use airport that is owned by a city.

(B) (i) The county and the affected city adopt the elements in paragraph (2) of subdivision (d), as part of their general and specific plans for the county and the affected city.

(ii) The general and specific plans shall be submitted, upon adoption, to the Division of Aeronautics. If the county and the affected city do not submit the elements specified in paragraph (2) of subdivision (d), on or before May 1, 1996, then a commission shall be established in accordance with this article.

#### **21670.2. Applicability to Counties Having over 4 Million in Population**

(a) Sections 21670 and 21670.1 do not apply to the County of Los Angeles. In that county, the county regional planning commission has the responsibility for coordinating the airport planning of public agencies within the county. In instances where impasses result relative to this planning, an appeal may be made to the county regional planning commission by any public agency involved. The action taken by the county regional planning commission on such an appeal may be overruled by a four-fifths vote of the governing body of a public agency whose planning led to the appeal.

(b) By January 1, 1992, the county regional planning commission shall adopt the airport land use compatibility plans required pursuant to Section 21675.

(c) Sections 21675.1, 21675.2, and 21679.5 do not apply to the County of Los Angeles until January 1, 1992. If the airport land use compatibility plans required pursuant to Section 21675 are not adopted by the county regional planning commission by January 1, 1992, Sections 21675.1 and 21675.2 shall apply to the County of Los Angeles until the airport land use compatibility plans are adopted.

#### **21670.3. San Diego County**

(a) Sections 21670 and 21670.1 do not apply to the County of San Diego. In that county, the San Diego County Regional Airport Authority, as established pursuant to Section 170002, shall be responsible for the preparation, adoption, and amendment of an airport land use compatibility plan for each airport in San Diego County.

(b) The San Diego County Regional Airport Authority shall engage in a public collaborative planning process when preparing and updating an airport land use compatibility plan.

#### **21670.4. Intercounty Airports**

- (a) As used in this section, “intercounty airport” means any airport bisected by a county line through its runways, runway protection zones, inner safety zones, inner turning zones, outer safety zones, or sideline safety zones, as defined by the department’s Airport Land Use Planning Handbook and referenced in the airport land use compatibility plan formulated under Section 21675.
- (b) It is the purpose of this section to provide the opportunity to establish a separate airport land use commission so that an intercounty airport may be served by a single airport land use planning agency, rather than having to look separately to the airport land use commissions of the affected counties.
- (c) In addition to the airport land use commissions created under Section 21670 or the alternatives established under Section 21670.1, for their respective counties, the boards of supervisors and city selection committees for the affected counties, by independent majority vote of each county’s two delegations, for any intercounty airport, may do either of the following:
  - (1) Establish a single separate airport land use commission for that airport. That commission shall consist of seven members to be selected as follows:
    - (A) One representing the cities in each of the counties, appointed by that county’s city selection committee.
    - (B) One representing each of the counties, appointed by the board of supervisors of each county.
    - (C) One from each county having expertise in aviation, appointed by a selection committee comprised of the managers of all the public airports within that county.
    - (D) One representing the general public, appointed by the other six members of the commission.
  - (2) In accordance with subdivision (a) or (b) of Section 21670.1, designate an existing appropriate entity as that airport’s land use commission.

#### **21670.6**

Any action brought in the superior court relating to this article may be subject to a mediation proceeding conducted pursuant to Chapter 9.3 (commencing with Section 66030) of Division 1 of Title 7 of the Government Code.

#### **21671. Airports Owned by a City, District, or County; Appointment of Certain Members by Cities and Counties**

In any county where there is an airport operated for the general public which is owned by a city or district in another county or by another county, one of the representatives provided by paragraph (1) of subdivision (b) of Section 21670 shall be appointed by the city selection

committee of mayors of the cities of the county in which the owner of that airport is located, and one of the representatives provided by paragraph (2) of subdivision (b) of Section 21670 shall be appointed by the board of supervisors of the county in which the owner of that airport is located.

#### **21671.5. Term of Office**

- (a) Except for the terms of office of the members of the first commission, the term of office of each member shall be four years and until the appointment and qualification of his or her successor. The members of the first commission shall classify themselves by lot so that the term of office of one member is one year, of two members is two years, of two members is three years, and of two members is four years. The body that originally appointed a member whose term has expired shall appoint his or her successor for a full term of four years. Any member may be removed at any time and without cause by the body appointing that member. The expiration date of the term of office of each member shall be the first Monday in May in the year in which that member's term is to expire. Any vacancy in the membership of the commission shall be filled for the unexpired term by appointment by the body which originally appointed the member whose office has become vacant. The chairperson of the commission shall be selected by the members thereof.
- (b) Compensation, if any, shall be determined by the board of supervisors.
- (c) Staff assistance, including the mailing of notices and the keeping of minutes and necessary quarters, equipment, and supplies shall be provided by the county. The usual and necessary operating expenses of the commission shall be a county charge.
- (d) Notwithstanding any other provisions of this article, the commission shall not employ any personnel either as employees or independent contractors without the prior approval of the board of supervisors.
- (e) The commission shall meet at the call of the commission chairperson or at the request of the majority of the commission members. A majority of the commission members shall constitute a quorum for the transaction of business. No action shall be taken by the commission except by the recorded vote of a majority of the full membership.
- (f) The commission may establish a schedule of fees necessary to comply with this article. Those fees shall be charged to the proponents of actions, regulations, or permits, shall not exceed the estimated reasonable cost of providing the service, and shall be imposed pursuant to Section 66016 of the Government Code. Except as provided in subdivision (g), after June 30, 1991, a commission that has not adopted the airport land use compatibility plan required by Section 21675 shall not charge fees pursuant to this subdivision until the commission adopts the plan.
- (g) In any county that has undertaken by contract or otherwise completed airport land use compatibility plans for at least one-half of all public use airports in the county, the commission may continue to charge fees necessary to comply with this article until June 30, 1992, and, if the airport land use compatibility plans are complete by that date, may continue charging fees after June 30, 1992. If the airport land use compatibility plans are not complete by June 30, 1992, the commission shall not charge fees pursuant to subdivision (f) until the commission adopts the land use plans.

**21672. Rules and Regulations**

Each commission shall adopt rules and regulations with respect to the temporary disqualification of its members from participating in the review or adoption of a proposal because of conflict of interest and with respect to appointment of substitute members in such cases.

**21673. Initiation of Proceedings for Creation by Owner of Airportz**

In any county not having a commission or a body designated to carry out the responsibilities of a commission, any owner of a public airport may initiate proceedings for the creation of a commission by presenting a request to the board of supervisors that a commission be created and showing the need therefor to the satisfaction of the board of supervisors.

**21674. Powers and Duties**

The commission has the following powers and duties, subject to the limitations upon its jurisdiction set forth in Section 21676:

- (a) To assist local agencies in ensuring compatible land uses in the vicinity of all new airports and in the vicinity of existing airports to the extent that the land in the vicinity of those airports is not already devoted to incompatible uses.
- (b) To coordinate planning at the state, regional, and local levels so as to provide for the orderly development of air transportation, while at the same time protecting the public health, safety, and welfare.
- (c) To prepare and adopt an airport land use compatibility plan pursuant to Section 21675.
- (d) To review the plans, regulations, and other actions of local agencies and airport operators pursuant to Section 21676.
- (e) The powers of the commission shall in no way be construed to give the commission jurisdiction over the operation of any airport.
- (f) In order to carry out its responsibilities, the commission may adopt rules and regulations consistent with this article.

**21674.5. Training of Airport Land Use Commission's Staff**

- (a) The Department of Transportation shall develop and implement a program or programs to assist in the training and development of the staff of airport land use commissions, after consulting with airport land use commissions, cities, counties, and other appropriate public entities.
- (b) The training and development program or programs are intended to assist the staff of airport land use commissions in addressing high priority needs, and may include, but need not be limited to, the following:

- (1) The establishment of a process for the development and adoption of airport land use compatibility plans.
  - (2) The development of criteria for determining the airport influence area.
  - (3) The identification of essential elements that should be included in the airport land use compatibility plans.
  - (4) Appropriate criteria and procedures for reviewing proposed developments and determining whether proposed developments are compatible with the airport use.
  - (5) Any other organizational, operational, procedural, or technical responsibilities and functions that the department determines to be appropriate to provide to commission staff and for which it determines there is a need for staff training or development.
- (c) The department may provide training and development programs for airport land use commission staff pursuant to this section by any means it deems appropriate. Those programs may be presented in any of the following ways:
- (1) By offering formal courses or training programs.
  - (2) By sponsoring or assisting in the organization and sponsorship of conferences, seminars, or other similar events.
  - (3) By producing and making available written information.
  - (4) Any other feasible method of providing information and assisting in the training and development of airport land use commission staff.

**21674.7. Airport Land Use Planning Handbook**

- (a) An airport land use commission that formulates, adopts, or amends an airport land use compatibility plan shall be guided by information prepared and updated pursuant to Section 21674.5 and referred to as the Airport Land Use Planning Handbook published by the Division of Aeronautics of the Department of Transportation.
- (b) It is the intent of the Legislature to discourage incompatible land uses near existing airports. Therefore, prior to granting permits for the renovation or remodeling of an existing building, structure, or facility, and before the construction of a new building, it is the intent of the Legislature that local agencies shall be guided by the height, use, noise, safety, and density criteria that are compatible with airport operations, as established by this article, and referred to as the Airport Land Use Planning Handbook, published by the division, and any applicable federal aviation regulations, including, but not limited to, Part 77 (commencing with Section 77.1) of Title 14 of the Code of Federal Regulations, to the extent that the criteria has been incorporated into the plan prepared by a commission pursuant to Section 21675. This subdivision does not limit the jurisdiction of a commission as established by this article. This subdivision does not limit the authority of local agencies to overrule commission actions or recommendations pursuant to Sections 21676, 21676.5, or 21677.



## **21675. Land Use Plan**

- (a) Each commission shall formulate an airport land use compatibility plan that will provide for the orderly growth of each public airport and the area surrounding the airport within the jurisdiction of the commission, and will safeguard the general welfare of the inhabitants within the vicinity of the airport and the public in general. The commission's airport land use compatibility plan shall include and shall be based on a long-range master plan or an airport layout plan, as determined by the Division of Aeronautics of the Department of Transportation, that reflects the anticipated growth of the airport during at least the next 20 years. In formulating an airport land use compatibility plan, the commission may develop height restrictions on buildings, specify use of land, and determine building standards, including soundproofing adjacent to airports, within the airport influence area. The airport land use compatibility plan shall be reviewed as often as necessary in order to accomplish its purposes, but shall not be amended more than once in any calendar year.
- (b) The commission shall include, within its airport land use compatibility plan formulated pursuant to subdivision (a), the area within the jurisdiction of the commission surrounding any military airport for all of the purposes specified in subdivision (a). The airport land use compatibility plan shall be consistent with the safety and noise standards in the Air Installation Compatible Use Zone prepared for that military airport. This subdivision does not give the commission any jurisdiction or authority over the territory or operations of any military airport.
- (c) The airport influence area shall be established by the commission after hearing and consultation with the involved agencies.
- (d) The commission shall submit to the Division of Aeronautics of the department one copy of the airport land use compatibility plan and each amendment to the plan.
- (e) If an airport land use compatibility plan does not include the matters required to be included pursuant to this article, the Division of Aeronautics of the department shall notify the commission responsible for the plan.

### **21675.1. Adoption of Land Use Plan**

- (a) By June 30, 1991, each commission shall adopt the airport land use compatibility plan required pursuant to Section 21675, except that any county that has undertaken by contract or otherwise completed airport land use compatibility plans for at least one-half of all public use airports in the county, shall adopt that airport land use compatibility plan on or before June 30, 1992.
- (b) Until a commission adopts an airport land use compatibility plan, a city or county shall first submit all actions, regulations, and permits within the vicinity of a public airport to the commission for review and approval. Before the commission approves or disapproves any actions, regulations, or permits, the commission shall give public notice in the same manner as the city or county is required to give for those actions, regulations, or permits. As used in this section, "vicinity" means land that will be included or reasonably could be included within the airport land use compatibility plan. If the commission has not designated an airport influence area for the airport land use compatibility plan, then "vicinity" means land within two miles of the boundary of a public airport.

- (c) The commission may approve an action, regulation, or permit if it finds, based on substantial evidence in the record, all of the following:
  - (1) The commission is making substantial progress toward the completion of the airport land use compatibility plan.
  - (2) There is a reasonable probability that the action, regulation, or permit will be consistent with the airport land use compatibility plan being prepared by the commission.
  - (3) There is little or no probability of substantial detriment to or interference with the future adopted airport land use compatibility plan if the action, regulation, or permit is ultimately inconsistent with the airport land use compatibility plan.
- (d) If the commission disapproves an action, regulation, or permit, the commission shall notify the city or county. The city or county may overrule the commission, by a two-thirds vote of its governing body, if it makes specific findings that the proposed action, regulation, or permit is consistent with the purposes of this article, as stated in Section 21670.
- (e) If a city or county overrules the commission pursuant to subdivision (d), that action shall not relieve the city or county from further compliance with this article after the commission adopts the airport land use compatibility plan.
- (f) If a city or county overrules the commission pursuant to subdivision (d) with respect to a publicly owned airport that the city or county does not operate, the operator of the airport is not liable for damages to property or personal injury resulting from the city's or county's decision to proceed with the action, regulation, or permit.
- (g) A commission may adopt rules and regulations that exempt any ministerial permit for single-family dwellings from the requirements of subdivision (b) if it makes the findings required pursuant to subdivision (c) for the proposed rules and regulations, except that the rules and regulations may not exempt either of the following:
  - (1) More than two single-family dwellings by the same applicant within a subdivision prior to June 30, 1991.
  - (2) Single-family dwellings in a subdivision where 25 percent or more of the parcels are undeveloped.

**21675.2. Approval or Disapproval of Actions, Regulations, or Permits**

- (a) If a commission fails to act to approve or disapprove any actions, regulations, or permits within 60 days of receiving the request pursuant to Section 21675.1, the applicant or his or her representative may file an action pursuant to Section 1094.5 of the Code of Civil Procedure to compel the commission to act, and the court shall give the proceedings preference over all other actions or proceedings, except previously filed pending matters of the same character.
- (b) The action, regulation, or permit shall be deemed approved only if the public notice required by this subdivision has occurred. If the applicant has provided seven days advance notice to

the commission of the intent to provide public notice pursuant to this subdivision, then, not earlier than the date of the expiration of the time limit established by Section 21675.1, an applicant may provide the required public notice. If the applicant chooses to provide public notice, that notice shall include a description of the proposed action, regulation, or permit substantially similar to the descriptions which are commonly used in public notices by the commission, the location of any proposed development, the application number, the name and address of the commission, and a statement that the action, regulation, or permit shall be deemed approved if the commission has not acted within 60 days. If the applicant has provided the public notice specified in this subdivision, the time limit for action by the commission shall be extended to 60 days after the public notice is provided. If the applicant provides notice pursuant to this section, the commission shall refund to the applicant any fees which were collected for providing notice and which were not used for that purpose.

- (c) Failure of an applicant to submit complete or adequate information pursuant to Sections 65943 to 65946, inclusive, of the Government Code, may constitute grounds for disapproval of actions, regulations, or permits.
- (d) Nothing in this section diminishes the commission's legal responsibility to provide, where applicable, public notice and hearing before acting on an action, regulation, or permit.

#### **21676. Review of Local General Plans**

- (a) Each local agency whose general plan includes areas covered by an airport land use compatibility plan shall, by July 1, 1983, submit a copy of its plan or specific plans to the airport land use commission. The commission shall determine by August 31, 1983, whether the plan or plans are consistent or inconsistent with the airport land use compatibility plan. If the plan or plans are inconsistent with the airport land use compatibility plan, the local agency shall be notified and that local agency shall have another hearing to reconsider its airport land use compatibility plans. The local agency may propose to overrule the commission after the hearing by a two-thirds vote of its governing body if it makes specific findings that the proposed action is consistent with the purposes of this article stated in Section 21670. At least 45 days prior to the decision to overrule the commission, the local agency governing body shall provide the commission and the division a copy of the proposed decision and findings. The commission and the division may provide comments to the local agency governing body within 30 days of receiving the proposed decision and findings. If the commission or the division's comments are not available within this time limit, the local agency governing body may act without them. The comments by the division or the commission are advisory to the local agency governing body. The local agency governing body shall include comments from the commission and the division in the final record of any final decision to overrule the commission, which may only be adopted by a two-thirds vote of the governing body.
- (b) Prior to the amendment of a general plan or specific plan, or the adoption or approval of a zoning ordinance or building regulation within the planning boundary established by the airport land use commission pursuant to Section 21675, the local agency shall first refer the proposed action to the commission. If the commission determines that the proposed action is inconsistent with the commission's plan, the referring agency shall be notified. The local agency may, after a public hearing, propose to overrule the commission by a two-thirds vote of its governing body if it makes specific findings that the proposed action is consistent with the purposes of this article stated in Section 21670. At least 45 days prior to the decision to

overrule the commission, the local agency governing body shall provide the commission and the division a copy of the proposed decision and findings. The commission and the division may provide comments to the local agency governing body within 30 days of receiving the proposed decision and findings. If the commission or the division's comments are not available within this time limit, the local agency governing body may act without them. The comments by the division or the commission are advisory to the local agency governing body. The local agency governing body shall include comments from the commission and the division in the public record of any final decision to overrule the commission, which may only be adopted by a two-thirds vote of the governing body.

- (c) Each public agency owning any airport within the boundaries of an airport land use compatibility plan shall, prior to modification of its airport master plan, refer any proposed change to the airport land use commission. If the commission determines that the proposed action is inconsistent with the commission's plan, the referring agency shall be notified. The public agency may, after a public hearing, propose to overrule the commission by a two-thirds vote of its governing body if it makes specific findings that the proposed action is consistent with the purposes of this article stated in Section 21670. At least 45 days prior to the decision to overrule the commission, the public agency governing body shall provide the commission and the division a copy of the proposed decision and findings. The commission and the division may provide comments to the public agency governing body within 30 days of receiving the proposed decision and findings. If the commission or the division's comments are not available within this time limit, the public agency governing body may act without them. The comments by the division or the commission are advisory to the public agency governing body. The public agency governing body shall include comments from the commission and the division in the final decision to overrule the commission, which may only be adopted by a two-thirds vote of the governing body.
- (d) Each commission determination pursuant to subdivision (b) or (c) shall be made within 60 days from the date of referral of the proposed action. If a commission fails to make the determination within that period, the proposed action shall be deemed consistent with the airport land use compatibility plan.

#### **21676.5. Review of Local Plans**

- (a) If the commission finds that a local agency has not revised its general plan or specific plan or overruled the commission by a two-thirds vote of its governing body after making specific findings that the proposed action is consistent with the purposes of this article as stated in Section 21670, the commission may require that the local agency submit all subsequent actions, regulations, and permits to the commission for review until its general plan or specific plan is revised or the specific findings are made. If, in the determination of the commission, an action, regulation, or permit of the local agency is inconsistent with the airport land use compatibility plan, the local agency shall be notified and that local agency shall hold a hearing to reconsider its plan. The local agency may propose to overrule the commission after the hearing by a two-thirds vote of its governing body if it makes specific findings that the proposed action is consistent with the purposes of this article as stated in Section 21670. At least 45 days prior to the decision to overrule the commission, the local agency governing body shall provide the commission and the division a copy of the proposed decision and findings. The commission and the division may provide comments to the local agency governing body within 30 days of receiving the proposed decision and findings. If the commission or the division's comments are not available within this time limit, the local

agency governing body may act without them. The comments by the division or the commission are advisory to the local agency governing body. The local agency governing body shall include comments from the commission and the division in the final decision to overrule the commission, which may only be adopted by a two-thirds vote of the governing body.

- (b) Whenever the local agency has revised its general plan or specific plan or has overruled the commission pursuant to subdivision (a), the proposed action of the local agency shall not be subject to further commission review, unless the commission and the local agency agree that individual projects shall be reviewed by the commission.

#### **21677. Marin County Override Provisions**

Notwithstanding the two-thirds vote required by Section 21676, any public agency in the County of Marin may overrule the Marin County Airport Land Use Commission by a majority vote of its governing body. At least 45 days prior to the decision to overrule the commission, the public agency governing body shall provide the commission and the division a copy of the proposed decision and findings. The commission and the division may provide comments to the public agency governing body within 30 days of receiving the proposed decision and findings. If the commission or the division's comments are not available within this time limit, the public agency governing body may act without them. The comments by the division or the commission are advisory to the public agency governing body. The public agency governing body shall include comments from the commission and the division in the public record of the final decision to overrule the commission, which may be adopted by a majority vote of the governing body.

#### **21678. Airport Owner's Immunity**

With respect to a publicly owned airport that a public agency does not operate, if the public agency pursuant to Section 21676, 21676.5, or 21677 overrules a commission's action or recommendation, the operator of the airport shall be immune from liability for damages to property or personal injury caused by or resulting directly or indirectly from the public agency's decision to overrule the commission's action or recommendation.

#### **21679. Court Review**

- (a) In any county in which there is no airport land use commission or other body designated to assume the responsibilities of an airport land use commission, or in which the commission or other designated body has not adopted an airport land use compatibility plan, an interested party may initiate proceedings in a court of competent jurisdiction to postpone the effective date of a zoning change, a zoning variance, the issuance of a permit, or the adoption of a regulation by a local agency, that directly affects the use of land within one mile of the boundary of a public airport within the county.
- (b) The court may issue an injunction that postpones the effective date of the zoning change, zoning variance, permit, or regulation until the governing body of the local agency that took the action does one of the following:

- (1) In the case of an action that is a legislative act, adopts a resolution declaring that the proposed action is consistent with the purposes of this article stated in Section 21670.
  - (2) In the case of an action that is not a legislative act, adopts a resolution making findings based on substantial evidence in the record that the proposed action is consistent with the purposes of this article stated in Section 21670.
  - (3) Rescinds the action.
  - (4) Amends its action to make it consistent with the purposes of this article stated in Section 21670, and complies with either paragraph (1) or (2), whichever is applicable.
- (c) The court shall not issue an injunction pursuant to subdivision (b) if the local agency that took the action demonstrates that the general plan and any applicable specific plan of the agency accomplishes the purposes of an airport land use compatibility plan as provided in Section 21675.
- (d) An action brought pursuant to subdivision (a) shall be commenced within 30 days of the decision or within the appropriate time periods set by Section 21167 of the Public Resources Code, whichever is longer.
- (e) If the governing body of the local agency adopts a resolution pursuant to subdivision (b) with respect to a publicly owned airport that the local agency does not operate, the operator of the airport shall be immune from liability for damages to property or personal injury from the local agency's decision to proceed with the zoning change, zoning variance, permit, or regulation.
- (f) As used in this section, "interested party" means any owner of land within two miles of the boundary of the airport or any organization with a demonstrated interest in airport safety and efficiency.

