



APPENDIX H: AIRPORT LAND USE COMPATIBILITY REQUIREMENTS + COUNTY STRATEGY

This appendix provides context for the policies and implementation measures contained in Objective BE-5.4: Airport and Airspace Land Use Compatibility + Safety, specifically regarding the County’s approach to meeting statutory requirements for an airport land use compatibility plan for Watsonville Municipal Airport.

The basic function of airport land use compatibility policy in Santa Cruz County is to promote compatibility between the Watsonville Municipal Airport and existing and future land uses in the unincorporated areas of the County that surround it, to recognize the extent to which these areas may already be developed with incompatible uses, and to comply with state statutes, regulations, and other laws governing land uses surrounding the airport.

WATSONVILLE MUNICIPAL AIRPORT

The Watsonville Municipal Airport is the only public use airport in Santa Cruz County. It is located on the northwest boundary of the city of Watsonville, three miles from the city center. It is a well-constructed, general aviation facility occupying 291 acres with two runways serving single and twin-engine aircraft and helicopters, as well as turboprops and turbine-powered business jets. The Airport includes an additional 53 non-contiguous acres of land for clear-zone protection. Total Airport acreage is approximately 344 acres (Source: Watsonville Municipal Airport Master Plan 2003). Most of the area in the vicinity of the airport is located within the unincorporated area of the County.



*Watsonville Airport
Photo Source: Santa
Cruz County GIS*



STATUTORY REQUIREMENTS

The California State Aeronautics Act (Public Utilities Code Sections 21670 *et seq.*) addresses establishment of an airport land use commission. Santa Cruz County qualifies for an exception in the State Aeronautics Act (Section 21670.1(e)) because the County “has only one public use airport that is owned by a (single) city.” Santa Cruz County need not form an airport land use commission provided the County incorporates the height, use, noise, safety, and density criteria that are compatible with airport operations as established by the *California Airport Land Use Planning Handbook* (Handbook), 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 of the County.

The County must adopt the Handbook’s criteria and incorporate the criteria as part of the General Plan. This has been interpreted to mean that the County has no discretion as to which of the Handbook’s criteria should be incorporated into the General Plan (*Watsonville Pilots Association et al. v. City of Watsonville* (2010) 183 Cal.App.4th 1059). Therefore, wherever the Handbook provides a range of criteria the most restrictive criteria is adopted.

ADDRESSING AIRPORT LAND USE COMPATIBILITY

An Airport Influence Area (AIA) is the area or areas in which current or future airport-related noise, overflight, safety, and/or airspace protection factors may significantly affect land uses or necessitate restrictions on land use. According to PUC Section 21675.1(b) the AIA must encompass that land within two miles of the boundaries of the Watsonville Municipal Airport as shown in Figure H-1.

Land use compatibility concerns to be addressed within the AIA fall under two broad headings identified in state law: noise and safety. However, for purposes of formulating compatibility policies and criteria, further dividing these basic concerns into four functional categories is more practical. These categories are: 1) exposure to aircraft noise; 2) land use safety with respect both to people and property on the ground and the occupants of aircraft; 3) protection of airport airspace; and 4) general concerns related to aircraft overflights.

EXPOSURE TO AIRCRAFT NOISE

Noise impacts are defined by the exposure to noise attributable to aircraft operations. Policies and maps related to noise exposure in the vicinity of the Watsonville Municipal Airport are included in Chapter 8: Noise, with the noise policies related to the Airport stated in this section. Figure H-2 indicates the noise contours applicable to the Watsonville Airport.