**21679.5. Deferral of Court Review**

- (a) Until June 30, 1991, no action pursuant to Section 21679 to postpone the effective date of a zoning change, a zoning variance, the issuance of a permit, or the adoption of a regulation by a local agency, directly affecting the use of land within one mile of the boundary of a public airport, shall be commenced in any county in which the commission or other designated body has not adopted an airport land use compatibility plan, but is making substantial progress toward the completion of the airport land use compatibility plan.
- (b) If a commission has been prevented from adopting the airport land use compatibility plan by June 30, 1991, or if the adopted airport land use compatibility plan could not become effective, because of a lawsuit involving the adoption of the airport land use compatibility plan, the June 30, 1991, date in subdivision (a) shall be extended by the period of time during which the lawsuit was pending in a court of competent jurisdiction.
- (c) Any action pursuant to Section 21679 commenced prior to January 1, 1990, in a county in which the commission or other designated body has not adopted an airport land use compatibility plan, but is making substantial progress toward the completion of the airport land use compatibility plan, which has not proceeded to final judgment, shall be held in

abeyance until June 30, 1991. If the commission or other designated body adopts an airport land use compatibility plan on or before June 30, 1991, the action shall be dismissed. If the commission or other designated body does not adopt an airport land use compatibility plan on or before June 30, 1991, the plaintiff or plaintiffs may proceed with the action.

- (d) An action to postpone the effective date of a zoning change, a zoning variance, the issuance of a permit, or the adoption of a regulation by a local agency, directly affecting the use of land within one mile of the boundary of a public airport for which an airport land use compatibility plan has not been adopted by June 30, 1991, shall be commenced within 30 days of June 30, 1991, or within 30 days of the decision by the local agency, or within the appropriate time periods set by Section 21167 of the Public Resources Code, whichever date is later.

**AERONAUTICS LAW**  
**PUBLIC UTILITIES CODE**  
**Division 9, Part 1**  
**Chapter 3 — Regulation of Aeronautics**  
**(excerpts)**

**21402. Ownership; Prohibited Use of Airspace**

The ownership of the space above the land and waters of this State is vested in the several owners of the surface beneath, subject to the right of flight described in Section 21403. No use shall be made of such airspace which would interfere with such right of flight; provided, that any use of property in conformity with an original zone of approach of an airport shall not be rendered unlawful by reason of a change in such zone of approach.

**21403. Lawful Flight; Unauthorized and Forced Landings; Damages; Use of Highways; Burden of Proof; Within Airport Approach Zone**

- (a) Flight in aircraft over the land and waters of this state is lawful, unless at altitudes below those prescribed by federal authority, or unless conducted so as to be imminently dangerous to persons or property lawfully on the land or water beneath. The landing of an aircraft on the land or waters of another, without his or her consent, is unlawful except in the case of a forced landing or pursuant to Section 21662.1. The owner, lessee, or operator of the aircraft is liable, as provided by law, for damages caused by a forced landing.
- (b) The landing, takeoff, or taxiing of an aircraft on a public freeway, highway, road, or street is unlawful except in the following cases:
  - (1) A forced landing.
  - (2) A landing during a natural disaster or other public emergency if the landing has received prior approval from the public agency having primary jurisdiction over traffic upon the freeway, highway, road, or street.
  - (3) When the landing, takeoff, or taxiing has received prior approval from the public agency having primary jurisdiction over traffic upon the freeway, highway, road or street.

The prosecution bears the burden of proving that none of the exceptions apply to the act which is alleged to be unlawful.

- (c) The right of flight in aircraft includes the right of safe access to public airports, which includes the right of flight within the zone of approach of any public airport without restriction or hazard. The zone of approach of an airport shall conform to the specifications of Part 77 of the Federal Aviation Regulations of the Federal Aviation Administration, Department of Transportation.



**AERONAUTICS LAW**  
**PUBLIC UTILITIES CODE**  
**Division 9, Part 1**  
**Chapter 3 — Regulation of Aeronautics**  
**(excerpts)**

**21417. Definitions for Meteorological Towers**

- (a) As used in this section, the following terms have the following meanings.
- (1) “Meteorological instrument” means an instrument for measuring and recording the speed of the wind.
  - (2) “Meteorological tower” means a structure, including all guy wires and accessory facilities, on which a meteorological instrument is mounted for the purposes of documenting whether a site has wind resources sufficient for the operation of a wind turbine generator.
  - (3) “Prime agricultural land” means land that satisfies the requirements of paragraph (1), (2), or (4) of subdivision (c) of Section 51201 of the Government Code.
- (b) A meteorological tower below 200 feet in height and above 50 feet in height that is located on prime agricultural land, or within one mile of prime agricultural land, and erected after January 1, 2013, shall be marked as follows:
- (1) The full length of the meteorological tower shall be painted in equal, alternating bands of aviation orange and white, beginning with orange at the top of the tower and ending with orange at the bottom of the marked portion of the tower. The bands shall be between 20 and 30 feet in width.
  - (2) Two or more high visibility spherical marker balls, also called cable balls, that are aviation orange shall be attached to each outside guy wire that is connected to a meteorological tower.
  - (3) One or more seven-foot high visibility safety sleeves shall be placed at each anchor point and shall extend from the anchor point along each guy wire attached to the anchor point.
- (c) A light may be affixed to the highest point on a meteorological tower as an additional option for the marking of the meteorological tower.
- (d)
- (1) A local agency may incorporate any requirements of this section into any applicable land use permit that the agency administers.
  - (2) This section shall not be construed to authorize a local agency to require a new permit that applies to a meteorological tower.

- (3) To the extent that the requirements of this section conflict with local permitting requirements, the requirements of this section shall supersede those permitting requirements.
  
- (e) This section shall remain in effect only until January 1, 2018, and as of that date is repealed, unless a later enacted statute, that is enacted before January 1, 2018, deletes or extends that date.

## **AERONAUTICS LAW**

### **PUBLIC UTILITIES CODE**

#### **Division 9, Part 1**

#### **Chapter 4 — Airports and Air Navigation Facilities**

##### **Article 2.7**

##### **REGULATION OF OBSTRUCTIONS**

##### **(excerpts)**

#### **21655. Proposed Site for Construction of State Building Within Two Miles of Airport; Investigation and Report; Expenditure of State Funds**

Notwithstanding any other provision of law, if the proposed site of any state building or other enclosure is within two miles, measured by air line, of that point on an airport runway, or runway proposed by an airport master plan, which is nearest the site, the state agency or office which proposes to construct the building or other enclosure shall, before acquiring title to property for the new state building or other enclosure site or for an addition to a present site, notify the Department of Transportation, in writing, of the proposed acquisition. The department shall investigate the proposed site and, within 30 working days after receipt of the notice, shall submit to the state agency or office which proposes to construct the building or other enclosure a written report of the investigation and its recommendations concerning acquisition of the site.

If the report of the department does not favor acquisition of the site, no state funds shall be expended for the acquisition of the new state building or other enclosure site, or the expansion of the present site, or for the construction of the state building or other enclosure, provided that the provisions of this section shall not affect title to real property once it is acquired.

#### **21658. Construction of Utility Pole or Line in Vicinity of Aircraft Landing Area**

No public utility shall construct any pole, pole line, distribution or transmission tower, or tower line, or substation structure in the vicinity of the exterior boundary of an aircraft landing area of any airport open to public use, in a location with respect to the airport and at a height so as to constitute an obstruction to air navigation, as an obstruction is defined in accordance with Part 77 of the Federal Aviation Regulations, Federal Aviation Administration, or any corresponding rules or regulations of the Federal Aviation Administration, unless the Federal Aviation Administration has determined that the pole, line, tower, or structure does not constitute a hazard to air navigation. This section shall not apply to existing poles, lines, towers, or structures or to the repair, replacement, or reconstruction thereof if the original height is not materially exceeded and this section shall not apply unless just compensation shall have first been paid to the public utility by the owner of any airport for any property or property rights which would be taken or damaged hereby.

#### **21659. Hazards near Airports Prohibited**

- (a) No person shall construct or alter any structure or permit any natural growth to grow at a height which exceeds the obstruction standards set forth in the regulations of the Federal Aviation Administration relating to objects affecting navigable airspace contained in Title 14

of the Code of Federal Regulations, Part 77, Subpart C, unless a permit allowing the construction, alteration, or growth is issued by the department.

- (b) The permit is not required if the Federal Aviation Administration has determined that the construction, alteration, or growth does not constitute a hazard to air navigation or would not create an unsafe condition for air navigation. Subdivision (a) does not apply to a pole, pole line, distribution or transmission tower, or tower line or substation of a public utility.
- (c) Section 21658 is applicable to subdivision (b).

**AERONAUTICS LAW**  
**PUBLIC UTILITIES CODE**  
**Division 9, Part 1, Chapter 4**  
**Article 3**  
**REGULATION OF AIRPORTS**  
**(excerpts)**

**21661.5. City Council or County Board of Supervisors and ALUC Approvals**

- (a) No political subdivision, any of its officers or employees, or any person may submit any application for the construction of a new airport to any local, regional, state, or federal agency unless the plan for construction is first approved by the board of supervisors of the county, or the city council of the city, in which the airport is to be located and unless the plan is submitted to the appropriate commission exercising powers pursuant to Article 3.5 (commencing with Section 21670) of Chapter 4 of Part 1 of Division 9, and acted upon by that commission in accordance with the provisions of that article.
- (b) A county board of supervisors or a city council may, pursuant to Section 65100 of the Government Code, delegate its responsibility under this section for the approval of a plan for construction of new helicopter landing and takeoff areas, to the county or city planning agency.

**21664.5. Amended Airport Permits; Airport Expansion Defined**

- (a) An amended airport permit shall be required for every expansion of an existing airport. An applicant for an amended airport permit shall comply with each requirement of this article pertaining to permits for new airports. The department may by regulation provide for exemptions from the operation of this section pursuant to Section 21661, except that no exemption shall be made limiting the applicability of subdivision (e) of Section 21666, pertaining to environmental considerations, including the requirement for public hearings in connection therewith.
- (b) As used in this section, "airport expansion" includes any of the following:
  - (1) The acquisition of runway protection zones, as defined in Federal Aviation Administration Advisory Circular 150/1500-13, or of any interest in land for the purpose of any other expansion as set forth in this section.
  - (2) The construction of a new runway.
  - (3) The extension or realignment of an existing runway.
  - (4) Any other expansion of the airport's physical facilities for the purpose of accomplishing or which are related to the purpose of paragraph (1), (2), or (3).
- (c) This section does not apply to any expansion of an existing airport if the expansion commenced on or prior to the effective date of this section and the expansion met the approval, on or prior to that effective date, of each governmental agency that required the approval by law.

**PLANNING AND ZONING LAW**

**GOVERNMENT CODE  
Title 7 — Planning and Land Use  
Division 1 — Planning and Zoning  
Chapter 3 — Local Planning**

**Article 5  
AUTHORITY FOR AND SCOPE OF GENERAL PLANS  
(excerpts)**

**65302.3. General and Applicable Specific Plans; Consistency with Airport Land Use Plans; Amendment; Nonconcurrency Findings**

- (a) The general plan, and any applicable specific plan prepared pursuant to Article 8 (commencing with Section 65450), shall be consistent with the plan adopted or amended pursuant to Section 21675 of the Public Utilities Code.
- (b) The general plan, and any applicable specific plan, shall be amended, as necessary, within 180 days of any amendment to the plan required under Section 21675 of the Public Utilities Code.
- (c) If the legislative body does not concur with any provision of the plan required under Section 21675 of the Public Utilities Code, it may satisfy the provisions of this section by adopting findings pursuant to Section 21676 of the Public Utilities Code.
- (d) In each county where an airport land use commission does not exist, but where there is a military airport, the general plan, and any applicable specific plan prepared pursuant to Article 8 (commencing with Section 65450), shall be consistent with the safety and noise standards in the Air Installation Compatible Use Zone prepared for that military airport.

## PLANNING AND ZONING LAW

### GOVERNMENT CODE

#### Title 7, Division 1

### Chapter 4.5 — Review and Approval of Development Projects

#### Article 3

### APPLICATION FOR DEVELOPMENT PROJECTS

#### (excerpts)

Note: The following government code sections are referenced in Section 21675.2(c) of the ALUC statutes.

**65943. Completeness of Application; Determination; Time; Specification of Parts not Complete and Manner of Completion**

- (a) Not later than 30 calendar days after any public agency has received an application for a development project, the agency shall determine in writing whether the application is complete and shall immediately transmit the determination to the applicant for the development project. If the written determination is not made within 30 days after receipt of the application, and the application includes a statement that it is an application for a development permit, the application shall be deemed complete for purposes of this chapter. Upon receipt of any resubmittal of the application, a new 30-day period shall begin, during which the public agency shall determine the completeness of the application. If the application is determined not to be complete, the agency's determination shall specify those parts of the application which are incomplete and shall indicate the manner in which they can be made complete, including a list and thorough description of the specific information needed to complete the application. The applicant shall submit materials to the public agency in response to the list and description.
- (b) Not later than 30 calendar days after receipt of the submitted materials, the public agency shall determine in writing whether they are complete and shall immediately transmit that determination to the applicant. If the written determination is not made within that 30-day period, the application together with the submitted materials shall be deemed complete for purposes of this chapter.
- (c) If the application together with the submitted materials are determined not to be complete pursuant to subdivision (b), the public agency shall provide a process for the applicant to appeal that decision in writing to the governing body of the agency or, if there is no governing body, to the director of the agency, as provided by that agency. A city or county shall provide that the right of appeal is to the governing body or, at their option, the planning commission, or both.

There shall be a final written determination by the agency on the appeal not later than 60 calendar days after receipt of the applicant's written appeal. The fact that an appeal is permitted to both the planning commission and to the governing body does not extend the 60-day period. Notwithstanding a decision pursuant to subdivision (b) that the application and submitted materials are not complete, if the final written determination on the appeal is not

made within that 60-day period, the application with the submitted materials shall be deemed complete for the purposes of this chapter.

- (d) Nothing in this section precludes an applicant and a public agency from mutually agreeing to an extension of any time limit provided by this section.
- (e) A public agency may charge applicants a fee not to exceed the amount reasonably necessary to provide the service required by this section. If a fee is charged pursuant to this section, the fee shall be collected as part of the application fee charged for the development permit.

#### **65943.5.**

- (a) Notwithstanding any other provision of this chapter, any appeal pursuant to subdivision (c) of Section 65943 involving a permit application to a board, office, or department within the California Environmental Protection Agency shall be made to the Secretary for Environmental Protection.
- (b) Notwithstanding any other provision of this chapter, any appeal pursuant to subdivision (c) of Section 65943 involving an application for the issuance of an environmental permit from an environmental agency shall be made to the Secretary for Environmental Protection under either of the following circumstances:
  - (1) The environmental agency has not adopted an appeals process pursuant to subdivision (c) of Section 65943.
  - (2) The environmental agency declines to accept an appeal for a decision pursuant to subdivision (c) of Section 65943.
- (c) For purposes of subdivision (b), “environmental permit” has the same meaning as defined in Section 71012 of the Public Resources Code, and “environmental agency” has the same meaning as defined in Section 71011 of the Public Resources Code, except that “environmental agency” does not include the agencies described in subdivisions (c) and (h) of Section 71011 of the Public Resources Code.

#### **65944. Acceptance of Application as Complete; Requests for Additional Information; Restrictions; Clarification, Amplification, Correction, etc.; Prior to Notice of Necessary Information**

- (a) After a public agency accepts an application as complete, the agency shall not subsequently request of an applicant any new or additional information which was not specified in the list prepared pursuant to Section 65940. The agency may, in the course of processing the application, request the applicant to clarify, amplify, correct, or otherwise supplement the information required for the application.
- (b) The provisions of subdivision (a) shall not be construed as requiring an applicant to submit with his or her initial application the entirety of the information which a public agency may require in order to take final action on the application. Prior to accepting an application, each public agency shall inform the applicant of any information included in the list prepared



pursuant to Section 65940 which will subsequently be required from the applicant in order to complete final action on the application.

- (c) This section shall not be construed as limiting the ability of a public agency to request and obtain information which may be needed in order to comply with the provisions of Division 13 (commencing with Section 21000) of the Public Resources Code.
- (d)
  - (1) After a public agency accepts an application as complete, and if the project applicant has identified that the proposed project is located within 1,000 feet of a military installation or within special use airspace or beneath a low-level flight path in accordance with Section 65940, the public agency shall provide a copy of the complete application to any branch of the United States Armed Forces that has provided the Office of Planning and Research with a single California mailing address within the state for the delivery of a copy of these applications. This subdivision shall apply only to development applications submitted to a public agency 30 days after the Office of Planning and Research has notified cities, counties, and cities and counties of the availability of Department of Defense information on the Internet pursuant to subdivision (d) of Section 65940.
  - (2) Except for a project within 1,000 feet of a military installation, the public agency is not required to provide a copy of the application if the project is located entirely in an "urbanized area." An urbanized area is any urban location that meets the definition used by the United State Department of Commerce's Bureau of Census for "urban" and includes locations with core census block groups containing at least 1,000 people per square mile and surrounding census block groups containing at least 500 people per square mile.
- (e) Upon receipt of a copy of the application as required in subdivision (d), any branch of the United States Armed Forces may request consultation with the public agency and the project applicant to discuss the effects of the proposed project on military installations, low-level flight paths, or special use airspace, and potential alternatives and mitigation measures.
- (f)
  - (1) Subdivisions (d), (e), and (f) as these relate to low-level flight paths, special use airspace, and urbanized areas shall not be operative until the United States Department of Defense provides electronic maps of low-level flight paths, special use airspace, and military installations, at a scale and in an electronic format that is acceptable to the Office of Planning and Research.
  - (2) Within 30 days of a determination by the Office of Planning and Research that the information provided by the Department of Defense is sufficient and in an acceptable scale and format, the office shall notify cities, counties, and cities and counties of the availability of the information on the Internet. Cities, counties, and cities and counties shall comply with subdivision (d) within 30 days of receiving this notice from the office.

**65945. Notice of Proposal to Adopt or Amend Certain Plans or Ordinances by City or County, Fee; Subscription to Periodically Updated Notice as Alternative, Fee**

- (a) At the time of filing an application for a development permit with a city or county, the city or county shall inform the applicant that he or she may make a written request to receive notice

from the city or county of a proposal to adopt or amend any of the following plans or ordinances:

- (1) A general plan.
- (2) A specific plan.
- (3) A zoning ordinance.
- (4) An ordinance affecting building permits or grading permits.

The applicant shall specify, in the written request, the types of proposed action for which notice is requested. Prior to taking any of those actions, the city or county shall give notice to any applicant who has requested notice of the type of action proposed and whose development project is pending before the city or county if the city or county determines that the proposal is reasonably related to the applicant's request for the development permit. Notice shall be given only for those types of actions which the applicant specifies in the request for notification.

The city or county may charge the applicant for a development permit, to whom notice is provided pursuant to this subdivision, a reasonable fee not to exceed the actual cost of providing that notice. If a fee is charged pursuant to this subdivision, the fee shall be collected as part of the application fee charged for the development permit.

- (b) As an alternative to the notification procedure prescribed by subdivision (a), a city or county may inform the applicant at the time of filing an application for a development permit that he or she may subscribe to a periodically updated notice or set of notices from the city or county which lists pending proposals to adopt or amend any of the plans or ordinances specified in subdivision (a), together with the status of the proposal and the date of any hearings thereon which have been set.

Only those proposals which are general, as opposed to parcel-specific in nature, and which the city or county determines are reasonably related to requests for development permits, need be listed in the notice. No proposal shall be required to be listed until such time as the first public hearing thereon has been set. The notice shall be updated and mailed at least once every six weeks; except that a notice need not be updated and mailed until a change in its contents is required.

The city or county may charge the applicant for a development permit, to whom notice is provided pursuant to this subdivision, a reasonable fee not to exceed the actual cost of providing that notice, including the costs of updating the notice, for the length of time the applicant requests to be sent the notice or notices.

### **65945.3. Notice of Proposal to Adopt or Amend Rules or Regulations Affecting Issuance of Permits by Local Agency other than City or County; Fee**

At the time of filing an application for a development permit with a local agency, other than a city or county, the local agency shall inform the applicant that he or she may make a written request to receive notice of any proposal to adopt or amend a rule or regulation affecting the issuance of development permits.

Prior to adopting or amending any such rule or regulation, the local agency shall give notice to any applicant who has requested such notice and whose development project is pending before the agency if the local agency determines that the proposal is reasonably related to the applicant's request for the development permit.

The local agency may charge the applicant for a development permit, to whom notice is provided pursuant to this section, a reasonable fee not to exceed the actual cost of providing that notice. If a fee is charged pursuant to this section, the fee shall be collected as part of the application fee charged for the development permit.

**65945.5. Notice of Proposal to Adopt or Amend Regulation Affecting Issuance of Permits and Which Implements Statutory Provision by State Agency**

At the time of filing an application for a development permit with a state agency, the state agency shall inform the applicant that he or she may make a written request to receive notice of any proposal to adopt or amend a regulation affecting the issuance of development permits and which implements a statutory provision.

Prior to adopting or amending any such regulation, the state agency shall give notice to any applicant who has requested such notice and whose development project is pending before the state agency if the state agency determines that the proposal is reasonably related to the applicant's request for the development permit.

**65945.7. Actions, Inactions, or Recommendations Regarding Ordinances, Rules or Regulations; Invalidity or Setting Aside Ground of Error Only if Prejudicial**

No action, inaction, or recommendation regarding any ordinance, rule, or regulation subject to this Section 65945, 65945.3, or 65945.5 by any legislative body, administrative body, or the officials of any state or local agency shall be held void or invalid or be set aside by any court on the ground of any error, irregularity, informality, neglect or omission (hereinafter called "error") as to any matter pertaining to notices, records, determinations, publications or any matters of procedure whatever, unless after an examination of the entire case, including evidence, the court shall be of the opinion that the error complained of was prejudicial, and that by reason of such error the party complaining or appealing sustained and suffered substantial injury, and that a different result would have been probable if such error had not occurred or existed. There shall be no presumption that error is prejudicial or that injury was done if error is shown.

**65946. [Replaced by AB2351 Statutes of 1993]**

## PLANNING AND ZONING LAW

### GOVERNMENT CODE

#### Title 7, Division 1

### Chapter 9.3 — Mediation and Resolution of Land Use Disputes (excerpts)

#### 66030.

- (a) The Legislature finds and declares all of the following:
- (1) Current law provides that aggrieved agencies, project proponents, and affected residents may bring suit against the land use decisions of state and local governmental agencies. In practical terms, nearly anyone can sue once a project has been approved.
  - (2) Contention often arises over projects involving local general plans and zoning, redevelopment plans, the California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code), development impact fees, annexations and incorporations, and the Permit Streamlining Act (Chapter 4.5 (commencing with Section 65920)).
  - (3) When a public agency approves a development project that is not in accordance with the law, or when the prerogative to bring suit is abused, lawsuits can delay development, add uncertainty and cost to the development process, make housing more expensive, and damage California's competitiveness. This litigation begins in the superior court, and often progresses on appeal to the Court of Appeal and the Supreme Court, adding to the workload of the state's already overburdened judicial system.
- (b) It is, therefore, the intent of the Legislature to help litigants resolve their differences by establishing formal mediation processes for land use disputes. In establishing these mediation processes, it is not the intent of the Legislature to interfere with the ability of litigants to pursue remedies through the courts.

#### 66031.

- (a) Notwithstanding any other provision of law, any action brought in the superior court relating to any of the following subjects may be subject to a mediation proceeding conducted pursuant to this chapter:
- (1) The approval or denial by a public agency of any development project.
  - (2) Any act or decision of a public agency made pursuant to the California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code).
  - (3) The failure of a public agency to meet the time limits specified in Chapter 4.5 (commencing with Section 65920), commonly known as the Permit Streamlining Act, or in the Subdivision Map Act (Division 2 (commencing with Section 66410)).

- (4) Fees determined pursuant to Chapter 6 (commencing with Section 17620) of Division 1 of Part 10.5 of the Education Code or Chapter 4.9 (commencing with Section 65995).
  - (5) Fees determined pursuant to the Mitigation Fee Act (Chapter 5 (commencing with Section 66000), Chapter 6 (commencing with Section 66010), Chapter 7 (commencing with Section 66012), Chapter 8 (commencing with Section 66016), and Chapter 9 (commencing with Section 66020)).
  - (6) The adequacy of a general plan or specific plan adopted pursuant to Chapter 3 (commencing with Section 65100).
  - (7) The validity of any sphere of influence, urban service area, change of organization or reorganization, or any other decision made pursuant to the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 (Division 3 (commencing with Section 56000) of Title 5).
  - (8) The adoption or amendment of a redevelopment plan pursuant to the Community Redevelopment Law (Part 1 (commencing with Section 33000) of Division 24 of the Health and Safety Code).
  - (9) The validity of any zoning decision made pursuant to Chapter 4 (commencing with Section 65800).
  - (10) The validity of any decision made pursuant to Article 3.5 (commencing with Section 21670) of Chapter 4 of Part 1 of Division 9 of the Public Utilities Code.
- (b) Within five days after the deadline for the respondent or defendant to file its reply to an action, the court may invite the parties to consider resolving their dispute by selecting a mutually acceptable person to serve as a mediator, or an organization or agency to provide a mediator.
  - (c) In selecting a person to serve as a mediator, or an organization or agency to provide a mediator, the parties shall consider the following:
    - (1) The council of governments having jurisdiction in the county where the dispute arose.
    - (2) Any subregional or countywide council of governments in the county where the dispute arose.
    - (3) Any other person with experience or training in mediation including those with experience in land use issues, or any other organization or agency that can provide a person with experience or training in mediation, including those with experience in land use issues.
  - (d) If the court invites the parties to consider mediation, the parties shall notify the court within 30 days if they have selected a mutually acceptable person to serve as a mediator. If the parties have not selected a mediator within 30 days, the action shall proceed. The court shall not draw any implication, favorable or otherwise, from the refusal by a party to accept the invitation by the court to consider mediation. Nothing in this section shall preclude the parties from using mediation at any other time while the action is pending.

**PLANNING AND ZONING LAW**

**GOVERNMENT CODE  
Title 7 — Planning and Land Use  
Division 2 — Subdivisions  
Chapter 3 — Procedure**

**Article 3  
REVIEW OF TENTATIVE MAP BY OTHER AGENCIES  
(excerpts)**

**66455.9. Potential School Sites; Notice; Investigation**

Whenever there is consideration of an area within a development for a public schoolsite, the advisory agency shall give the affected districts and the State Department of Education written notice of the proposed site. The written notice shall include the identification of any existing or proposed runways within the distance specified in Section 17215 of the Education Code. If the site is within the distance of an existing or proposed airport runway as described in Section 17215 of the Education Code, the department shall notify the State Department of Transportation as required by the section and the site shall be investigated by the State Department of Transportation required by Section 17215.

**EDUCATION CODE**  
**Title 1 — General Education Code Provisions**  
**Division 1 — General Education Code Provisions**  
**Part 10.5 — School Facilities**  
**Chapter 1 — School Sites**

**Article 1**  
**GENERAL PROVISIONS**  
**(excerpts)**

Note: SB 161, Statutes of 1997, replaced Education Code Section 39005 with Section 17215; SB 967, Statutes of 1995, deleted Sections 39006 and 39007.

**17215.**

- (a) In order to promote the safety of pupils, comprehensive community planning, and greater educational usefulness of schoolsites, before acquiring title to or leasing property for a new schoolsite, the governing board of each school district, including any district governed by a city board of education, or a charter school, shall give the State Department of Education written notice of the proposed acquisition or lease and shall submit any information required by the State Department of Education if the site is within two miles, measured by air line, of that point on an airport runway or a potential runway included in an airport master plan that is nearest to the site.
- (b) Upon receipt of the notice required pursuant to subdivision (a), the State Department of Education shall notify the Department of Transportation in writing of the proposed acquisition or lease. If the Department of Transportation is no longer in operation, the State Department of Education shall, in lieu of notifying the Department of Transportation, notify the United States Department of Transportation or any other appropriate agency, in writing, of the proposed acquisition or lease for the purpose of obtaining from the department or other agency any information or assistance that it may desire to give.
- (c) The Department of Transportation shall investigate the site and, within 30 working days after receipt of the notice, shall submit to the State Department of Education a written report of its findings including recommendations concerning acquisition or lease of the site. As part of the investigation, the Department of Transportation shall give notice thereof to the owner and operator of the airport who shall be granted the opportunity to comment upon the site. The Department of Transportation shall adopt regulations setting forth the criteria by which a site will be evaluated pursuant to this section.
- (d) The State Department of Education shall, within 10 days of receiving the Department of Transportation's report, forward the report to the governing board of the school district or charter school. The governing board or charter school may not acquire title to or lease the property until the report of the Department of Transportation has been received. If the report does not favor the acquisition or lease of the property for a schoolsite or an addition to a present schoolsite, the governing board or charter school may not acquire title to or lease the property. If the report does favor the acquisition or lease of the property for a schoolsite or an addition to a present schoolsite, the governing board or charter school shall hold a public hearing on the matter prior to acquiring or leasing the site.

- (e) If the Department of Transportation's recommendation does not favor acquisition or lease of the proposed site, state funds or local funds may not be apportioned or expended for the acquisition or lease of that site, construction of any school building on that site, or for the expansion of any existing site to include that site.
- (f) This section does not apply to sites acquired prior to January 1, 1966, nor to any additions or extensions to those sites.



**EDUCATION CODE**  
**Title 3 — Postsecondary Education**  
**Division 7 — Community Colleges**  
**Part 49 — Community Colleges, Education Facilities**  
**Chapter 1 — School Sites**

**Article 2**  
**SCHOOL SITES**  
**(excerpts)**

**81033. Investigation: Geologic and Soil Engineering Studies; Airport in Proximity**

- (c) To promote the safety of students, comprehensive community planning, and greater educational usefulness of community college sites, the governing board of each community college district, if the proposed site is within two miles, measured by air line, of that point on an airport runway, or runway proposed by an airport master plan, which is nearest the site and excluding them if the property is not so located, before acquiring title to property for a new community college site or for an addition to a present site, shall give the board of governors notice in writing of the proposed acquisition and shall submit any information required by the board of governors.

Immediately after receiving notice of the proposed acquisition of property which is within two miles, measured by air line, of that point on an airport runway, or runway proposed by an airport master plan, which is nearest the site, the board of governors shall notify the Division of Aeronautics of the Department of Transportation, in writing, of the proposed acquisition. The Division of Aeronautics shall make an investigation and report to the board of governors within 30 working days after receipt of the notice. If the Division of Aeronautics is no longer in operation, the board of governors, in lieu of notifying the Division of Aeronautics, shall notify the Federal Aviation Administration or any other appropriate agency, in writing, of the proposed acquisition for the purpose of obtaining from the authority or other agency any information or assistance it may desire to give.

The board of governors shall investigate the proposed site and, within 35 working days after receipt of the notice, shall submit to the governing board a written report and its recommendations concerning acquisition of the site. The governing board shall not acquire title to the property until the report of the board of governors has been received. If the report does not favor the acquisition of the property for a community college site or an addition to a present community college site, the governing board shall not acquire title to the property until 30 days after the department's report is received and until the board of governors' report has been read at a public hearing duly called after 10 days' notice published once in a newspaper of general circulation within the community college district, or if there is no such newspaper, then in a newspaper of general circulation within the county in which the property is located.

- (d) If, with respect to a proposed site located within two miles of an operative airport runway, the report of the board of governors submitted to a community college district governing board under subdivision (c) does not favor the acquisition of the site on the sole or partial basis of the unfavorable recommendation of the Division of Aeronautics of the Department of Transportation, no state agency or officer shall grant, apportion, or allow to that community college district for expenditure in connection with that site, any state funds otherwise made

available under any state law whatever for community college site acquisition or college building construction, or for expansion of existing sites and buildings, and no funds of the community college district or of the county in which the district lies shall be expended for those purposes. However, this section shall not be applicable to sites acquired prior to January 1, 1966, or to any additions or extensions to those sites.

If the recommendation of the Division of Aeronautics is unfavorable, the recommendation shall not be overruled without the express approval of the board of governors and the State Allocation Board.

- (e) No action undertaken by the board of governors or by any other state agency or by any political subdivision pursuant to this chapter, or in compliance with this chapter, shall be construed to affect any rights arising under Section 19 of Article I of the California Constitution.

**PUBLIC RESOURCES CODE**  
**California Environmental Quality Act Statutes**  
**Division 13 — Environmental Quality**  
**Chapter 2.6 — General**  
**(excerpts)**

**21096.            Airport Planning**

- (a) If a lead agency prepares an environmental impact report for a project situated within airport land use compatibility plan boundaries, or, if an airport land use compatibility plan has not been adopted, for a project within two nautical miles of a public airport or public use airport, the Airport Land Use Planning Handbook published by the Division of Aeronautics of the Department of Transportation, in compliance with Section 21674.5 of the Public Utilities Code and other documents, shall be utilized as technical resources to assist in the preparation of the environmental impact report as the report relates to airport-related safety hazards and noise problems.
  
- (b) A lead agency shall not adopt a negative declaration for a project described in subdivision (a) unless the lead agency considers whether the project will result in a safety hazard or noise problem for persons using the airport or for persons residing or working in the project area.

**BUSINESS AND PROFESSIONS CODE**  
**Division 4 — Real Estate**  
**Part 2 — Regulation of Transactions**  
**Chapter 1 — Subdivided Lands**  
**Article 2 — Investigation, Regulation and Report**  
**(excerpts)**

**11010.**

- (a) Except as otherwise provided pursuant to subdivision (c) or elsewhere in this chapter, any person who intends to offer subdivided lands within this state for sale or lease shall file with the Bureau of Real Estate an application for a public report consisting of a notice of intention and a completed questionnaire on a form prepared by the bureau.
- (b) The notice of intention shall contain the following information about the subdivided lands and the proposed offering.

[Sub-Sections (1) through (12) omitted]

- (13)(A) The location of all existing airports, and of all proposed airports shown on the general plan of any city or county, located within two statute miles of the subdivision. If the property is located within an airport influence area, the following statement shall be included in the notice of intention:

NOTICE OF AIRPORT IN VICINITY

This property is presently located in the vicinity of an airport, within what is known as an airport influence area. For that reason, the property may be subject to some of the annoyances or inconveniences associated with proximity to airport operations (for example: noise, vibration, or odors). Individual sensitivities to those annoyances, if any, are associated with the property before you complete your purchase and determine whether they are acceptable to you.

- (B) For purposes of this section, an “airport influence area,” also known as an “airport referral area,” is the area in which current or future airport-related noise, overflight, safety, or airspace protection factors may significantly affect land uses or necessitate restrictions on those uses as determined by an airport land use commission.

**CIVIL CODE**  
**Division 2 — Property**  
**Part 4 — Acquisition of Property**  
**Title 4 — Transfer**  
**Chapter 2 — Transfer of Real Property**  
**Article 1.7 — Disclosure of Natural and Environmental Hazards, Right-to-Farm,**  
**and Other Disclosures Upon Transfer of Residential Property (excerpts)**

**1103.**

- (a) For purpose of this article, the definitions in Chapter 1 (commencing with Section 10000) of Part 1 of Division 4 of the Business and Professions Code shall apply.
- (b) Except as provided in Section 1103.1, this article applies to a sale, exchange, real property sales contract, as defined in Section 2985, lease with an option to purchase, any other option to purchase, or ground lease coupled with improvements, of any single-family residential real property.
- (c) This article shall apply to the transactions described in subdivision (b) only if the seller or his or her agent is required by one or more of the following to disclose the property's location within a hazard zone:
  - (1) A seller's agent for a seller of real property that is located within a special flood hazard area (any type Zone "A" or "V") designated by the Federal Emergency Management Agency, or the seller if the seller is acting without a seller's agent, shall disclose to any prospective buyer the fact that the property is located within a special flood hazard area if either:
    - (A) The seller, or the seller's agent, has actual knowledge that the property is within a special flood hazard area.
    - (B) The local jurisdiction has compiled a list, by parcel, of properties that are within the special flood hazard area and a notice has been posted at the offices of the county recorder, county assessor, and county planning agency that identifies the location of the parcel list.
  - (2) ...is located within an area of potential flooding...shall disclose to any prospective transferee the fact that the property is located within an area of potential flooding...
  - (3) ...is located within a very high fire hazard severity zone, designated pursuant to Section 51178 of the Public Resources Code...shall disclose to any prospective transferee the fact that the property is located within a very high fire hazard severity zone and is subject to the requirements of Section 51182...

- (4) ...is located within an earthquake fault zone, designated pursuant to Section 2622 of the Public Resources Code...shall disclose to any prospective transferee the fact that the property is located within a delineated earthquake fault zone...
- (5) ...is located within a seismic hazard zone, designated pursuant to Section 2696 of the Public Resources Code...shall disclose to any prospective transferee the fact that the property is located within a seismic hazard zone...
- (6) ...is located within a state responsibility area determined by the board, pursuant to Section 4125 of the Public Resources Code, shall disclose to any prospective transferee the fact that the property is located within a wildland area that may contain substantial forest fire risks and hazards and is subject to the requirements of Section 4291...

(d) Any waiver of the requirements of this article is void as against public policy.

### **1103.1**

(a) This article does not apply to the following sales:

- (1) Sales or transfers pursuant to court order, including, but not limited to, sales ordered by a probate court in administration of an estate, sales pursuant to a writ of execution, sales by any foreclosure sale, sales by a trustee in bankruptcy, sales by eminent domain, and sales resulting from a decree for specific performance.
- (2) Sales or transfers to a mortgagee by a mortgagor or successor in interest who is in default, sales to a beneficiary of a deed of trust by a trustor or successor in interest who is in default, transfers by any foreclosure sale after default, any foreclosure sale after default in an obligation secured by a mortgage, sale under a power of sale or any foreclosure sale under a decree of foreclosure after default in an obligation secured by a deed of trust or secured by any other instrument containing a power of sale, or sales by a mortgagee or a beneficiary under a deed of trust who has acquired the real property at a sale conducted pursuant to a power of sale under a mortgage or deed of trust or a sale pursuant to a decree of foreclosure or has acquired the real property by a deed in lieu of foreclosure.
- (3) Sales or transfers by a fiduciary in the course of the administration of a trust, guardianship, conservatorship, or decedent's estate. This exemption shall not apply to a sale if the trustee is a natural person who is a trustee of a revocable trust and the seller is a former owner of the property or an occupant in possession of the property within the preceding year.
- (4) Sales or transfers from one coowner to one or more other coowners.
- (5) Sales or transfers made to a spouse, or to a person or persons in the lineal line of consanguinity of one or more of the sellers.
- (6) Transfers between spouses resulting from a judgment of dissolution of marriage or of legal separation of the parties or from a property settlement agreement incidental to that judgment.
- (7) Sales or transfers by the Controller in the course of administering Chapter 7 (commencing with Section 1500) of Title 10 of Part 3 of the Code of Civil Procedure.
- (8) Sales or transfers under Chapter 7 (commencing with Section 3691) or Chapter 8 (commencing with Section 3771) of Part 6 of Division 1 of the Revenue and Taxation Code.

(9) Sales, transfers, or exchanges to or from any governmental entity.

(b) Sales and transfers not subject to this article may be subject to other disclosure requirements, including those under Sections 8589.3, 8589.4, and 51183.5 of the Government Code and Sections 2621.9, 2694, and 4136 of the Public Resources Code. In sales not subject to this article, agents may make required disclosures in a separate writing.

(c) Notwithstanding the definition of sale in Section 10018.5 of the Business and Professions Code and Section 2079.13, the terms “sale” and “transfer,” as they are used in this section, shall have their commonly understood meanings. The changes made to this section by Assembly Bill 1289 of the 2017–18 Legislative Session shall not be interpreted to change the application of the law as it read prior to January 1, 2019.

### **1103.2**

(a) The disclosures required by this article are set forth in, and shall be made on a copy of, the following Natural Hazard Disclosure Statement: [content omitted].

(b) If an earthquake fault zone, seismic hazard zone, very high fire hazard severity zone, or wildland fire area map or accompanying information is not of sufficient accuracy or scale that a reasonable person can determine if the subject real property is included in a natural hazard area, the seller or seller’s agent shall mark “Yes” on the Natural Hazard Disclosure Statement. The seller’s agent may mark “No” on the Natural Hazard Disclosure Statement if the seller attaches a report prepared pursuant to subdivision (c) of Section 1103.4 that verifies the property is not in the hazard zone. Nothing in this subdivision is intended to limit or abridge any existing duty of the seller or the seller’s agent to exercise reasonable care in making a determination under this subdivision.

[Sub-Sections (c) through (h) omitted]

[Section 1103.3 omitted]

### **1103.4**

(a) Neither the seller nor any seller’s agent or buyer’s agent shall be liable for any error, inaccuracy, or omission of any information delivered pursuant to this article if the error, inaccuracy, or omission was not within the personal knowledge of the seller or the seller’s agent or buyer’s agent and was based on information timely provided by public agencies or by other persons providing information as specified in subdivision (c) that is required to be disclosed pursuant to this article, and ordinary care was exercised in obtaining and transmitting the information.

(b) The delivery of any information required to be disclosed by this article to a prospective buyer by a public agency or other person providing information required to be disclosed pursuant to this article shall be deemed to comply with the requirements of this article and shall relieve the seller, seller’s agent, and buyer’s agent of any further duty under this article with respect to that item of information.

(c) The delivery of a report or opinion prepared by a licensed engineer, land surveyor, geologist, or expert in natural hazard discovery dealing with matters within the scope of the professional’s license or expertise shall be sufficient compliance for application of the exemption provided by subdivision (a) if the information is provided to the prospective buyer pursuant to a request therefor, whether written or oral. In responding to that request, an expert may indicate, in writing, an understanding that the information provided will be

used in fulfilling the requirements of Section 1103.2 and, if so, shall indicate the required disclosures, or parts thereof, to which the information being furnished is applicable. Where such a statement is furnished, the expert shall not be responsible for any items of information or parts thereof, other than those expressly set forth in the statement.

(1) In responding to the request, the expert shall determine whether the property is within an airport influence area as defined in subdivision (b) of Section 11010 of the Business and Professions Code. If the property is within an airport influence area, the report shall contain the following statement:

NOTICE OF AIRPORT IN VICINITY

This property is presently located in the vicinity of an airport, within what is known as an airport influence area. For that reason, the property may be subject to some of the annoyances or inconveniences associated with proximity to airport operations (for example: noise, vibration, or odors). Individual sensitivities to those annoyances can vary from person to person. You may wish to consider what airport annoyances, if any, are associated with the property before you complete your purchase and determine whether they are acceptable to you.

[Remainder of Article 1.7 omitted]



**CIVIL CODE**  
**Division 2, Part 4**  
**Title 4 — Transfer**  
**Chapter 2 — Transfer of Real Property**  
**Article 1 — Disclosures Upon Transfer of**  
**Residential Property**

**1102.6a.**

(a) On and after July 1, 1990, any city or county may elect to require disclosures on the form set forth in subdivision (b) in addition to those disclosures required by Section 1102.6. However, this section does not affect or limit the authority of a city or county to require disclosures on a different disclosure form in connection with transactions subject to this article pursuant to an ordinance adopted prior to July 1, 1990. An ordinance like this adopted prior to July 1, 1990, may be amended thereafter to revise the disclosure requirements of the ordinance, in the discretion of the city council or county board of supervisors.

(b) Disclosures required pursuant to this section pertaining to the property proposed to be sold, shall be set forth in, and shall be made on a copy of, the following disclosure form:

PRINTER PLEASE NOTE: TIP-IN MATERIAL TO BE INSERTED

(c) This section does not preclude the use of addenda to the form specified in subdivision (b) to facilitate the required disclosures. This section does not preclude a city or county from using the disclosure form specified in subdivision (b) for a purpose other than that specified in this section.

(d) (1) On and after January 1, 2005, if a city or county adopts a different or additional disclosure form pursuant to this section regarding the proximity or effects of an airport, the statement in that form shall contain, at a minimum, the information in the statement “Notice of Airport in Vicinity” found in Section 11010 of the Business and Professions Code, or Section 1103.4 or 4255.

(2) On and after January 1, 2006, if a city or county does not adopt a different or additional disclosure form pursuant to this section, then the provision of an “airport influence area” disclosure pursuant to Section 11010 of the Business and Professions Code, or Section 1103.4 or 4255, or if there is not a current airport influence map, a written disclosure of an airport within two statute miles, shall be deemed to satisfy any city or county requirements for the disclosure of airports in connection with sales of real property.

## LEGISLATIVE HISTORY SUMMARY

### PUBLIC UTILITIES CODE Section 21670 et seq. Airport Land Use Commission Statutes

- 1967 Original ALUC statute enacted.
- Establishment of ALUCs required in each county containing a public airport served by a certificated air carrier.
  - The purpose of ALUCs is indicated as being to make recommendations regarding height restrictions on buildings and the use of land surrounding airports.
- 1970 Assembly Bill 1856 (Badham) Chapter 1182, Statutes of 1970 — Adds provisions which:
- Require ALUCs to prepare comprehensive land use plans.
  - Require such plans to include a long-range plan and to reflect the airport's forecast growth during the next 20 years.
  - Require ALUC review of airport construction plans (Section 21661.5).
  - Exempt Los Angeles County from the requirement of establishing an ALUC.
- 1971 The function of ALUCs is restated as being to require new construction to conform to Department of Aeronautics standards.
- 1973 ALUCs are permitted to establish compatibility plans for military airports.
- 1982 Assembly Bill 2920 (Rogers) Chapter 1041, Statutes of 1982 — Adds major changes which:
- More clearly articulate the purpose of ALUCs.
  - Eliminate reference to “achieve by zoning.”
  - Require consistency between local general and specific plans and airport land use commission plans; the requirements define the process for attaining consistency, they do not establish standards for consistency.
  - Eliminate the requirement for proposed individual development projects to be referred to an ALUC for review once local general/specific plans are consistent with the ALUC's plan.
  - Require that local agencies make findings of fact before overriding an ALUC decision.
  - Change the vote required for an override from 4/5 to 2/3.
- 1984 Assembly Bill 3551 (Mountjoy) Chapter 1117, Statutes of 1984 — Amends the law to:
- Require ALUCs in all counties having an airport which serves the general public unless a county and its cities determine an ALUC is not needed.
  - Limit amendments to compatibility plans to once per year.
  - Allow individual projects to continue to be referred to the ALUC by agreement.
  - Extend immunity to airports if an ALUC action is overridden by a local agency not owning the airport.
  - Provide state funding eligibility for preparation of compatibility plans through the Regional Transportation Improvement Program process.
- 1987 Senate Bill 633 (Rogers) Chapter 1018, Statutes of 1987 — Makes revisions which:

- Require that a designated body serving as an ALUC include two members having “expertise in aviation.”
  - Allows an interested party to initiate court proceedings to postpone the effective date of a local land use action if a compatibility plan has not been adopted.
  - Delete sunset provisions contained in certain clauses of the law.
  - Allows reimbursement for ALUC costs in accordance with the Commission on State Mandates.
- 1989 Senate Bill 255 (Bergeson) Chapter 54, Statutes of 1989 —
- Sets a requirement that comprehensive land use plans be completed by June 1991.
  - Establishes a method for compelling ALUCs to act on matters submitted for review.
  - Allows ALUCs to charge fees for review of projects.
  - Suspends any lawsuits that would stop development until the ALUC adopts its plan or until June 1, 1991.
- 1989 Senate Bill 235 (Alquist) Chapter 788, Statutes of 1989 — Appropriates \$3,672,000 for the payment of claims to counties seeking reimbursement of costs incurred during fiscal years 1985-86 through 1989-90 pursuant to state-mandated requirement (Chapter 1117, Statutes of 1984) for creation of ALUCs in most counties. This statute was repealed in 1993.
- 1990 Assembly Bill 4164 (Mountjoy) Chapter 1008, Statutes of 1990 — Adds section 21674.5 requiring the Division of Aeronautics to develop and implement a training program for ALUC staffs.
- 1990 Assembly Bill 4265 (Clute) Chapter 563, Statutes of 1990 — With the concurrence of the Division of Aeronautics, allows ALUCs to use an airport layout plan, rather than a long-range airport master plan, as the basis for preparation of a compatibility plan.
- 1990 Senate Bill 1288 (Beverly) Chapter 54, Statutes of 1990 — Amends Section 21670.2 to give Los Angeles County additional time to prepare compatibility plans and meet other provisions of the ALUC statutes.
- 1991 Senate Bill 532 (Bergeson) Chapter 140, Statutes of 1991 —
- Allows counties having half of their compatibility plans completed or under preparation by June 30, 1991, an additional year to complete the remainder.
  - Allows ALUCs to continue to charge fees under these circumstances.
  - Fees may be charged only until June 30, 1992, if plans are not completed by then.
- 1993 Senate Bill 443 (Committee on Budget and Fiscal Review) Chapter 59, Statutes of 1993 — Amends Section 21670(b) to make the formation of ALUCs permissive rather than mandatory as of June 30, 1993. (Note: Section 21670.2 which assigns responsibility for coordinating the airport planning of public agencies in Los Angeles County is not affected by this amendment.)
- 1994 Assembly Bill 2831 (Mountjoy) Chapter 644, Statutes of 1994 — Reinstates the language in Section 21670(b) mandating establishment of ALUCs, but also provides for an alternative airport land use planning process. Lists specific actions which a county and affected cities must take in order for such alternative process to receive Caltrans’

- approval. Requires that ALUCs be guided by information in the Caltrans' Airport Land Use Planning Handbook when formulating airport land use plans.
- 1994 Senate Bill 1453 (Rogers) Chapter 438, Statutes of 1994 — Amends California Environmental Quality Act (CEQA) statutes as applied to preparation of environmental documents affecting projects in the vicinity of airports. Requires lead agencies to use the Airport Land Use Planning Handbook as a technical resource when assessing the airport-related noise and safety impacts of such projects.
- 1997 Assembly Bill 1130 (Oller) Chapter 81, Statutes of 1997 — Added Section 21670.4 concerning airports whose planning boundary straddles a county line.
- 2000 Senate Bill 1350 (Rainey) Chapter 506, Statutes of 2000 — Added Section 21670(f) clarifying that special districts are among the local agencies to which airport land use planning laws are intended to apply.
- 2001 Assembly Bill 93 (Wayne) Chapter 946, Statutes of 2001—Added Section 21670.3 regarding San Diego County Regional Airport Authority's responsibility for airport planning within San Diego County.
- 2002 Assembly Bill 3026 (Committee on Transportation) Chapter 438, Statutes of 2002—Changes the term “comprehensive land use plan” to “airport land use compatibility plan.”
- 2002 Assembly Bill 2776 (Simitian) Chapter 496, Statutes of 2002—Requires information regarding the location of a property within an airport influence area be disclosed as part of certain real estate transactions effective January 1, 2004.
- 2002 Senate Bill 1468 (Knight) Chapter 971, Statutes of 2002—Changes ALUC preparation of airport land use compatibility plans for military airports from optional to required. It requires that the plans be consistent with the safety and noise standards in the Air Installation Compatible Use Zone for that airport. Requires that the general plan and any specific plans be consistent with these standards where there is military airport, but an airport land use commission does not exist.
- 2003 Assembly Bill 332 (Mullin) Chapter 351, Statutes of 2003—Clarifies that school districts and community college districts are subject to compatibility plans. Requires local public agencies to notify ALUC and Division of Aeronautics at least 45 days prior to deciding to overrule the ALUC.
- Adds that prior to granting building construction permits, local agencies shall be guided by the criteria established in the Airport Land Use Planning Handbook and any related federal aviation regulations to the extent that the criteria has been incorporated into their airport land use compatibility plan.
- 2004 Senate Bill 1223 (Committee on Transportation) Chapter 615, Statutes of 2004—Technical revisions eliminating most remaining references to the term “comprehensive land use plan” and replacing it with “airport land use compatibility plan.” Also replaces the terms “planning area” and “study area” with “airport influence area.”

- 2005 Assembly Bill 1358 (Mullin) Chapter 29, Statutes of 2005—Requires a school district to notify the Department of Transportation before leasing property for a new school site. Also makes these provisions applicable to charter schools.
- 2007 Senate Bill 10 (Kehoe) Chapter 287, Statutes of 2007—The San Diego County Regional Airport Authority Reform Act of 2007. Restructures the airport authority established in 2001 by AB 93 (Wayne), with a set of goals related to governance, accountability, planning and operations at San Diego International Airport.

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Appendix J  
**FAA Orders Addressing Wildlife  
Hazards**

# FAA Policies Addressing Wildlife Hazards

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(as of February 2020)

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U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

# Advisory Circular

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**Subject:** Hazardous Wildlife Attractants on or  
near Airports

**Date:** 02/21/2020

**AC No:** 150/5200-33C

**Initiated By:** AAS-300

**Change:**

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1 **Purpose.**

This Advisory Circular (AC) provides guidance on certain land uses that have the potential to attract hazardous wildlife on or near public-use airports. It also discusses airport development projects (including airport construction, expansion, and renovation) affecting aircraft movement near hazardous wildlife attractants. Appendix 1 provides definitions of terms used in this AC.

2 **Cancellation.**

This AC cancels AC 150/5200-33B, *Hazardous Wildlife Attractants on or near Airports*, dated August 28, 2007.

3 **Application.**

The Federal Aviation Administration recommends the guidance in this AC for land uses that have the potential to attract hazardous wildlife on or near public-use airports. This AC does not constitute a regulation, is not mandatory, and is not legally binding in its own right. It will not be relied upon as a separate basis by the FAA for affirmative enforcement action or other administrative penalty. Conformity with this AC is voluntary, and nonconformity will not affect rights and obligations under existing statutes and regulations, except as follows:

1. Airports that hold Airport Operating Certificates issued under Title 14, Code of Federal Regulations (CFR), Part 139, Certification of Airports, Subpart D, may use the standards, practices and recommendations contained in this AC as one, but not the only, acceptable means of compliance with the wildlife hazard management requirements of Part 139.
2. The FAA recommends the guidance in this AC for airports that receive funding under Federal grant assistance programs, including the Airport Improvement Program. See Grant Assurance #34.

3. The FAA recommends the guidance in this AC for projects funded by the Passenger Facility Charge program. See PFC Assurance #9.
4. The FAA recommends the guidance in this AC for land-use planners and developers of projects, facilities, and activities on or near airports.

#### 4 **Principal Changes.**

Changes are marked with vertical bars in the margin. Change in this AC include:

1. Clarification by the FAA that non-certificated airports are recommended to conduct a Wildlife Hazard Assessment (Assessment) or a Wildlife Hazard Site Visit (Site Visit);
2. Table 1, Ranking of Hazardous Species, has been moved to Advisory Circular 150/5200-32, *Reporting Wildlife Aircraft Strikes* (5/31/2013);
3. Consolidation and reorganization of discussion on land uses of concern; and updated procedures for evaluation and mitigation. Discussion addresses off-airport hazardous wildlife attractants, followed by discussion of on-airport attractants. It also clarifies language regarding the applicability of the AC.

#### 5 **Background.**

1. Information about the risks posed to aircraft by certain wildlife species has increased a great deal in recent years. Improved reporting, studies, documentation, and statistics clearly show that aircraft collisions with birds and other wildlife are a serious economic and public safety problem. While many species of wildlife can pose a risk<sup>1</sup> to aircraft safety, they are not equally hazardous<sup>2</sup>. These hazard rankings can help focus hazardous wildlife management efforts on those species or groups that represent the greatest risk to safe air and ground operations in the airport environment. Used in conjunction with a site-specific Assessment that will determine the relative abundance and use patterns of wildlife species, these rankings combined with a systematic risk analysis can help airport operators better understand the general threat level (and consequences) of certain wildlife species. Also, the rankings can assist with the creation of a “high risk” list of hazardous species that warrant immediate attention.
2. Most public-use airports have large tracts of open, undeveloped land that provide added margins of safety and noise mitigation. These areas can also present potential hazards to aviation if they encourage wildlife to enter an airport’s approach or departure airspace or aircraft operations area. Constructed or natural areas— such as

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<sup>1</sup> Risk is the relationship between the severity and probability of a threat. It is the product of hazard level and abundance in the critical airspace, and is thus defined as the probability of a damaging strike with a given species.

<sup>2</sup> Hazardous wildlife are species of wildlife (birds, mammals, reptiles), including feral and domesticated animals, not under control that may pose a direct hazard to aviation (i.e., strike risk to aircraft) or an indirect hazard such as an attractant to other wildlife that pose a strike hazard or are causing structural damage to airport facilities (e.g., burrowing, nesting, perching).

poorly drained locations, detention/retention ponds, roosting habitats on buildings, landscaping, odor-causing rotting organic matter (putrescible waste) disposal operations, wastewater treatment plants, agricultural or aquaculture activities, surface mining, wetlands, or some conservation-based land uses — can provide wildlife with ideal locations for feeding, loafing, reproduction, and escape. Even small facilities, such as fast food restaurants, taxicab staging areas, rental car facilities, aircraft viewing areas, and public parks, can produce substantial attractions for hazardous wildlife.

3. During the past century, wildlife-aircraft strikes have resulted in the loss of hundreds of lives worldwide, as well as billions of dollars in aircraft damage. Hazardous wildlife attractants on and near airports can jeopardize future airport expansion, making proper community land-use planning essential. This AC provides airport operators and those parties with whom they cooperate with the guidance they need to assess and address potentially hazardous wildlife attractants when locating new facilities and implementing certain land-use practices on or near public-use airports.

#### 6 **Memorandum of Agreement Between Federal Resource Agencies.**

The FAA, the U.S. Air Force, the U.S. Army Corps of Engineers, the U.S. Environmental Protection Agency, the U.S. Fish and Wildlife Service, and the U.S. Department of Agriculture - Wildlife Services signed a Memorandum of Agreement (MOA) to acknowledge their respective missions in protecting aviation from wildlife hazards. Through the MOA, the agencies established procedures necessary to coordinate their missions to address more effectively existing and future environmental conditions contributing to collisions between wildlife and aircraft (wildlife strikes) throughout the United States. These efforts are intended to minimize wildlife risks to aviation and human safety while protecting the Nation's valuable environmental resources.

#### 7 **Feedback on this AC.**

If you have suggestions for improving this AC, you may use the Advisory Circular Feedback form at the end of this AC.



John R. Dermody  
Director of Airport Safety and Standards

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## CHAPTER 1. GENERAL SEPARATION CRITERIA FOR HAZARDOUS WILDLIFE ATTRACTANTS ON OR NEAR AIRPORTS

### 1.1 Introduction.

- 1.1.1 Airport operators should maintain an appropriate environment for the safe and efficient operation of aircraft, which entails mitigating wildlife strike hazards by fencing, modifying the landscape in order to deter wildlife or by hazing or removing wildlife hazardous to aircraft from congregating on airports. When considering proposed land uses, operators and sponsors of airports certificated under Part 139, local planners, and developers must take into account whether the proposed land uses, including new development projects, will increase wildlife hazards. Land-use practices that attract or sustain hazardous wildlife populations on or near airports, specifically those listed in Chapter 2, can significantly increase the potential for wildlife strikes.
- 1.1.2 The FAA urges regulatory agencies and planning and zoning agencies to evaluate proposed new land uses within the separation criteria and prevent the creation of land uses that attract or sustain hazardous wildlife within the separation distances.
- 1.1.3 The FAA recommends the use of minimum separation criteria outlined below for land-use practices that attract hazardous wildlife to the vicinity of airports. Please note that FAA criteria include land uses that cause movement of hazardous wildlife onto, into, or across the airport's approach or departure airspace or aircraft operations area. (See the discussion of the synergistic effects of surrounding land uses in Paragraph 2.8 of this AC.). For the purpose of evaluating distance criteria, the delineation of the aircraft operations area may also consider future airport development plans depicted on the Airport Layout Plan (e.g., planned runway extension).
- 1.1.4 The separation distances are based on (1) flight patterns and performance criteria of piston-powered aircraft and turbine-powered aircraft, (2) the altitude at which most strikes happen (78 percent occur under 1,000 feet and 90 percent occur under 3,000 feet above ground level), and (3) National Transportation Safety Board recommendations.

### 1.2 Airports Serving Piston-Powered Aircraft.

Airports that do not sell Jet-A fuel normally serve piston-powered aircraft. Notwithstanding more stringent requirements for specific land uses, the FAA recommends a separation distance of 5,000 feet from these airports for any of the hazardous wildlife attractants discussed in Chapter 2 or for new airport development projects meant to accommodate aircraft movement. This distance is to be maintained between the closest point of the airport's aircraft operations area and the hazardous wildlife attractant. Figure 1 depicts an example of the 5,000-foot separation distance measured from the nearest aircraft operations area.

**1.3 Airports Serving Turbine-Powered Aircraft.**

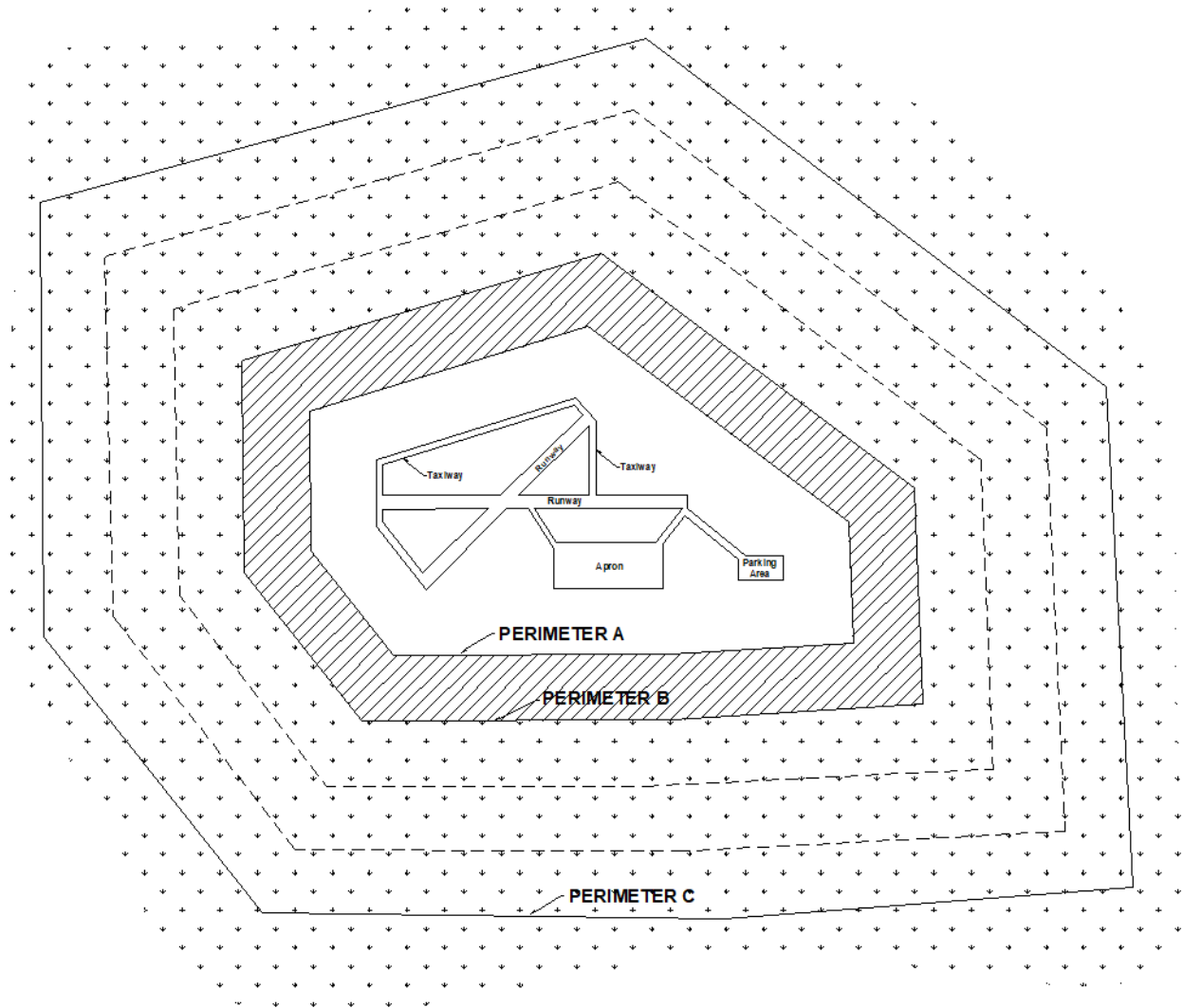
For airports serving turbine-powered aircraft, the FAA recommends a separation distance of 10,000 feet from these airports for any of the hazardous wildlife attractants discussed in Chapter 2 or for new airport development projects meant to accommodate aircraft movement. This distance is to be maintained between the closest point of the airport's aircraft operations area and the hazardous wildlife attractant. Figure 1 depicts an example of the 10,000-foot separation distance from the nearest aircraft movement areas.

**1.4 Protection of Approach, Departure, and Circling Airspace.**

For all airports, the FAA recommends a distance of 5 miles between the closest point of the airport's aircraft operations area and the hazardous wildlife attractant. Special attention should be given to hazardous wildlife attractants that could cause hazardous wildlife movement into or across the approach or departure airspace. Figure 1 depicts an example of the 5-mile separation distance measured from the nearest aircraft operations area.



**Figure 1. Example of recommended separation distances described in Chapter 1 within which hazardous wildlife attractants should be avoided, eliminated, or mitigated.**



**PERIMETER A:** For airports serving piston-powered aircraft, it is recommended hazardous wildlife attractants be 5,000 feet from the nearest aircraft operations area.

**PERIMETER B:** For airports serving turbine-powered aircraft, it is recommended hazardous wildlife attractants be 10,000 feet from the nearest aircraft operations area.

**PERIMETER C:** Recommended for all airports, 5-mile range to protect approach, departure and circling airspace.

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## CHAPTER 2. LAND-USE PRACTICES ON OR NEAR AIRPORTS THAT POTENTIALLY ATTRACT HAZARDOUS WILDLIFE

### 2.1 General.

- 2.1.1 Many types of vegetation, habitats and land use practices can provide an attractant to animals that pose a risk to aviation safety. Hazardous wildlife use the natural or artificial habitats on or near an airport for food, water or cover. The wildlife species and the size of the populations attracted to the airport environment vary considerably, depending on several factors, including land-use practices on or near the airport. In addition to the specific considerations outlined below, airport operators should refer to *Wildlife Hazard Management at Airports* manual, prepared by FAA and U.S. Department of Agriculture (USDA) staff. (This manual is available in English, Spanish, and French). This manual, as well as other helpful resources can be viewed and downloaded free of charge from the Wildlife Strike Resources section of the FAA's wildlife hazard mitigation web site: [http://www.FAA.gov/airports/airport\\_safety/wildlife](http://www.FAA.gov/airports/airport_safety/wildlife)).
- 2.1.1.1 The USDA / Animal and Plant Health Inspection Service (APHIS) / Wildlife Services developed a new publication series on wildlife damage management and is available online. The Wildlife Damage Management Technical Series highlights wildlife species or groups of wildlife species that cause damage to agriculture, property and natural resources, and/or impact aviation and human health and safety. The publications can be found at: [https://www.aphis.usda.gov/aphis/ourfocus/wildlifedamage/sa\\_reports/ct\\_wildlife+damage+management+technical+series](https://www.aphis.usda.gov/aphis/ourfocus/wildlifedamage/sa_reports/ct_wildlife+damage+management+technical+series).
- 2.1.1.2 Additional resources have been provided by the USDA / APHIS / Wildlife Services National Wildlife Research Center (NWRC) at: [https://www.aphis.usda.gov/aphis/ourfocus/wildlifedamage/programs/nwrc/sa\\_publications/ct\\_research\\_gateway](https://www.aphis.usda.gov/aphis/ourfocus/wildlifedamage/programs/nwrc/sa_publications/ct_research_gateway). The NWRC Research Gateway contains research articles, reports, factsheets, technical notes, data and other materials on wildlife hazard mitigation, risk reduction, animal ecology, habitats, and advanced technologies and methodologies.
- 2.1.2 This section discusses land-use practices having the potential to attract hazardous wildlife and threaten aviation safety. The FAA has determined that the land uses listed below are generally not compatible with safe airport operations when they are located within the separation distances provided in Paragraphs 1.2 through 1.4.
- 2.1.3 As a reminder, these types of land uses or facilities often require permits from the appropriate permitting agency. The FAA may work with the permitting agency to include conditions for monitoring and mitigation measures, if necessary. Ultimately, the permittee is responsible for compliance to these conditions and the permitting agency is responsible for tracking compliance.

## 2.2 Waste Disposal Operations.

Municipal solid waste landfills (municipal landfills) are known to attract large numbers of hazardous wildlife, particularly birds. Because of this, these operations, when located within the separations identified in the siting criteria in Paragraphs 1.2 through 1.4, are considered incompatible with safe airport operations.

### 2.2.1 Siting for New Municipal Solid Waste Landfills Subject to AIR 21.

2.2.1.1 Section 503 of the Wendell H. Ford Aviation Investment and Reform Act for the 21st Century (P. L. 106-181) (AIR 21), 49 U.S.C. § 44718(d), prohibits the construction or establishment of a new municipal landfill within 6 miles of certain public-use airports. Before these prohibitions apply, both the airport and the landfill must meet the very specific conditions described below. These restrictions do not apply to airports or landfills located within the state of Alaska.

2.2.1.2 The airport must (1) have received a Federal grant(s) under 49 U.S.C. § 47101, et. seq.; (2) be under control of a public agency; (3) serve some scheduled air carrier operations conducted in aircraft with less than 60 seats; and (4) have total annual enplanements consisting of at least 51 percent of scheduled air carrier enplanements conducted in aircraft with less than 60 passenger seats.

2.2.1.3 The proposed municipal landfill must (1) be within 6 miles of the airport, as measured from airport property line to the landfill property line, and (2) have started construction or establishment on or after April 5, 2001. Section 44718(d) only limits the construction or establishment of some new landfills. It does not limit the expansion, either vertical or horizontal, of existing landfills.

2.2.1.4 Regarding existing municipal landfills and lateral expansions of landfills, 40 CFR § 258.10 requires owners or operators of a landfill units located within the separation distances provided in Paragraphs 1.2 through 1.4 to demonstrate that the unit is designed and operated so that it does not pose a bird hazard to aircraft. To accomplish this, follow the instructions provided in Paragraphs 3.2 and 3.3, document the wildlife monitoring and mitigation procedures that are cooperatively developed, and place this documentation in the operating permit of the facility.

### 2.2.2 Siting for New Municipal Landfills Not Subject to AIR 21.

If an airport and a municipal landfill do not meet the criteria of § 44718(d), then FAA recommends against locating the landfill within the separation distances identified in Paragraphs 1.2 through 1.4. In determining this distance separation, measurements should be made from the closest point of the airport property boundary to the closest point of the landfill property boundary.

### 2.2.3 Considerations for Existing Waste Disposal Facilities Within the Limits of Separation Criteria.

The FAA recommends against airport development projects that would increase the number of aircraft operations or accommodate larger or faster aircraft near landfill operations located within the separations identified in Paragraphs 1.2 through 1.4. In addition, in accordance with 40 CFR § 258.10, owners or operators of existing landfill units that are located within the separations listed in Paragraphs 1.2 through 1.4 must demonstrate that the unit is designed and operated so it does not pose a bird hazard to aircraft. (See Paragraph 4.3.2 of this AC for a discussion of this demonstration requirement.)

### 2.2.4 Enclosed Trash Transfer Stations.

Enclosed waste-handling facilities that receive garbage behind closed doors; process it via compaction, incineration, or similar manner; and remove all residue by enclosed vehicles generally are compatible with safe airport operations, provided they are constructed and operated properly and are not located on airport property or within the Runway Protection Zone. These facilities should not handle or store putrescible waste outside or in a partially enclosed structure accessible to hazardous wildlife. Trash transfer facilities that are open on one or more sides; or store uncovered quantities of municipal solid waste outside, even if only for a short time; or use semi-trailers that leak or have trash clinging to the outside; or do not control odors by ventilation and filtration systems (odor masking is not acceptable) do not meet the FAA's definition of fully enclosed trash transfer stations. The FAA considers fully enclosed waste-handling facilities constructed or operated incorrectly incompatible with safe airport operations if they are located closer than the separation distances specified in Paragraphs 1.2 through 1.4.

### 2.2.5 Composting Operations on or near Airport Property.

Composting operations that accept only yard waste (e.g., leaves, lawn clippings, or branches) generally do not attract hazardous wildlife. Sewage sludge, woodchips, and similar material are not municipal solid wastes and may be used as compost bulking agents. The compost, however, must never include food or other municipal solid waste. Composting operations should not be located on airport property unless effective, risk-reducing mitigations are in place. Off-airport property composting operations should be located no closer than the greater of the following distances: 1,200 feet from any aircraft operations area or the distance called for by airport design requirements (see AC 150/5300-13, *Airport Design*). This spacing should prevent material, personnel, or equipment from penetrating any Object Free Area, Obstacle Free Zone, Threshold Siting Surface, or Clearway. Airport operators should monitor composting operations located in proximity to the airport to ensure that steam or thermal rise does not adversely affect air traffic.

### 2.2.6 Underwater Waste Discharges.

The FAA recommends against the underwater discharge of any food waste (e.g., fish processing offal) within the separations identified in Paragraphs 1.2 through 1.4 because it could attract scavenging hazardous wildlife.

### 2.2.7 Recycling Centers.

Recycling centers that accept previously sorted non-food items, such as glass, newspaper, cardboard, aluminum, electronic, and household wastes such as paint, batteries, and oil, are, in most cases, not attractive to hazardous wildlife and are acceptable.

### 2.2.8 Construction and Demolition Debris Facilities.

2.2.8.1 Construction and demolition landfills generally do not attract hazardous wildlife and are acceptable if maintained in an orderly manner, admit no putrescible waste, and are not co-located with other waste disposal operations. However, construction and demolition landfills have similar visual and operational characteristics to putrescible waste disposal sites. When co-located with putrescible waste disposal operations, construction and demolition landfills are more likely to attract hazardous wildlife because of the similarities between these disposal facilities.

2.2.8.2 Therefore, a construction and demolition landfill co-located with another waste disposal operation should be located outside of the separations identified in Paragraphs 1.2 through 1.4.

2.2.8.3 Airport operators should be aware that on-site storage of construction and maintenance debris, as well as out-of-service aircraft or aircraft components, may provide an attractant for hazardous species (e.g., nesting or perching locations). The FAA recommends these on-site areas be monitored and/or mitigated, if necessary.

### 2.2.9 Fly Ash Disposal.

2.2.9.1 The incinerated residue from resource recovery power/heat-generating facilities that are fired by municipal solid waste, coal, or wood is generally not a wildlife attractant because it no longer contains putrescible matter. Landfills accepting only fly ash are generally not considered to be wildlife attractants and are acceptable as long as they admit no putrescible waste of any kind, and are not co-located with other disposal operations that attract hazardous wildlife.

2.2.9.2 Since varying degrees of waste consumption are associated with general incineration (not resource recovery power/heat-generating facilities), the FAA considers the ash from general incinerators a regular waste disposal by-product and, therefore, a hazardous wildlife attractant if disposed of within the separation criteria outlined in Paragraphs 1.2 through 1.4.

## 2.3 **Water Management Facilities.**

Drinking water intake and treatment facilities, storm water and wastewater treatment facilities, associated retention and settling ponds, ponds built for recreational use, ponds

and fountains for ornamental purposes, and ponds that result from mining activities often attract large numbers of potentially hazardous wildlife. Development of new open water facilities within the separation criteria identified in Paragraphs 1.2 through 1.4 should be avoided to prevent wildlife attractants. If necessary, land-use developers and airport operators may need to develop management plans, in compliance with local and state regulations, to support the operation of storm water management facilities on or near all public-use airports to ensure a safe airport environment. The FAA recommends these plans be developed in consultation with a Qualified Airport Wildlife Biologist<sup>3</sup>, to minimize hazardous wildlife attractants.

### 2.3.1 Existing Stormwater Management Facilities.

- 2.3.1.1 On-airport stormwater management facilities allow the quick removal of surface water, including discharges related to aircraft deicing, from impervious surfaces, such as pavement and terminal/hangar building roofs. Existing on-airport detention ponds collect stormwater, protect water quality, and control runoff. Because they slowly release water after storms, they may create standing bodies of water that can attract hazardous wildlife. Where the airport has developed a Wildlife Hazard Management Plan, Part 139 regulations require the immediate correction of any wildlife hazards arising from existing stormwater facilities located on or near airports using appropriate wildlife hazard mitigation techniques. Airport operators should develop measures to minimize hazardous wildlife attraction in consultation with a Qualified Airport Wildlife Biologist.
- 2.3.1.2 Where possible, airport operators should modify stormwater detention ponds to allow a maximum 48-hour detention period for the design storm. The combination of open water and vegetation is particularly attractive to waterfowl and other hazardous wildlife. Water management facilities holding water longer than 48 hours should be maintained in a manner that keeps them free of both emergent and submergent vegetation. The FAA recommends that airport operators avoid or remove retention ponds and detention ponds featuring dead storage to eliminate standing water. Detention basins should remain totally dry between rainfalls. Where constant flow of water is anticipated through the basin, or where any portion of the basin bottom may remain wet, the detention facility should include a concrete or paved pad and/or ditch/swale in the bottom to prevent vegetation that may provide nesting habitat. Drainage basins with a concrete or paved pad should be maintained to prevent or remove any sediment build-up to prevent vegetation growth.
- 2.3.1.3 When it is not possible to drain a large detention pond completely, airport operators may use physical barriers, such as bird balls, wire grids, pillows,

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<sup>3</sup> See Advisory Circular 150/5200-36, *Qualifications for Wildlife Biologist Conducting Wildlife Hazard Assessments and Training Curriculums for Airport Personnel Involved in Controlling Wildlife Hazards on Airports.*

or netting, to deter birds and other hazardous wildlife. When physical barriers are proposed, airport operators must evaluate their use, effectiveness and maintenance requirements. Airport operators must also ensure physical barriers will not adversely affect water rescue. Before installing any physical barriers over detention ponds on Part 139 airports, airport operators must get approval from the appropriate FAA Regional Airports Division Office.

- 2.3.1.4 The FAA recommends that airport operators encourage off-airport stormwater treatment facility operators to incorporate appropriate wildlife hazard mitigation techniques into stormwater treatment facility operating practices when their facility is located within the separation criteria specified in Paragraphs 1.2 through 1.4.

### 2.3.2 New Stormwater Management Facilities.

The FAA recommends that storm water management systems located within the separations identified in Paragraphs 1.2 through 1.4 be designed and operated so as not to create above-ground standing water. Stormwater detention ponds should be designed, engineered, constructed, and maintained for a maximum 48-hour detention period after the design storm and to remain completely dry between storms. To facilitate the control of hazardous wildlife, the FAA recommends the use of steep-sided, rip-rap or concrete lined, narrow, linear-shaped water detention basins. When it is not possible to place these ponds away from an airport's aircraft operations area (but still on airport property), airport operators may use physical barriers, such as bird balls, wire grids, floating covers, vegetation barriers (bottom liners), or netting, to prevent access of hazardous wildlife to open water and minimize aircraft-wildlife interactions. Caution is advised when nets or wire grids are used for deterring birds from attractants. Mesh size should be < 5 cm (2") to avoid entangling and killing birds and should not be made of a monofilament material. Grids installed above and across water to deter hazardous birds (e.g., waterfowl, cormorants, etc.) are different than using a small mesh covering but also provides an effective deterrent. Grid material, size, pattern and height above water may differ on a case-by-case basis. When physical barriers are used, airport operators must evaluate their use and ensure they will not adversely affect water rescue. Before installing any physical barriers over detention ponds on Part 139 airports, a review by a Qualified Airport Wildlife Biologist should be conducted, prior to approval from the appropriate FAA Regional Airports Division Office. All vegetation in or around detention basins that provide food or cover for hazardous wildlife should be eliminated. If soil conditions and other requirements allow, the FAA encourages the use of underground storm water infiltration systems because they are less attractive to wildlife.

### 2.3.3 Existing Wastewater Treatment Facilities.

- 2.3.3.1 The FAA recommends that airport operators immediately correct any wildlife hazards arising from existing wastewater treatment facilities located on or near the airport.



2.3.3.2 Where required, a wildlife management plan will outline appropriate wildlife hazard mitigation techniques. Accordingly, airport operators should encourage wastewater treatment facility operators to incorporate measures, developed in consultation with a Qualified Airport Wildlife Biologist, to minimize hazardous wildlife attractants. Airport operators should also encourage those wastewater treatment facility operators to incorporate these mitigation techniques into their standard operating practices. In addition, airport operators should consider the existence of wastewater treatment facilities when evaluating proposed sites for new airport development projects and avoid such sites when practicable.

#### 2.3.4 New Wastewater Treatment Facilities.

The FAA recommends against the construction of new wastewater treatment facilities or associated settling ponds within the separations identified in Paragraphs 1.2 through 1.4. Appendix 1 defines wastewater treatment facility as “any devices and/or systems used to store, treat, recycle, or reclaim municipal sewage or liquid industrial wastes.” The definition includes any pretreatment involving the reduction or elimination of pollutants prior to introducing such pollutants into a treatment facility. When a wastewater treatment facility is proposed within the separation criteria, the airport operator, project proponent, and local jurisdiction should discuss the proposed project location with regard to its location near the airport and the separation distances identified in Paragraphs 1.2 through 1.4. If possible, a more suitable location for the proposed facility should be identified. If no other suitable location exists, FAA recommends that the proposed facility plans be reviewed by a Qualified Airport Wildlife Biologist to identify measures to avoid or reduce the facility’s potential to attract hazardous wildlife. If appropriate measures cannot be incorporated to reduce potential wildlife hazards, airport operators should document their opposition in a letter to the local jurisdiction.

#### 2.3.5 Artificial Marshes.

In warmer climates, wastewater treatment facilities sometimes employ artificial marshes and use submergent and emergent aquatic vegetation as natural filters. These artificial marshes may be used by some species of flocking birds, such as blackbirds and waterfowl, for breeding or roosting activities. The FAA recommends against establishing artificial marshes within the separations identified in Paragraphs 1.2 through 1.4.

#### 2.3.6 Wastewater Discharge and Sludge Disposal.

The FAA recommends careful consideration regarding the discharge of wastewater or biosolids (i.e., secondarily treated sewage sludge) on airport property. Such discharges might improve soil moisture and quality on unpaved areas and lead to improved turf growth. Depending on the airfield plant communities and habitats present, this can be an attractive food source for many species of animals or, conversely, could result in limited attractiveness to hazardous wildlife. Also, improved turf requires more frequent mowing and could attract geese. Airports should improve their turf with the goal of a monoculture of turf that is least attractive to wildlife. Wastewater or biosolids

applications might assist in achieving this goal. Caution should be exercised when discharges saturate airfield areas adjacent to paved surfaces. The resultant soft, muddy conditions could restrict or prevent emergency vehicles from reaching accident sites in a timely manner.

## **2.4 Wetlands.**

Wetlands provide a variety of functions and can be regulated by local, state, and Federal laws. Wetlands can be attractive to many types of wildlife, including many which rank high on the list of hazardous wildlife species (Table 1 - AC 150/5200-32). Some types of wetlands are not as attractive to wildlife as others and they should be reviewed on a case-by-case basis to determine the likelihood of proposed wetlands increasing the numbers of hazardous wildlife at the airport. Factors such as size, shape, location, canopy cover and vegetative composition among other things should be considered when determining compatibility.

**Note:** If questions exist as to whether an area qualifies as a wetland, contact the District Office of the U.S. Army Corps of Engineers, the Natural Resources Conservation Service, or a wetland consultant qualified to delineate wetlands.

### 2.4.1 Existing Wetlands on or near Airport Property.

If wetlands are located on or near airport property, airport operators should be alert to any wildlife use or habitat changes in these areas that could affect safe aircraft operations. At public-use airports, the FAA recommends immediately correcting, in cooperation with local, state, and Federal regulatory agencies, any wildlife hazards arising from existing wetlands located on or near airports within 5 miles of the aircraft operations area. Where required, a wildlife management plan will outline appropriate wildlife hazard mitigation techniques. Accordingly, airport operators should develop measures to minimize hazardous wildlife attraction in consultation with a FAA Qualified Airport Wildlife Biologist.

### 2.4.2 New Airport Development.

Whenever possible, the FAA recommends locating new airports using the separations from wetlands identified in Paragraphs 1.2 through 1.4. Where alternative sites are not practicable, or when airport operators are expanding an existing airport into or near wetlands, a Qualified Airport Wildlife Biologist, in coordination with the U.S. Fish and Wildlife Service, the U.S. Army Corps of Engineers, and the state wildlife management agency should evaluate the wildlife hazards and prepare a wildlife management plan that indicates methods of minimizing the hazards.

### 2.4.3 Mitigation for Wetland Impacts from Airport Projects.

Wetland mitigation may be necessary when unavoidable wetland disturbances result from new airport development projects or projects required to correct wildlife hazards from wetlands. Wetland mitigation must be designed so it does not create a wildlife hazard. The FAA recommends that wetland mitigation projects that may attract hazardous wildlife be sited outside of the separations identified in Paragraphs 1.2 through 1.4.

#### 2.4.3.1 **Onsite Mitigation of Wetland Functions.**

Wetland mitigation/conservation easements must not inhibit the airport operator's ability to effectively control hazardous wildlife on or near the mitigation site or effectively maintain other aspects of safe airport operations. Enhancing such mitigation areas to attract hazardous wildlife must be avoided. The FAA will review any onsite mitigation proposals to determine compatibility with safe airport operations and grant assurance compliance. Early coordination with the FAA is encouraged for any proposal to use airport land for wetland mitigation. A Qualified Airport Wildlife Biologist should evaluate any wetland mitigation projects that are needed to protect unique wetland functions and that must be located in the separation criteria in Paragraphs 1.2 through 1.4 before the mitigation is implemented. A wildlife management plan should be developed to reduce the wildlife hazards.

#### 2.4.3.2 **Offsite Mitigation of Wetland Functions.**

- 2.4.3.2.1 The FAA recommends that wetland mitigation projects that may attract hazardous wildlife be sited outside of the separations identified in Paragraphs 1.2 through 1.4 unless they provide unique functions that must remain onsite (see 2.4.3.1). Agencies that regulate impacts to or around wetlands recognize that it may be necessary to split wetland functions in mitigation schemes. Therefore, regulatory agencies may, under certain circumstances, allow portions of mitigation to take place in different locations.
- 2.4.3.2.2 The FAA encourages landowners or communities supporting the restoration or enhancement of wetlands to do so only after critically analyzing how those activities would affect aviation safety. To do so, landowners or communities should contact the affected airport sponsor, FAA, and/or a Qualified Airport Wildlife Biologist.
- 2.4.3.2.3 Those parties should work cooperatively to develop restoration or enhancement plans that would not worsen existing wildlife hazards or create such hazards. See Paragraphs 4.1.1 – 4.1.3 for land-use modifications evaluation criteria.
- 2.4.3.2.4 If parties develop a mutually acceptable restoration or enhancement plan, the landowner or community proposing the restoration or enhancement must monitor the restored or enhanced site. This monitoring must verify that efforts have not worsened or created hazardous wildlife attraction or activity. If such attraction or activity occurs, the landowner or community should work with the airport sponsor, or a Qualified Airport Wildlife Biologist to reduce the hazard to aviation.

#### 2.4.3.3 **Mitigation Banking.**

Wetland mitigation banking is the creation or restoration of wetlands in order to provide mitigation credits that can be used to offset permitted wetland losses. Mitigation banking benefits wetland resources by providing advance replacement for permitted wetland losses; consolidating small projects into larger, better-designed and managed units; and encouraging integration of wetland mitigation projects with watershed planning. This last benefit is most helpful for airport projects, as wetland impacts mitigated outside of the separations identified in Paragraphs 1.2 through 1.4 can still be located within the same watershed. Wetland mitigation banks meeting the separation criteria offer an ecologically sound approach to mitigation in these situations. Airport operators should work with local watershed management agencies or organizations to develop mitigation banking for wetland impacts on airport property.

### 2.5 **Dredge Spoil Containment Areas.**

The FAA recommends against locating dredge spoil containment areas (also known as Confined Disposal Facilities) within the separations identified in Paragraphs 1.2 through 1.4 if the containment area or the spoils contain material that would attract hazardous wildlife. Proposals for new dredge spoil containment areas located within the separation distances should be reviewed on a case-by-case basis to determine the likelihood of resulting in an increase in hazardous wildlife. The FAA recommends that airport sponsors work with a Qualified Airport Wildlife Biologist and/or the FAA to review proposals for dredge spoil containment areas located within separation criteria.

### 2.6 **Agricultural Activities.**

Many agricultural crops can attract hazardous wildlife and should not be planted within the separations identified in Paragraphs 1.2 through 1.4. Corn, wheat, and other small grains in particular should be avoided. If the airport has no financial alternative to agricultural crops to produce the income necessary to maintain the viability of the airport, then the airport should consider growing crops that hold little food value for hazardous wildlife, such as grass hay. Attractiveness to hazardous wildlife species during all phases of production, from planting through harvest and fallow periods, should be considered when contemplating the use of airport property for agricultural production. Where agriculture is present, crop residue (e.g., waste grain) should not be left in the field following harvest. Also, airports should consult AC 150/5300-13, *Airport Design*, to ensure that agricultural crops do not create airfield obstructions or other safety hazards. Before planning or initiating any agricultural practices on airport property, operators should get approval from the appropriate FAA regional Airports Division Office and demonstrate that the additional cost of wildlife control and potential accidents is offset by revenue generated by agricultural leases. Annual review of the Airport Certification Manual by the Certification Inspector does not constitute approval and is insufficient to meet this requirement.

### 2.6.1 Livestock Production.

Confined livestock operations (i.e., feedlots, dairy operations, hog or chicken production facilities, or egg laying operations) often attract flocking birds, such as blackbirds, starlings, or pigeons that pose a hazard to aviation. Therefore, the FAA recommends against such facilities within the separations identified in Paragraphs 1.2 through 1.4. The airport operator should be aware of any wildlife hazards that appear to be attracted to off-site livestock operations and consider working with a Qualified Airport Wildlife Biologist to identify reasonable and feasible measures that may be proposed to landowners to reduce the attractiveness of the site to the potentially hazardous wildlife species.

2.6.1.1 In exceptional circumstances, and following FAA review and approval, livestock may be grazed on airport property as long as they are off the airfield and separated behind fencing where they cannot pose a hazard to aircraft. The livestock should be fed and watered as far away from the airfield and approach/departure space as possible because the feed and water may attract birds. The wildlife management plan should include monitoring and wildlife mitigation for any areas where the livestock and their feed/water is located in case a wildlife hazard is detected. Airports without wildlife management plans should equally consider monitoring and mitigation protocols to identify and address any wildlife hazards associated with livestock and their feeding operations.

### 2.6.2 Alternative Uses of Agricultural Land.

2.6.2.1 Habitat modification both on and surrounding an airfield is one of the best and most economical long term mitigation strategies to decrease risk that wildlife pose to flight safety. Alternative land uses (e.g., solar and biofuel) at airports could help mitigate many of the challenges for the airport operator, developers, and conservationists. However, careful planning must first determine that proposed alternative energy production at airports does not create wildlife attractants or other hazards.

2.6.2.2 Some airports are surrounded by vast areas of farmed land within the distances specified in Paragraphs 1.2 through 1.4. Seasonal uses of agricultural land for activities such as hunting can create a hazardous wildlife situation. In some areas, farmers will rent their land for hunting purposes. Rice farmers, among others, flood their land to attract waterfowl or for conservation efforts. This is often done during waterfowl hunting season to obtain additional revenue by renting out duck blinds.

2.6.2.3 The waterfowl hunters then use decoys and call in hundreds, if not thousands, of birds, creating a threat to aircraft safety. It is recommended that a Qualified Airport Wildlife Biologist review, in coordination with local farmers and producers, these types of seasonal land uses and incorporate mitigating measures into the wildlife management plan, when possible.

## 2.7 **Aquaculture.**

Aquaculture is the breeding, rearing, and harvesting of fish, shellfish, and plants in all types of water environments including ponds, rivers, lakes, and the ocean. Aquaculture is used to produce food fish, sport fish, bait fish, ornamental fish, and to support restoration activities. Aquacultured species are grown in a range of facilities including tanks, cages, ponds, and raceways. When an aquaculture facility is proposed within the separation criteria, the airport operator, project proponent, and local jurisdiction should discuss the proposed project location with regard to its attraction to hazardous species, location near the airport and the separation distances identified in Paragraphs 1.2 through 1.4. If a facility is identified as a possible significant attraction, a more suitable location for the proposed facility should be identified. If no other suitable location exists, it is recommended that the proposed facility plans be reviewed by a Qualified Airport Wildlife Biologist to identify measures to avoid or reduce the facility's potential to attract hazardous wildlife.

### 2.7.1 Freshwater Aquaculture.

2.7.1.1 Freshwater aquaculture activities (e.g., catfish, tilapia, trout or bass production) are typically conducted outside of fully enclosed buildings in constructed ponds or tanks and are inherently attractive to a wide variety of birds and therefore pose a significant risk to airport safety when within the separation distances specified in Paragraphs 1.2 through 1.4. Freshwater aquaculture should only be considered if extensive mitigation measures have been incorporated to eliminate attraction to hazardous birds. Examples of such mitigation include:

1. Netting or other material to exclude hazardous birds (e.g., eagles, osprey, gulls, cormorants);
2. Acoustic hazing including pyrotechnics, propane cannons, directional sonic/hailing devices and other similar technologies;
3. Feeding procedure cleanliness, exclusion techniques prohibiting birds from perching or accessing food; efficiency of feeding operation procedures that reduce fish food attraction to hazardous birds;
4. Operation procedure efficiency transferring live fish to and from enclosures or removal of dead fish; maintenance and upkeep of facility;
5. Monitoring, mitigation and communication protocols with nearby airports as a proactive safety feature in response to specific hazardous species in the event they are identified at the facility in unacceptable numbers.

### 2.7.2 Marine Aquaculture.

Marine aquaculture (Mariculture) refers to the culturing of species that live in the ocean. When appropriately managed and mitigated as necessary, mariculture facilities do not pose a significant risk to airport safety.

### 2.7.2.1 **Finfish Mariculture.**

2.7.2.1.1 U.S. finfish mariculture primarily produces salmon and steelhead trout as well as lesser amounts of cod, moi, yellowtail, barramundi, seabass, and seabream. Maricultures use rigid and non-rigid enclosures (e.g., cages) at the surface or submerged in the water column. These enclosures may be fully enclosed, or be open at the top or covered with netted material to negate losses from depredation by birds or other predators. Different facilities employ different designs and operational protocols.

2.7.2.1.2 While mariculture operations typically do not pose a significant attractant to hazardous birds, design and operational features can be incorporated as permit conditions to mitigate attraction and effectively reduce this risk. Examples of such mitigation include:

1. Fully enclosed cages using netting or other material to exclude hazardous birds (e.g., gulls, cormorants, pelicans) and to insure retention of fish;
2. Submerged enclosures to reduce attraction to hazardous birds;
3. Feed barge cleanliness, exclusion techniques prohibiting birds from perching or accessing food; efficiency of feeding operation procedures that reduce fish food attraction to hazardous birds;
4. Operation procedure efficiency transferring live fish to and from enclosures or removal of dead fish; maintenance and upkeep of facility;
5. Monitoring, mitigation and communication protocols with nearby airports as a proactive safety feature in response to specific hazardous species in the event they are identified at the facility in unacceptable numbers.

### 2.7.2.2 **Shellfish Mariculture.**

U.S. shellfish mariculture primarily produces oysters, clams, mussels, lobster and shrimp. Shellfish may be grown directly on the bottom, in submerged cages or bags, or on suspended lines. These types of mariculture operations do not typically present a significant attractant to hazardous birds. For those operations that are found to pose a significant risk, design and operation features that diminish possible attraction to hazardous bird species (e.g., reducing areas for perching or feeding) can effectively reduce this risk.

### 2.7.2.3 **Plant Mariculture.**

2.7.2.3.1 Microalgae, also referred to as phytoplankton, microphytes, or planktonic algae constitute the majority of cultivated algae. Macroalgae, commonly known as seaweed, also have many commercial and industrial uses.

- 2.7.2.3.2 While few commercial seaweed farms exist, the sector is growing. These types of mariculture operations do not typically present an attractant to hazardous birds.

## 2.8 **Golf Courses, Landscaping, Structures and Other Land-Use Considerations.**

### 2.8.1 Golf Courses.

The large grassy areas and open water found on most golf courses are attractive to hazardous wildlife, particularly Canada geese and some species of gulls. These species can pose a threat to aviation safety. If golf courses are located on or near airport property, airport operators should be alert to any wildlife use or habitat changes in these areas that could affect safe aircraft operations. Accordingly, airport operators should develop, at a minimum, onsite measures to minimize hazardous wildlife attraction in consultation with a Qualified Airport Wildlife Biologist. Existing golf courses located within these separations that have been documented to attract hazardous wildlife are encouraged to develop a program to reduce the attractiveness of the sites to species that are hazardous to aviation safety. The FAA recommends against construction of new golf courses within the separations identified in Paragraphs 1.2 through 1.4 if determined that the new facility would create a significant wildlife hazard attractant by a Qualified Airport Wildlife Biologist. Airport operators should ensure these golf courses are monitored on a continuing basis for the presence of hazardous wildlife. If hazardous wildlife is detected, corrective actions should be immediately implemented.

### 2.8.2 Landscaping and Landscape Maintenance.

2.8.2.1 Depending on its geographic location, landscaping can attract hazardous wildlife. The FAA recommends that airport operators approach landscaping with caution and confine it to airport areas not associated with aircraft movements. Vegetation that produces seeds, fruits, or berries, or that provides dense roosting or nesting cover should not be used. Airports should develop a landscape plan to include approved and prohibited plants. The landscape plan should consider the watering needs of mature plants. A Qualified Airport Wildlife Biologist should review all landscaping plans. Airport operators should also monitor all landscaped areas on a continuing basis for the presence of hazardous wildlife. If hazardous wildlife is detected, corrective actions should be immediately implemented.

2.8.2.2 Turf grass areas on airports have the potential to be highly attractive to a variety of hazardous wildlife species. Research conducted by the USDA Wildlife Services' National Wildlife Research Center has shown that no one airfield vegetation management regimen will deter all species of hazardous wildlife in all situations. The composition and height of airfield grasslands should be properly managed to reduce their attractiveness to hazardous wildlife. In many situations, an intermediate height, monoculture turf grass might be most favorable. In cooperation with a



Qualified Airport Wildlife Biologist, airport operators should develop airport turf grass management plans on a prescription basis, including cultivar selection during reseeding efforts, that is specific to the airport's geographic location, climatic conditions, and the type of hazardous wildlife likely to frequent the airport.

2.8.2.3 Airport operators should ensure that plant varieties attractive to hazardous wildlife are not used on the airport. Disturbed areas or areas in need of re-vegetating should not be planted with seed mixtures containing millet or any other large-seed producing grass. For airport property already planted with seed mixtures containing millet, rye grass, or other large-seed producing grasses, the FAA recommends disking, plowing, or another suitable agricultural practice to prevent plant maturation and seed head production. Plantings should follow the specific recommendations for grass management and seed and plant selection made by the State University Cooperative Extension Service, the local office of Wildlife Services, or a Qualified Airport Wildlife Biologist. Airport operators should also consider developing and implementing a preferred/prohibited plant species list, reviewed by a Qualified Airport Wildlife Biologist, which has been designed for the geographic location to reduce the attractiveness to hazardous wildlife for landscaping airport property.

### 2.8.3 Structures.

2.8.3.1 Certain structures attract birds for loafing and nesting. Flat rooftops can be attractive to many species of gulls for nesting, hangars provide roosting / nesting opportunities for rock doves, towers, light posts and navigation aids can provide loafing / hunting perches for raptors and aircraft can provide loafing / nesting sites for European starlings, blackbirds and other species. These structures should be monitored and mitigated, if located on-site. Off-site structural attractions may require additional coordination to effectively mitigate their use by hazardous species.

2.8.3.2 Cellular communications towers are becoming increasingly more attractive to large birds (e.g., osprey, eagles, herons, vultures) for nesting and rearing their young. This problem is a growing concern because once the young fledge from nests built on manmade structures they are more likely to return to these kinds of sites to reproduce in future years.

### 2.8.4 Other Hazardous Wildlife Attractants.

Other land uses (e.g., conservation easements, parks, wildlife management areas) or activities not addressed in this AC may have the potential to attract hazardous wildlife. Regardless of the source of the attraction, when hazardous wildlife is noted on a public-use airport, each certificate holder must take prompt remedial action(s) to protect aviation safety and all non-certificated airports should take prompt remedial action(s) to protect aviation safety.

## 2.9 **Habitat for State and Federally Listed Species on Airports.**

An airport's air operations area is an artificial environment that has been created and maintained for aircraft operations. Because an aircraft operations area can be markedly different from the surrounding native landscapes, it may attract wildlife species that do not normally occur, or that occur only in low numbers in the area. Some of the grassland species attracted to an airport's aircraft operations area are at the edge of their natural ranges, but are attracted to habitat features found in the airport environment. Also, some wildlife species may occur on the airport in higher numbers than occur naturally in the region because the airport offers habitat features the species prefer. Some of these wildlife species are Federal or state-listed threatened and endangered species or have been designated by state resource agencies as species of special concern.

### 2.9.1 State-Listed Species Habitat Concerns.

2.9.1.1 Many state wildlife agencies have requested that airport operators facilitate and encourage habitat on airports for state-listed threatened and endangered species or species of special concern. Airport operators should exercise caution in adopting new management techniques because they may increase wildlife hazards and be inconsistent with safe airport operations. Managing the on-airport environment to facilitate or encourage the presence of hazardous wildlife species can create conditions that are incompatible with, or pose a threat to, aviation safety.

2.9.1.2 Not all state-listed threatened and endangered species or species of concern pose a direct threat to aviation safety. However, these species may pose an indirect threat and be hazardous because they attract other wildlife species or support prey species attractive to other species that are directly hazardous. Also, the habitat management practices that benefit these state-listed threatened and endangered species and species of special concern may attract other hazardous wildlife species. On-airport habitat and wildlife management practices designed to benefit wildlife that directly or indirectly create safety hazard where none existed before are incompatible with safe airport operations.

### 2.9.2 Federally Listed Species Habitat Concerns.

2.9.2.1 The FAA supports efforts to protect threatened and endangered species, as a matter of principle and consistent with the Endangered Species Act of 1973. The FAA must balance these requirements with our requirements and mission to maintain a safe and efficient airport system. Requests to enhance or create habitat for threatened and endangered species often conflict with the safety of the traveling public and may place the protected species at risk of mortality by aircraft collisions. The FAA does not support the creation, conservation or enhancement of habitat or refuges to attract endangered species on airports. If endangered species are present on an airport, specific obligations may apply under the Endangered

Species Act, 16 U.S.C. § 1531 et seq. and the airport operator should contact the Airports District Office Environmental Protection Specialist.

- 2.9.2.2 The designation of critical habitat for listed species under the Endangered Species Act on airport lands may be an incompatible land use in conflict with the intended and dedicated purpose of airport lands and may limit or preclude the ability of the airport to develop new infrastructure and growth capacity to meet future air carrier service demand. In addition, depending on the listed species (primarily but not limited to avian species), the designation of critical habitat within the separation distances provided in paragraphs 1.2 - 1.4 can represent a hazardous wildlife attractant in conflict with 14 CFR Part 139.337.

## **2.10 Synergistic Effects of Surrounding Land Uses.**

There may be circumstances where two or more different land uses would not, by themselves, be considered hazardous wildlife attractants or are located outside of the separations identified in Paragraphs 1.2 through 1.4 but collectively may create a wildlife corridor directly through the airport and/or surrounding airspace. An example involves a lake located outside of the separation criteria on the east side of an airport and a large hayfield on the west side of an airport. These two land uses, taken together, could create a flyway for Canada geese directly across the airspace of the airport. Airport operators must consider the entire surrounding landscape and community when developing the wildlife management plan.

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## **CHAPTER 3. PROCEDURES FOR WILDLIFE HAZARD MANAGEMENT BY OPERATORS OF PUBLIC-USE AIRPORTS AND CONDITIONS FOR NON-CERTIFICATED AIRPORTS TO CONDUCT WILDLIFE HAZARD ASSESSMENTS AND WILDLIFE HAZARD SITE VISITS**

### **3.1 Introduction.**

In recognition of the increased risk of serious aircraft damage or the loss of human life that can result from a wildlife strike, the FAA recommends all airports conduct a Wildlife Hazard Site Visit or Wildlife Hazard Assessment unless otherwise mandated after an initial triggering events defined in Part 139 Section 139.337. After the airport has completed the site visit or assessment and implemented a wildlife management plan, investigations should be conducted following subsequent triggering events to determine if the original assessment and plan adequately address the situation or if conditions have changed that would warrant an update to the plan. In this section, airports that are certificated under 14 C.F.R. § 139.337 are referred to as “certificated airports” and all others are referred to as “non-certificated airports.” When a statement refers to both certificated and non-certificated airports, “airport” or “all airports” is used.

### **3.2 Coordination with Qualified Airport Wildlife Biologists.**

Hazardous wildlife management is a complex discipline and conditions vary widely across the United States. Therefore, only airport wildlife biologists meeting the qualification requirements in Advisory Circular 150/5200-36, *Qualifications for Wildlife Biologist Conducting Wildlife Hazard Assessments and Training Curriculums for Airport Personnel Involved in Controlling Wildlife Hazards on Airports*, can conduct Site Visits and Assessments. Airports must maintain documentation that the Qualified Airport Wildlife Biologist meets the qualification requirements in Advisory Circular 150/5200-36.

### **3.3 Wildlife Hazard Management at Airports: A Manual For Airport Personnel.**

- 3.3.1 The Wildlife Hazard Management at Airports manual, prepared by FAA and USDA Wildlife Services staff, contains a compilation of information to assist airport personnel in the development, implementation, and evaluation of wildlife management plans at airports. The manual includes specific information on the nature of wildlife strikes, legal authority, regulations, wildlife management techniques, Assessments, Plans, and sources of help and information. The manual is available in three languages: English, Spanish, and French. It can be viewed and downloaded free of charge from the FAA’s wildlife hazard mitigation web site: [https://www.faa.gov/airports/airport\\_safety/wildlife](https://www.faa.gov/airports/airport_safety/wildlife). This manual only provides a starting point for addressing wildlife hazard issues at airports. FAA recommends that airports consult with a Qualified Airport Wildlife Biologists to assist with development of a wildlife management plan and the implementation of management actions by airport personnel.

- 3.3.2 There are many other resources complementary to this manual for use in developing and implementing wildlife management plans. Several are listed in the manual's bibliography or on the FAA Wildlife Mitigation website:  
[https://www.faa.gov/airports/airport\\_safety/wildlife](https://www.faa.gov/airports/airport_safety/wildlife)

### **3.4 Wildlife Hazard Site Visits and Wildlife Hazard Assessments.**

- 3.4.1 Operators of certificated airports are encouraged to conduct an initial assessment regardless of whether the airport has experienced one of the triggering events. Doing so would allow the airport to take proactive action and mitigate the wildlife risk before experiencing an incident. All other airports are encouraged to conduct an assessment or site visit (as defined in FAA Advisory Circular 150/5200-38) conducted by a Qualified Airport Wildlife Biologist (as defined in FAA Advisory Circular 150/5200-36). Part 139 certificated airports are currently required to ensure that an assessment is conducted consistent with 14 C.F.R. § 139.337.
- 3.4.2 The intent of a site visit is to provide an abbreviated analysis of an airport's wildlife hazards and to provide timely information that allows the airport to expedite the mitigation of these hazards. The FAA also recommends that airports conduct an assessment or site visit as soon as practicable in order to identify any immediate wildlife hazards and/or mitigation measures.
- 3.4.3 Non-certificated airports should submit the results of the site visit or assessment to the FAA for review. The FAA will review the submitted site visit or assessment and make a recommendation regarding the development of a wildlife management plan. A wildlife management plan can be developed based on a site visit and will be required if the non-certificated airport is going to request federal grants for the purpose of mitigating wildlife hazards.

### **3.5 Wildlife Hazard Management Plan.**

- 3.5.1 The FAA will consider the results of the assessment, along with the aeronautical activity at the airport and the views of the airport operator and airport users, in determining whether a wildlife management plan is needed for certificated airports, or recommended for non-certificated airports.
- 3.5.2 If the FAA determines that a wildlife management plan is needed for a certificated airport, the airport operator must formulate a plan, using the assessment as its basis and submit to the FAA for approval. If the FAA recommends that a non-certificated airport develop a plan, either an assessment or a site visit can be used as the basis for the wildlife management plan. Airports should consult AC 150/5200-38, *Protocol for the Conduct and Review of Wildlife Hazard Site Visits, Wildlife Hazard Assessments, and Wildlife Hazard Management Plans*, for further information on preparation and implementation requirements for their wildlife management plan.

3.5.3 The goal of an airport's wildlife management plan is to minimize the risk to aviation safety, airport structures or equipment, or human health posed by populations of hazardous wildlife on and around the airport. For wildlife management plans to effectively reduce wildlife hazards on and near airports, accurate and consistent wildlife strike reporting is essential. Airports should consult AC 150/5200-32, *Reporting Wildlife Aircraft Strikes*, for further information on responsibilities and recommendations concerning wildlife strikes.

3.5.4 The wildlife management plan must identify hazardous wildlife attractants on or near the airport and the appropriate wildlife management techniques to minimize the wildlife hazard. It must also prioritize the management measures.

### **3.6 Local Coordination.**

The FAA recommends establishing a Wildlife Hazards Working Group to facilitate the communication, cooperation, and coordination of the airport and its surrounding community necessary to ensure the effectiveness of the wildlife management plan. The cooperation of the airport community is essential to prevent incompatible development in the airport vicinity. Whether on or off the airport, input from all involved parties must be considered when a potentially hazardous wildlife attractant is being proposed. Based on available resources, airport operators should undertake public education activities with the local planning agencies because some activities in the vicinity of an airport, while harmless under normal conditions, can attract wildlife and present a danger to aircraft (see Paragraphs 4.5 to 4.8). For example, if public trails are planned near wetlands or in parks adjoining airport property, the public should know that feeding birds and other wildlife in the area may pose a risk to aircraft.

### **3.7 Operational Notifications of Wildlife Hazards.**

3.7.1 Operational notifications include active correspondence addressing wildlife issues on or near an airport, notifications and alerts. If an existing land-use practice creates a wildlife hazard and the land-use practice or wildlife hazard cannot be immediately eliminated, airport operators must issue a Notice to Airmen (NOTAM) and encourage the land owner or manager to take steps to control the wildlife hazard and minimize further attraction. Permanent attractions that cannot be eliminated or mitigated may be noted in the Airport/Facility Directory. NOTAMS and Airport/Facility Directory notifications are not appropriate for short-term or immediate advisories that can be relayed via Pilot Reports, direct air traffic control voice communications, or temporary Automated Terminal Advisory System alerts. Care should be given to avoid the continual broadcast of general warnings for extended periods of time. General warnings such as "birds in the vicinity of the aerodrome" offer little timely information to aid pilots and eventually may be ignored if not updated.

3.7.2 The Automated Terminal Advisory System (ATIS) is a continuous broadcast of recorded aeronautical information for aerodromes and their immediate surroundings. ATIS broadcasts contain essential information, such as current weather information,

active runways, available approaches, wildlife hazards and any other information required by the pilots. They indicate significant (moderate or severe) wildlife activity, as reported by an approved agency that presents temporary hazards on the ATIS broadcast. Pilots take notice of available ATIS broadcasts before contacting the local control unit, which reduces the controllers' workload and relieves frequency congestion. The recording is updated in fixed intervals or when there is a significant change in the information. Although ATIS broadcasts involving wildlife should be timely and specific, pilots do not need to know species-specific information. General descriptive information detailing size and number of animals, locations and timing of occurrence provides useful, actionable information for pilots.

- 3.7.3 A pilot report (PIREP) is reported by a pilot to indicate encounters of hazardous weather (e.g., icing or turbulence) and hazardous wildlife. Pilot reports are short-lived warnings providing immediate information on pilot observations that are transmitted in real-time to air traffic control. Large animals near active surfaces, soaring vultures and raptors within approach/ departure corridors and waterfowl such as geese feeding in grassy areas next to runways are all examples of pilot reports generated by pilots.

### **3.8 Federal and State Depredation Permits.**

The FAA recommends that airports maintain federal and state depredation permits to allow mitigation and/ or removal of hazardous species. All protected species require special permits for lethal mitigation or capture and relocation procedures. Similarly, endangered or threatened species mitigation also requires special permits. The FAA recommends that airports work closely with a Qualified Airport Wildlife Biologist during the U.S. Fish and Wildlife Service consultation and permitting process. The following Orders can help airports reduce risks from hazardous species by allowing private citizens to control hazardous species off airport properties without the need for a Federal depredation permit.

#### **3.8.1 Standing Depredation Orders.**

- 3.8.1.1 Federal law allows people to protect themselves and their property from damage caused by migratory birds. Provided no effort is made to kill or capture the birds, a depredation permit is not required to merely scare or herd depredating migratory birds other than endangered or threatened species or bald or golden eagles (50 CFR 21.41).
- 3.8.1.2 In addition, certain species of migratory birds may be mitigated without a federal permit under specific circumstances, many of which relate to agricultural situations. The following Standing Depredation Orders have applicability near airports:
- 50 CFR § 21.49- Control Order for Resident Canada Geese at Airports and Military Airfields.
  - 50 CFR § 21.50- Depredation Order for Resident Canada Geese Nests and Eggs.



- 50 CFR § 21.43 - Depredation Order for Blackbirds, Cowbirds, Crows, Grackles, and Magpies.
- 50 CFR § 21.54 - Control Order for Muscovy Ducks in the United States.
- 50 CFR § 21.55 - Control Order for Invasive Migratory Birds in Hawaii.

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## **CHAPTER 4. RECOMMENDED PROCEDURES FOR THE FAA, AIRPORT OPERATORS AND OTHER GOVERNMENT ENTITIES REGARDING OFF-AIRPORT ATTRACTANTS**

### **4.1 FAA Notification and Review of Proposed Land-Use Practice Changes in the Vicinity of Public-Use Airports.**

4.1.1 For projects that are located within 5 miles of the airport's aircraft operations area, the FAA may review development plans, proposed land-use changes, operational changes, major federal actions or wetland mitigation plans to determine if such changes increase risk to airport safety by attracting hazardous wildlife on and around airports. The FAA is not a permitting agency for land use modifications that occur off airport properties, therefore, such reviews are typically initiated by state or federal permitting agencies seeking FAA input on new or revised permits. Each of the land uses listed in Chapter 2 of this AC has the potential to pose a risk to airport operations when they are located within the separation distances provided in Paragraphs 1.2 through 1.4.

4.1.2 Off-site land use modifications near airports may include an assessment of risk for facilities and land-use changes and, if necessary, mitigation strategies that may reduce risk to an acceptable level. However, the FAA recognizes that individual facilities or land-use modifications may present a range of attractants to different species, resulting in varying levels of risk. Therefore, the FAA considers each proposal on a case-by-case basis.

4.1.3 The FAA analyzes each land-use modification or new facility proposal prior to its establishment or any significant planned changes to design or operations that may increase the risk level. As part of a review, the FAA considers several factors that include, but are not limited to:

1. Type of attractant;
2. Size of attractant;
3. Location/distance of attractant from airport;
4. Design (e.g., construction, material, mitigation techniques employed into design);
5. Operation (e.g., cleanliness, constancy/ volume of use, seasonality, time of day);
6. Monitoring protocols (e.g., frequency, documentation, evaluation, species identification and number thresholds that trigger actions of communication or mitigation, baseline wildlife data);
7. Mitigation protocols (e.g., responsibilities, methods, intensity, pre-determined objectives, documentation, evaluation); and
8. Communication protocols to airport and/ or air traffic control tower;

4.1.4 The review of these factors may result in FAA recommended additions or modifications to a conditional use permit that allows the permitting agency to track compliance with the permittee obligations. Such conditions placed within a permit

may involve a comprehensive outline and recognition of individuals responsible for monitoring, communication, and mitigation measures if certain action thresholds are met. Action thresholds are defined in this instance as those pre-determined parameters (e.g., number, location, behavior, time of day) of specific hazardous species that would trigger a mitigation response. Additionally, baseline data should be used to determine the effect, if any, on wildlife populations at the proposed off-site location and/or at the airport.

- 4.1.5 Baseline data may need to be collected, depending on the existence of useful data and timeline for site modification. If, after taking into account the factors above, FAA determines that a facility poses a significant risk to airport safety, FAA will object to its establishment or renewal.
- 4.1.6 For projects that are located within 5 miles of the airport's aircraft operations area, the FAA Airport District Office may review development plans, proposed land-use changes, operational changes, major federal actions or wetland mitigation plans to determine if such changes present potential wildlife hazards to aircraft operations. The FAA considers sensitive airport areas as those that lie under or next to approach or departure airspace. This brief examination should indicate if further investigation is warranted.
- 4.1.7 Where a Qualified Airport Wildlife Biologist has conducted a further study to evaluate a site's compatibility with airport operations, the FAA may use the study results to make a determination.

## **4.2 Waste Management Facilities.**

### **4.2.1 Notification of New/Expanded Project Proposal.**

- 4.2.1.1 49 U.S.C. § 44718(d), prohibits the construction or establishment of new municipal landfills within 6 miles of certain public-use airports, when both the airport and the landfill meet specific conditions. See Paragraph 2.2 of this guidance for a more detailed discussion of these restrictions.
- 4.2.1.2 The Environmental Protection Agency (EPA) requires any landfill operator proposing a new or expanded waste disposal operation within 5 miles of a runway end to notify the appropriate FAA Regional Airports Division Office and the airport operator of the proposal. See 40 CFR § 258, *Criteria for Municipal Solid Waste Landfills*, Section 258.10, *Airport Safety*. The EPA also requires owners or operators of new landfill units, or lateral expansions of existing MSWLF landfill units, that are located within 10,000 feet of any airport runway end used by turbine-powered aircraft, or within 5,000 feet of any airport runway end used only by piston-type aircraft, to demonstrate successfully that such units are not hazards to aircraft. (See 4.3.2 below.)

- 4.2.1.3 When new or expanded municipal landfills are being proposed near airports, landfill operators must notify the airport operator and the FAA of the proposal as early as possible pursuant to 40 CFR § 258.
- 4.2.1.4 The FAA discourages the development of waste disposal and other facilities, discussed in Chapter 2, located within the separation criteria specified in Paragraphs 1.2 through 1.4. To show that a waste-handling facility sited within the separations identified in Paragraphs 1.2 through 1.4 does not attract hazardous wildlife and does not threaten aviation, the developer must establish the facility will not handle putrescible material other than that as outlined in 2.2.4. The FAA recommends against any facility other than those outlined in 2.2.4 (enclosed transfer stations). The FAA will use this information to determine if the facility will be a hazard to aviation.

### **4.3 Other Land-Use Practice Changes.**

- 4.3.1 The FAA encourages operators of public-use airports who become aware of proposed land use practice changes that may attract hazardous wildlife within 5 miles of their airports to notify their assigned Airport Certification Safety Inspector or Airports District Office Program Manager. The FAA also encourages proponents of such land use changes to notify the FAA as early in the planning process as possible. Advanced notice affords the FAA an opportunity (1) to evaluate the effect of a particular land-use change on aviation safety and (2) to support efforts by the airport sponsor to restrict the use of land next to or near the airport to uses that are compatible with the airport.
- 4.3.2 The airport operator, project proponent, or land-use operator may use FAA Form 7460-1, Notice of Proposed Construction or Alteration, or other suitable documents similar to FAA Form 7460-1 to notify the appropriate FAA Regional Airports Division Office. Project proponents can contact the appropriate FAA Regional Airports Division Office for assistance with the notification process prior to submitting Form 7460-1.
- 4.3.3 It is helpful if the notification includes a 15-minute quadrangle map of the area identifying the location of the proposed activity. The land-use operator or project proponent should also forward specific details of the proposed land-use change or operational change or expansion. In the case of solid waste landfills, the information should include the type of waste to be handled, how the waste will be processed, and final disposal methods.
- 4.3.4 Airports that have Received Federal Assistance.  
Airports that have received Federal assistance are required under their grant assurances to take appropriate actions to restrict the use of land next to or near the airport to uses that are compatible with normal airport operations. See Grant Assurance 21. The FAA recommends that airport operators oppose off-airport land-use changes or practices, to

the extent practicable, within the separations identified in Paragraphs 1.2 through 1.4, which may attract hazardous wildlife. Failure to do so may lead to noncompliance with applicable grant assurances. The FAA will not approve the placement of airport development projects pertaining to aircraft movement in the vicinity of hazardous wildlife attractants without appropriate mitigating measures. Increasing the intensity of wildlife control efforts is not a substitute for preventing, eliminating or reducing a proposed wildlife hazard. Airport operators should identify hazardous wildlife attractants and any associated wildlife hazards during any planning process for airport development projects.

#### **4.4 Coordination to Prevent Creation of New Off-Airport Hazardous Wildlife Attractants.**

Airport operators should work with local and regional planning and zoning boards to be aware of proposed land-use changes, or modification of existing land uses, that could create hazardous wildlife attractants within the separations identified in Paragraphs 1.2 through 1.4. Pay particular attention to proposed land uses involving creation or expansion of wastewater treatment facilities, development of wetland mitigation sites, or development or expansion of dredge spoil containment areas. At the very least, it is recommended that airport operators are on the notification list of the local planning board or equivalent review entity for all communities located within 5 miles of the airport, so they will receive notification of any proposed project and have the opportunity to review it for attractiveness to hazardous wildlife. This may be accomplished through one or more of the following:

##### **4.4.1 Site-specific Criteria.**

The airport should establish site-specific criteria for assessment of land uses attractive to hazardous wildlife and locations that would be of concern based on wildlife strikes and on wildlife abundance and activity at the airport and in the local area. These criteria may be more selective, but should not be less restrictive than this guidance.

##### **4.4.2 Outreach.**

Airports should actively seek to provide educational information and/ or provide input regarding local development, natural resource modification or wildlife-related concerns that affect wildlife hazards and safe air travel.

##### **4.4.2.1 External Outreach.**

Airport operators and a Qualified Airport Wildlife Biologist should consider outreach to local planning and zoning organizations on land uses of concern or to local organizations responsible for natural resource management (including wildlife, wetlands, and parks.) Airports should also consider developing and distributing position letters and educational materials on airport-specific concerns regarding wildlife hazards, wildlife activity and attraction. Finally, airports should provide formal comments on local procedures, laws, ordinances, plans, and regulatory actions such as permits related to land uses of concern.

#### 4.4.2.2 **Internal Outreach.**

Airports should consider developing and distributing position letters and educational materials on airport-specific concerns regarding species identification and mitigation procedures, wildlife hazards, wildlife activity and attraction to employees and personnel with access to the aircraft operations area.

#### 4.5 **Coordination on Existing Off-Airport Hazardous Wildlife Attractants.**

Airports are encouraged to work with landowners and managers to cooperatively develop procedures to monitor and manage hazardous wildlife attraction. If applicable, these procedures may include:

1. Conducting a wildlife hazard site visit by a wildlife biologist meeting the qualification requirements of Advisory Circular 150/5200-36, *Qualifications for Wildlife Biologist Conducting Wildlife Hazard Assessments and Training Curriculums for Airport Personnel Involved in Controlling Wildlife Hazards on Airports*
2. Conducting regular, standardized, wildlife monitoring surveys;<sup>4</sup>
3. Establishing threshold numbers of wildlife which would trigger certain actions and/or communications;
4. Establishment of procedures to deter or remove hazardous wildlife.

#### 4.6 **Prompt Remedial Action.**

For attractants found on and off airport property, and with landowner or manager cooperation, Part 139 certificated airports must take immediate action in accordance with their Airport Certification Manual and the requirements of Part 139.337, to alleviate wildlife hazards whenever they are detected. It is also recommended that non-certificated airports take immediate action to alleviate wildlife hazards whenever they are detected. In addition, airports should take prompt action to identify the source of attraction and cooperatively develop procedures to mitigate and monitor the attractant. **For Part 139 Certificated airports, immediate actions are required in accordance with 139.337(a).**

#### 4.7 **FAA Assistance.**

If there is a question on the implementation of any of the guidance in this section, contact the FAA Regional Airports Division for assistance.

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<sup>4</sup> Recommended survey protocols can be found in AC 150/5200-38, *Protocol for the Conduct and Review of Wildlife Hazard Site Visits, Wildlife Hazard Assessments, and Wildlife Hazard Management Plans*, and DeVault, T.L., B.F. Blackwell, and J.L. Belant, eds. 2013. *Wildlife in Airport Environments: Preventing Animal–Aircraft Collisions through Science-Based Management*. Johns Hopkins University Press, Baltimore, MD, USA. 181 pp.

#### 4.7.1 Airport Documentation Procedures.

Airports should document on-site and off-site wildlife attractants as part of their “Wildlife Hazard Management Plan Annual Review,” “Wildlife Hazard Management Plan Review Following a Triggering Event,” and the airport’s Continual Monitoring Annual Report (as outlined in FAA Advisory Circular 150/5200-38). As a best management practice, airports may choose to keep a log to track contacts from landowners or managers, permitting agencies, or other entities concerning land uses near the airport.



## APPENDIX A. DEFINITIONS OF TERMS USED IN THIS ADVISORY CIRCULAR

### A.1 General.

This appendix provides definitions of terms used throughout this AC.

1. **Air operations area.** Any area of an airport used or intended to be used for landing, takeoff, or surface maneuvering of aircraft. An air operations area includes such paved areas or unpaved areas that are used or intended to be used for the unobstructed movement of aircraft in addition to its associated runway, taxiways, or apron.
2. **Airport operator.** The operator (private or public) or sponsor of a public-use airport.
3. **Approach or departure airspace.** The airspace, within 5 statute miles of an airport, through which aircraft move during landing or takeoff.
4. **Bird balls.** High-density plastic floating balls that can be used to cover ponds and prevent birds from using the sites.
5. **Certificate holder.** The holder of an Airport Operating Certificate issued under 14 C.F.R. Part 139.
6. **Construct a new municipal landfill.** To begin to excavate, grade land, or raise structures to prepare a municipal solid waste landfill as permitted by the appropriate regulatory or permitting agency.
7. **Detention ponds.** Storm water management ponds that hold storm water for short periods of time, a few hours to a few days.
8. **Establish a new municipal landfill.** When the first load of putrescible waste is received on-site for placement in a prepared municipal solid waste landfill.
9. **Fly ash.** The fine, sand-like residue resulting from the complete incineration of an organic fuel source. Fly ash typically results from the combustion of coal or waste used to operate a power generating plant.
10. **General aviation aircraft.** Any civil aviation aircraft operating under 14 CFR Part 91.
11. **Hazardous wildlife.** Species of wildlife (birds, mammals, reptiles), including feral and domesticated animals, not under control that may pose a direct hazard to aviation (i.e., strike risk to aircraft) or an indirect hazard such as an attractant to other wildlife that pose a strike hazard or are causing structural damage to airport facilities (e.g., burrowing, nesting, perching).
12. **Municipal Landfill.** A publicly or privately owned discrete area of land or an excavation that receives household waste and that is not a land application unit, surface impoundment, injection well, or waste pile, as those terms are defined under 40 CFR § 257.2. A municipal landfill may receive other types wastes, such as commercial solid waste, non-hazardous sludge, small-quantity generator waste, and

industrial solid waste, as defined under 40 CFR § 258.2. A municipal landfill can consist of either a stand-alone unit or several cells that receive household waste.

13. **New municipal landfill.** A municipal solid waste landfill that was established or constructed after April 5, 2001.
14. **Piston-powered aircraft.** Fixed-wing aircraft powered by piston engines.
15. **Piston-use airport.** Any airport that does not sell Jet-A fuel for fixed-wing turbine-powered aircraft, and primarily serves fixed-wing, piston-powered aircraft. Incidental use of the airport by turbine-powered, fixed-wing aircraft would not affect this designation. However, such aircraft should not be based at the airport.
16. **Public agency.** A state or political subdivision of a state, a tax-supported organization, or an Indian tribe or pueblo (49 U.S.C. § 47102(19)).
17. **Public airport.** An airport used or intended to be used for public purposes that is under the control of a public agency; and of which the area used or intended to be used for landing, taking off, or surface maneuvering of aircraft is publicly owned (49 U.S.C. § 47102(20)).
18. **Public-use airport.** An airport used or intended to be used for public purposes where the area used or intended to be used for landing, taking off, or surface maneuvering of aircraft may be under the control of a public agency or privately owned and used for public purposes (49 U.S.C. § 47102(21)).
19. **Putrescible waste.** Solid waste that contains organic matter capable of being decomposed by micro-organisms and of such a character and proportion as to be capable of attracting or providing food for birds (40 CFR §257.3-8).
20. **Putrescible-waste disposal operation.** Landfills, garbage dumps, underwater waste discharges, or similar facilities where activities include processing, burying, storing, or otherwise disposing of putrescible material, trash, and refuse.
21. **Retention ponds.** Storm water management ponds that hold water for more than 48 hours.
22. **Risk.** Risk is the relationship between the severity and probability of a threat. It is the product of hazard level and abundance in the critical airspace, and is thus defined as the probability of a damaging strike with a given species.
23. **Runway protection zone.** An area off the runway end to enhance the protection of people and property on the ground (see AC 150/5300-13). The dimensions of this zone vary with the airport design, aircraft, type of operation, and visibility minimum.
24. **Scheduled air carrier operation.** Any common carriage passenger-carrying operation for compensation or hire conducted by an air carrier or commercial operator for which the air carrier, commercial operator, or their representative offers in advance the departure location, departure time, and arrival location. It does not include any operation that is conducted as a supplemental operation under 14 CFR Part 119 or as a public charter operation under 14 CFR Part 380 (14 CFR § 119.3).

25. **Sewage sludge.** Any solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a treatment works. Sewage sludge includes, but is not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment process; and a material derived from sewage sludge. Sewage does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screenings generated during preliminary treatment of domestic sewage in a treatment works. (40 CFR § 257.2)
26. **Sludge.** Any solid, semi-solid, or liquid waste generated from a municipal, commercial or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility or any other such waste having similar characteristics and effect. (40 CFR § 257.2).
27. **Solid waste.** Any garbage, refuse, sludge, from a waste treatment plant, water supply treatment plant or air pollution control facility and other discarded material, including, solid liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities, but does not include solid or dissolved materials in domestic sewage, or solid or dissolved material in irrigation return flows or industrial discharges which are point sources subject to permits under section 402 of the Clean Water Act, or source, special nuclear, or by product material as defined by the Atomic Energy Act of 1954.(40 CFR § 257.2).
28. **Turbine-powered aircraft.** Aircraft powered by turbine engines including turbojets and turboprops but excluding turbo-shaft rotary-wing aircraft.
29. **Turbine-use airport.** Any airport that sells fuel for fixed-wing turbine-powered aircraft.
30. **Wastewater treatment facility.** Any devices and/or systems used to store, treat, recycle, or reclaim municipal sewage or liquid industrial wastes, including publicly owned treatment works, as defined by Section 212 of the Clean Water Act. This definition includes any pretreatment involving the reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutant properties in wastewater prior to or in lieu of discharging or otherwise introducing such pollutants into a publicly owned treatment system. (See 40 CFR § 403.3 (q), (r), & (s)).
31. **Wildlife.** Any wild animal, including without limitation any wild mammal, bird, reptile, fish, amphibian, mollusk, crustacean, arthropod, coelenterate, or other invertebrate, including any part, product, egg, or offspring thereof. 50 CFR § 10.12. As used in this AC, wildlife includes feral animals and domestic animals out of the control of their owners (14 CFR Part 139, Certification of Airports).
32. **Wildlife attractants.** Any human-made structure, land-use practice, or human-made or natural geographic feature that can attract or sustain hazardous wildlife within the landing or departure airspace or the airport's aircraft operations area. These attractants can include architectural features, landscaping, waste disposal sites, wastewater treatment facilities, agricultural or aquaculture activities, surface mining, or wetlands.

33. **Wildlife hazard.** A potential for a damaging aircraft collision with wildlife on or near an airport.
34. **Wildlife strike.** A wildlife strike is deemed to have occurred when:
- a. A strike between wildlife and aircraft has been witnessed;
  - b. Evidence or damage from a strike has been identified on an aircraft;
  - c. Bird or other wildlife remains, whether in whole or in part, are found:
    - i. Within 250 feet of a runway centerline or within 1,000 feet of a runway end unless another reason for the animal's death is identified or suspected, unless another reason for the animal's death is identified or;
    - ii. On a taxiway or anywhere else on or off airport that there is reason to believe was the result of a strike with an aircraft.
  - d. The presence of birds or other wildlife on or off the airport had a significant negative effect on a flight (i.e., aborted takeoff, aborted landing, high-speed emergency stop, aircraft left pavement area to avoid collision with animal).

## APPENDIX B. ADDITIONAL RESOURCES

### B.1 Regulations

- 14 CFR § 139.337, *Wildlife Hazard Management*
- 40 CFR § 258, *Criteria for Municipal Solid Waste Landfills*

### B.2 Advisory Circulars

- AC 150/5200-32, *Reporting Wildlife Aircraft Strikes*
- AC 150/5200-33, *Hazard Wildlife Attractants on or Near Airports*
- AC 150/5200-34, *Construction or Establishment of New Landfills Near Public Airports*
- AC 150/5200-36, *Qualifications for Wildlife Biologist Conducting Wildlife Hazard Assessments and Training Curriculum for Airport Personnel Involved in Controlling Wildlife Hazards on Airports*
- AC 150/5200-38, *Protocol for the Conduct and Review of Wildlife Hazard Site Visits, Wildlife Hazard Assessments, and Wildlife Hazard Management Plans*
- AC 150/5220-25, *Airport Avian Radar Systems*
- AC 150/5210-24, *Airport Foreign Object Debris (FOD) Management*

### B.3 Certification Alerts

- Certalert No. 97-09, *Wildlife Hazard Management Plan Outline* (11/17/1997)
- Certalert No. 98-05, *Grasses Attractive To Hazardous Wildlife* (9/21/1998)
- Certalert No. 06-07, *Requests by State Wildlife Agencies to Facilitate and Encourage Habitat for State Listed Threatened and Endangered Species and Species of Special Concern on Airports* (11/21/2006)
- Certalert No. 13-01, *Federal and State Depredation Permit Assistance* (1/30/2013)
- Certalert No.14-01, *Seasonal Mitigation of Hazardous Species at Airports: Attention to Snowy Owls* (2/26/2014)
- Certalert No. 16-03, *Recommended Wildlife Exclusion Fencing* (8/2016)

**B.4 Airport Cooperative Research Program Reports**

These, and other wildlife / aviation reports, are available from the Transportation Research Board of the National Academies (TRB) at <http://www.trb.org/Publications/Publications.aspx>.

- ACRP Research Report 198: Wetland Mitigation, Volume 2, A Guidebook for Airports (2019)
- ACRP Synthesis 92: Airport Waste Management and Recycling Practices (2018)
- ACRP Research Report 174: Guidebook and Primer (2018)
- ACRP Report 122: Innovative Airport Responses to Threatened / Endangered Species (2015)
- ACRP Report 125: Balancing Airport Stormwater and Bird Hazard Management (2015)
- ACRP Report 145: Applying an SMS Approach to Wildlife Hazard Management (2015)
- ACRP Synthesis 39 Report: Airport Wildlife Population Management (2013)
- ACRP Synthesis 52 Report: Habitat Management to Deter Wildlife at Airports (2014)
- ACRP Synthesis 23 Report: Bird Harassment, Repellent, and Deterrent Techniques for Use on and Near Airports (2011)
- ACRP Report 32: Guidebook for Addressing Aircraft/Wildlife Hazards at General Aviation Airports (2010)

**B.5 Manuals**

- Wildlife Hazard Management at Airports - A Manual for Airport Personnel (2005)

**B.6 Orders**

- 50 CFR § 21.49, Control Order for Resident Canada Geese at Airports and Military Airfields
- 50 CFR § 21.50, Depredation Order for Resident Canada Geese Nests and Eggs
- 50 CFR § 21.43, Depredation Order for Blackbirds, Cowbirds, Crows, Grackles, and Magpies
- 50 CFR § 21.54, Control Order for Muscovy Ducks in the United States
- 50 CFR § 21.55, Control Order for Invasive Migratory Birds in Hawaii

## Advisory Circular Feedback

If you find an error in this AC, have recommendations for improving it, or have suggestions for new items/subjects to be added, you may let us know by (1) mailing this form to Manager, Airport Safety and Operations Division, Federal Aviation Administration ATTN: AAS-300, 800 Independence Avenue SW, Washington DC 20591 or (2) faxing it to the attention of AAS-300 at (202) 267-5257.

*Subject:* AC 150/5200-33C

*Date:* \_\_\_\_\_

*Please check all appropriate line items:*

An error (procedural or typographical) has been noted in paragraph \_\_\_\_\_ on page \_\_\_\_\_.

Recommend paragraph \_\_\_\_\_ on page \_\_\_\_\_ be changed as follows:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

In a future change to this AC, please cover the following subject:  
*(Briefly describe what you want added.)*

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Other comments:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

I would like to discuss the above. Please contact me at (phone number, email address).

Submitted by: \_\_\_\_\_

Date: \_\_\_\_\_



U.S. Department  
of Transportation

**Federal Aviation  
Administration**

# Advisory Circular

**Subject:** CONSTRUCTION OR  
ESTABLISHMENT OF LANDFILLS NEAR  
PUBLIC AIRPORTS

**Date:** January 26, 2006  
**Initiated by:** AAS-300

**AC No:** 150/5200-34A  
**Change:**

## 1. Purpose.

This advisory circular (AC) contains guidance on complying with Federal statutory requirements regarding the construction or establishment of landfills near public airports.

## 2. Application.

The guidance contained in the AC is provided by the Federal Aviation Administration (FAA) for use by persons considering the construction or establishment of a new municipal solid waste landfill (MSWLF) near a public airport. Guidance contained herein should be used to comply with MSWLF site limitations contained in 49 U.S.C. § 44718(d), as amended by section 503 of the Wendell H. Ford Aviation Investment and Reform Act for the 21<sup>st</sup> Century, Pub. L. No. 106-181 (April 5, 2000), "Structures interfering with air commerce." In accordance with § 44718(d), as amended, these site limitations are not applicable in the State of Alaska.

In addition, this AC provides guidance for a state aviation agency desiring to petition the FAA for an exemption from the requirements of § 44718(d), as amended.

## 3. Cancellation

This AC cancels AC 150/52300-34, *Construction or Establishment of Landfills Near Public Airports*, dated August 8, 2000.

This revision contains no substantive changes to the original. Changes include revised and new website addresses, revised strike statistics, and regulation titles.

## 4. Related Reading Materials.

AC - 150/5200-33, *Hazardous Wildlife Attractions On or Near Airports*.

*Wildlife Strikes to Civil Aircraft in the United States*. FAA Wildlife Aircraft Strike Database Serial Reports.

Report to Congress: *Potential Hazards to Aircraft by Locating Waste Disposal Sites in the Vicinity of Airports*, April 1996, DOT/FAA/AS/96-1.

Title 14, Code of Federal Regulation, Part 139, Certification of Airports.

Title 40, Code of Federal Regulation, Part 258, Municipal Solid Waste Landfill Criteria.



Some of these documents and additional information on wildlife management, including guidance on landfills, are available on the FAA's Airports web site at [http://www.faa.gov/airports\\_airtraffic/airports/](http://www.faa.gov/airports_airtraffic/airports/) or <http://wildlife-mitigation.tc.faa.gov>

## **5. Definitions.**

Definitions for the specific purpose of this AC are found in Appendix 1.

## **6. Background.**

The FAA has the broad authority to regulate and develop civil aviation under the Federal Aviation Act of 1958, 49 U.S.C. § 40101, et. seq., and other Federal law. In section 1220 of the Federal Aviation Reauthorization Act of 1996, Pub. L. No. 104-264 (October 9, 1996), the Congress added a new provision, section (d), to 49 U.S.C. § 44718 to be enforced by the FAA and placing limitations on the construction or establishment of landfills near public airports for the purposes of enhancing aviation safety. Section 503 of the Wendell H. Ford Aviation Investment and Reform Act for the 21<sup>st</sup> Century (AIR-21), Pub. L. No. 106-181 (April 5, 2000) replaced section 1220 of the 1996 Reauthorization Act, 49 U.S.C. § 44718 (d), with new language. Specifically, the new provision, § 44718(d), as amended, was enacted to further limit the construction or establishment of a municipal solid waste landfill (MSWLF) near certain smaller public airports.

In enacting this legislation, Congress expressed concern that a MSWLF sited near an airport poses a potential hazard to aircraft operations because such a waste facility attracts birds. Statistics support the fact that bird strikes pose a real danger to aircraft. An estimated 87 percent of the collisions between wildlife and civil aircraft occurred on or near airports when aircraft are below 2,000 feet above ground level (AGL). Collisions with wildlife at these altitudes are especially dangerous as aircraft pilots have minimal time to recover from such emergencies.

The FAA National Wildlife Aircraft Strike Database shows that more than 59,000 civil aircraft sustained reported strikes with wildlife from 1990 to 2004. Between 1990-2004, aircraft-wildlife strikes involving U. S. civil aircraft resulted in over \$495 million/year worth of aircraft damage and associated losses and over 631,000 hours/year of aircraft down time.

From 1990 to 2004, waterfowl, gulls and raptors were involved in 77% of the 3,493 reported damaging aircraft-wildlife strikes where the bird was identified. Populations of Canada geese and many species of gulls and raptors have increased markedly over the last several years. Further, gulls and Canada geese have adapted to urban and suburban environments and, along with raptors and turkey vultures, are commonly found feeding or loafing on or near landfills.

In light of increasing bird populations and aircraft operations, the FAA believes locating landfills in proximity to airports increases the risk of collisions between birds and aircraft. To address this concern, the FAA issued AC 150/5200-33, *Hazardous Wildlife Attractions On or Near Airports*, to provide airport operators and aviation planners with guidance on minimizing wildlife attractants. AC 150/5200-33 recommends against locating municipal solid waste landfills within five statute miles of an airport if the landfill may cause hazardous wildlife to move into or through the airport's approach or departure airspace.

## **7. General.**

Using guidance provided in the following sections, persons considering construction or establishment of a landfill should first determine if the proposed facility meets the definition of a new MSWLF (see Appendix 1). Section 44718(d), as amended, applies only to a new MSWLF. It does not apply to the expansion or modification of an existing MSWLF, and does not apply in the State of Alaska. If the proposed landfill meets the definition of a new MSWLF, its proximity to certain public airports (meeting the criteria specified in Paragraph 8 below) should be determined. If it is determined that a new MSWLF would be located within six miles of such a public airport, then either the MSWLF should be planned for an alternate location more than 6 miles from the airport, or the MSWLF proponent should request the appropriate State aviation agency to file a petition for an exemption from the statutory restriction.

In addition to the requirements of § 44718(d), existing landfill restrictions contained in AC 150/5200-33, *Hazardous Wildlife Attractions On or Near Airports* (see Paragraph 5, Background) also may be applicable. Airport operators that have accepted Federal funds have obligations under Federal grant assurances to operate their facilities in safe manner and must comply with standards prescribed in advisory circulars, including landfill site limitations contained in AC 150/5200-33.

## **8. Landfills Covered by the Statute.**

The limitations of § 44718(d), as amended, only apply to a new MSWLF (constructed or established after April 5, 2000). The statutory limitations are not applicable where construction or establishment of a MSWLF began on or before April 5, 2000, or to an existing MSWLF (received putrescible waste on or before April 5, 2000). Further, an existing MSWLF that is expanded or modified after April 5, 2000, would not be held to the limitations of § 44718(d), as amended.

## **9. Airports Covered by the Statute.**

The statutory limitations restricting the location of a new MSWLF near an airport apply to only those airports that are recipients of Federal grants (under the Airport and Airway Improvement Act of 1982, as amended, 49 U.S.C. § 47101, *et seq.*) and primarily serve general aviation aircraft and scheduled air carrier operations using aircraft with less than 60 passenger seats.

While the FAA does not classify airports precisely in this manner, the FAA does categorize airports by the type of aircraft operations served and number of annual passenger enplanements. In particular, the FAA categorizes public airports that serve air carrier operations. These airports are known as commercial service airports, and receive scheduled passenger service and have 2,500 or more enplaned passengers per year.

One sub-category of commercial service airports, nonhub primary airports, closely matches the statute requirement. Nonhub primary airports are defined as commercial service airports that enplane less than 0.05 percent of all commercial passenger enplanements (0.05 percent equated to 352,748 enplanements in 2004) but more than 10,000 annual enplanements. While these enplanements consist of both large and small air carrier operations, most are conducted in aircraft with less than 60 seats. These airports also are heavily used by general aviation aircraft, with an average of 81 based aircraft per nonhub primary airport.

In addition, the FAA categorizes airports that enplane 2,500 to 10,000 passengers annually as non-primary commercial service airports, and those airports that enplane 2,500 or less passengers annually as general aviation airports. Both types of airports are mainly used by general aviation but in some instances, they have annual enplanements that consist of scheduled air carrier operations conducted in aircraft with less than 60 seats. Of the non-primary commercial service airports and general aviation airports, only those that have scheduled air carrier operations conducted in aircraft with less than 60 seats would be covered by the statute. The statute does not apply to those airports that serve only general aviation aircraft operations.

To comply with the intent of the statute, the FAA has identified those airports classified as nonhub primary, non-primary commercial service and general aviation airports that:

1. Are recipients of Federal grant under 49 U.S.C. § 47101, et. seq.;
2. Are under control of a public agency;
3. Serve scheduled air carrier operations conducted in aircraft with less than 60 seats; and
4. Have total annual enplanements consisting of at least 51% of scheduled air carrier enplanements conducted in aircraft with less than 60 passenger seats.

Persons considering construction or establishment of a new MSWLF should contact the FAA to determine if an airport within six statute miles of the new MSWLF meets these criteria (see paragraph 11 below for information on contacting the FAA). If the FAA determines the airport does meet these criteria, then § 44718(d), as amended, is applicable.

An in-depth explanation of how the FAA collects and categorizes airport data is available in the FAA's National Plan of Integrated Airport Systems (NPIAS). This report and a list of airports classified as nonhub primary, non-primary commercial service and general aviation airports (and associated enplanement data) are available on the FAA's Airports web site at [http://www.faa.gov/airports\\_airtraffic/airports/planning\\_capacity/](http://www.faa.gov/airports_airtraffic/airports/planning_capacity/).

## **10. Separation distance measurements.**

Section 44718(d), as amended, requires a minimum separation distance of six statute miles between a new MSWLF and a public airport. In determining this distance separation, measurements should be made from the closest point of the airport property boundary to the closest point of the MSWLF property boundary. Measurements can be made from a perimeter fence if the fence is co-located, or within close proximity to, property boundaries. It is the responsibility of the new MSWLF proponent to determine the separation distance.

## **11. Exemption Process.**

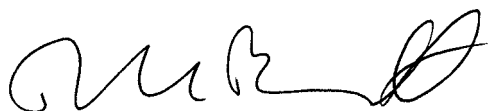
Under § 44718(d), as amended, the FAA Administrator may approve an exemption from the statute's landfill location limitations. Section 44718(d), as amended, permits the aviation agency of the state in which the airport is located to request such an exemption from the FAA Administrator. Any person desiring such an exemption should contact the aviation agency in the state in which the affected airport is located. A list of state aviation agencies and contact information is available at the National Association of State Aviation Officials (NASAO) web site at [www.nasao.org](http://www.nasao.org) or by calling NASAO at (301) 588-1286.

A state aviation agency that desires to petition the FAA for an exemption should notify the Regional Airports Division Manager, in writing, at least 60 days prior to the construction of a MSWLF. The petition should explain the nature and extent of relief sought, and contain information, documentation, views, or arguments that demonstrate that an exemption from the statute would not have an adverse impact on aviation safety. Information on contacting FAA Regional Airports Division Managers can be found on the FAA's web site at [www.faa.gov](http://www.faa.gov).

After considering all relevant material presented, the Regional Airports Division Manager will notify the state agency within 30 days whether the request for exemption has been approved or denied. The FAA may approve a request for an exemption if it is determined that such an exemption would have no adverse impact on aviation safety.

## **12. Information.**

For further information, please contact the FAA's Office of Airport Safety and Standards, Airport Safety and Operations Division, at (800) 842-8736, Ext. 7-3085 or via email at [WebmasterARP@faa.gov](mailto:WebmasterARP@faa.gov). Any information, documents and reports that are available on the FAA web site also can be obtained by calling the toll-free telephone number listed above.

A handwritten signature in black ink, appearing to read 'DLB', with a stylized flourish at the end.

DAVID L. BENNETT  
Director, Office of Airport Safety and Standards

## APPENDIX 1. DEFINITIONS.

The following are definitions for the specific purpose of this advisory circular.

**Construct a municipal solid waste landfill (MSWLF)** means excavate or grade land, or raise structures, to prepare a municipal solid waste landfill as permitted by the appropriate regulatory or permitting authority.

**Establish a municipal solid waste landfill (MSWLF)** means receive the first load of putrescible waste on site for placement in a prepared municipal solid waste landfill.

**Existing municipal solid waste landfill (MSWLF)** means a municipal solid waste landfill that received putrescible waste on or before April 5, 2000.

**General aviation aircraft** means any civil aviation aircraft not operating under 14 CFR Part 119, Certification: Air carriers and commercial operators.

**Municipal solid waste landfill (MSWLF)** means publicly or privately owned discrete area of land or an excavation that receives household waste, and that is not a land application unit, surface impoundment, injection well, or waste pile, as those terms are defined under 40 CFR § 257.2. A MSWLF may receive other types of RCRA subtitle D wastes, such as commercial solid waste, nonhazardous sludge, small quantity generator waste and industrial solid waste, as defined under 40 CFR § 258.2. A MSWLF may consist of either a standalone unit or several cells that receive household waste.

**New municipal solid waste landfill (MSWLF)** means a municipal solid waste landfill that was established or constructed after April 5, 2000.

**Person(s)** means an individual, firm, partnership, corporation, company, association, joint-stock association, or governmental entity. It includes a trustee, receiver, assignee, or similar representative of any of them (14 CFR Part 1).

**Public agency** means a State or political subdivision of a State; a tax-supported organization; or an Indian tribe or pueblo (49 U.S.C. § 47102(15)).

**Public airport** means an airport used or intended to be used for public purposes that is under the control of a public agency; and of which the area used or intended to be used for landing, taking off, or surface maneuvering of aircraft is publicly owned (49 U.S.C. § 47102(16)).

**Putrescible waste** means solid waste which contains organic matter capable of being decomposed by micro-organisms and of such a character and proportion as to be capable of attracting or providing food for birds (40 CFR § 257.3-8).

**Scheduled air carrier operation** means any common carriage passenger-carrying operation for compensation or hire conducted by an air carrier or commercial operator for which the air carrier, commercial operator, or their representatives offers in advance the departure location, departure time, and arrival location. It does not include any operation that is conducted as a supplemental operation under 14 CFR Part 119, or is conducted as a public charter operation under 14 CFR Part 380 (14 CFR § 119.3).

**Solid waste** means any garbage, or refuse, sludge from a wastewater treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semi-solid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities, but does not include solid or dissolved materials in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges that are point sources subject to permit under 33 U.S.C. § 1342, or source, special nuclear, or by-product material as defined by the Atomic Energy Act of 1954, as amended (68 Stat. 923) (40 CFR § 258.2).



Appendix K  
**Safety Zone 3 Residential  
Densities - California Redwood  
Coast – Humboldt County  
Airport**





# memorandum

date           **March 18, 2021**

to              **Tony Sordello, Caltrans Division of Aeronautics**

cc              **Bob Bronkall, Humboldt County Department of Public Works**

from           **Chris Jones, ESA**

subject       **Safety Zone 3 Residential Densities - California Redwood Coast-Humboldt County Airport**

The purpose of this memorandum is to document the justification for increasing the proposed residential density under the Draft ALUCP in Safety Zone 3 off the right side of Runway 1 at California Redwood Coast-Humboldt County Airport (ACV). The current proposed residential density in Safety Zone 3 is 0.5 dwelling units per acre, or one dwelling unit per two acres. Under the current ALUCP, most of this area is located in Compatibility Zone C\*, which allows for a maximum residential density of 8 dwelling units per acre. We will increase residential density under the Draft ALUCP to 4 dwelling units per acre.

The area within Safety Zone 3 off the right side of Runway 1 is depicted on Figure 1. The tip of this safety zone is located on Airport property. The area within the safety zone south of the Airport property boundary and primarily west of HalfWay Avenue and north of Dylan Court is zoned (MB) Business Park. The zoning in these areas does not allow for residential use. The area within the safety zone roughly south of Dylan Court and east of HalfWay Avenue is entirely zoned (R-S-5) Residential Single Family in the Coastal Zone and (R-1) Residential One-Family in the Inland Zone (the Coastal Zone boundary runs north to south roughly halfway through Safety Zone 3). Both residential zoning districts are largely built out with single family homes on 5,000 square foot lots. There are roughly half a dozen larger parcels in this area that are underutilized and potentially available for further subdivision and development.

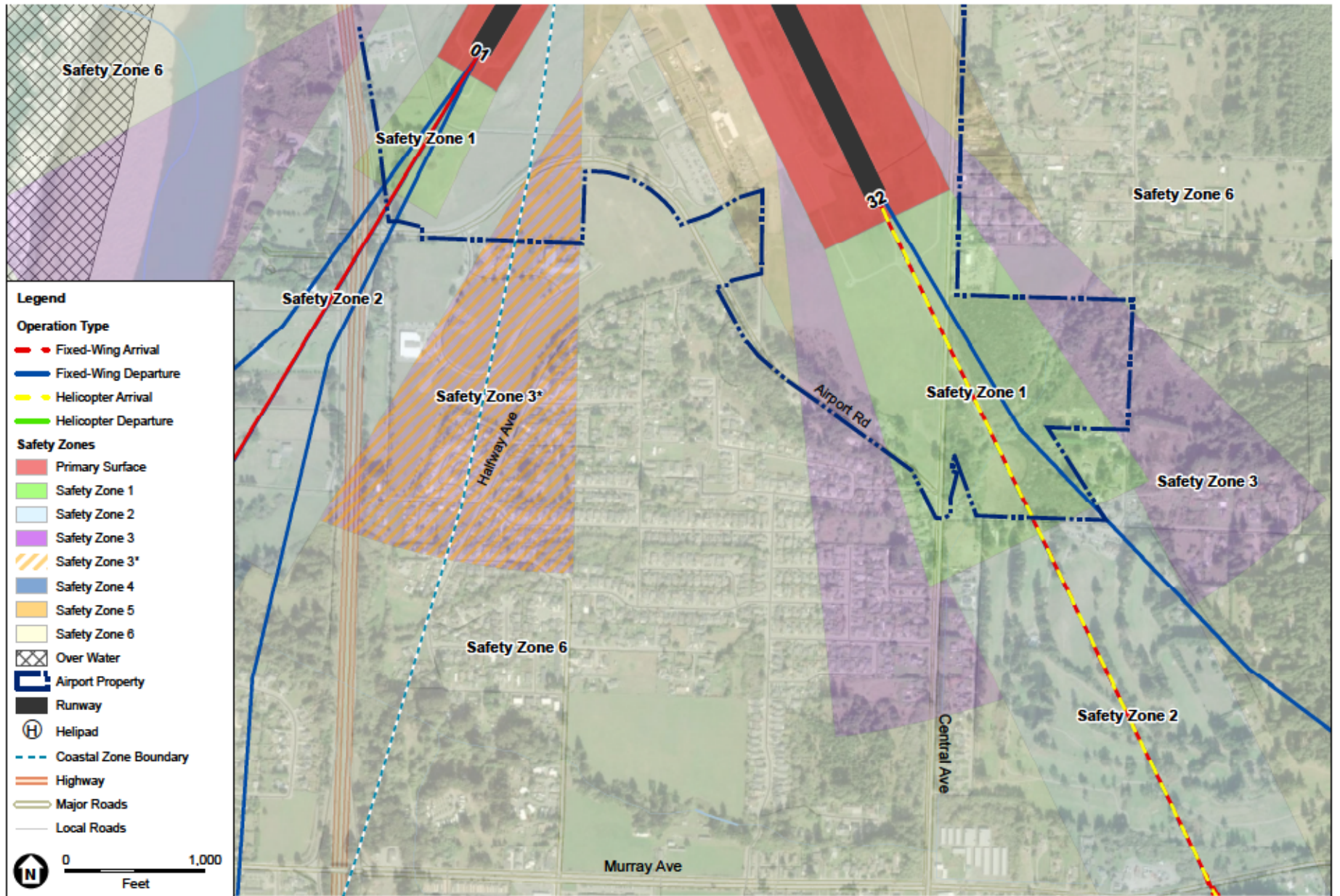
Under the current ALUCP, most of the area in Safety Zone 3 off right side of Runway 1, including the entire area zoned for residential use, is in Compatibility Zone C\*. Compatibility Zone C\* allows for a maximum residential density of 8 dwelling units per acre. Guidance in the Caltrans Handbook recommends a maximum residential density of one dwelling unit per 2 to 5 acres in Safety Zone 3 for suburban environments and this is reflected in the Draft ALUCP. However, aviation activity in this area is limited, warranting an adjustment in allowable residential density.

None of the area within Safety Zone 3 is located along the extended runway centerline or beneath the approach path to Runway 1. Runway 1/19 is the crosswind runway and receives substantially less traffic than Runway 14/32, the primary runway at the Airport. Most aircraft utilizing Runway 1/19 are helicopters that arrive straight

in or from the southwest to Runway 1 and takeoff to the northwest. Little to no traffic arrives to Runway 1 from the east through Safety Zone 3 off the right side of Runway 1. Aircraft activity at ACV is documented in Appendices G and H to the Draft ALUCP.

Guidance provided in the California Airport Land Use Planning Handbook (Caltrans Handbook) allows for some flexibility in the development of safety policies and compatibility criteria. The Caltrans Handbook notes that in developing policies for a specific airport, careful attention must be made to the characteristics of that airport’s design and use, as well as some consideration of the characteristics of the airport environs. As the area in question is almost entirely built out with a single use - single family residential on 5,000 square foot lots - the subdivision and development of vacant or underutilized parcels in this area with further residential use would essentially constitute infill development. The compatibility criteria for Safety Zone 3 in the Draft ALUCP already limits residential development to infill. As discussed in Section 4.6 of the Caltrans Handbook, it may be pragmatic for Airport Land Use Commissions to allow infill development in areas not critical to airport activities, as allowing further development of the predominant land use in these limited areas may be of less concern than introducing new land uses that although considered “compatible” under the ALUCP policies, are inconsistent with the pattern of surrounding existing development. Limiting future development to certain commercial or industrial uses considered compatible in Safety Zone 3 under the safety compatibility criteria may be problematic in an area solely developed with residential uses. Taking into consideration the lack of aviation activity in this area and the existing pattern of development, an adjustment to residential density is justified under the guidance provided in the Caltrans Handbook. As regards the level of residential density, Figure 4D in the Caltrans Handbook, which provides guidance for criteria development applicable to Safety Zone 3, states that infill development up to the average density of the surrounding residential area is allowable for “Urban” areas. While the pattern of development in this area is “Suburban” rather than “Urban”, as defined in the Caltrans Handbook, the area is largely built out, with limited opportunities for further development. Considering the level of existing development, applying the guidance for “Urban” areas is reasonable in this location. The current ALUCP allows for a maximum residential density of 8 dwelling units per acre in Compatibility Zone C\*. The Draft ALUCP will increase residential density in this safety zone to 4 dwelling units per acre, half of what is currently allowable in Compatibility Zone C\*. This increase in residential density will only apply in this safety zone and it will be re-designated as Safety Zone 3\*. All other Safety Zones 3 applicable at Humboldt County’s airports will retain a residential density of 0.5 dwelling units per acre.

Location	1993 ALUCP	2021 Draft ALUCP February 2021 Currently Proposed	2021 Draft ALUCP March 2021 Revised
Safety Zone 3 off the Right Side of Runway 1	C* (8 units/acre)	3 (0.5 units/acre)	3* (4 units/acre)



SOURCE: AEDT 2d; ESA, 2018; DigitalGlobe, October 2017; US Census Bureau, Geography Division, September 2018.

Humboldt County Draft Airport Land Use Compatibility Plan

**Figure 1**  
**Safety Zone 3\***  
 California Redwood Coast-Humboldt County Airport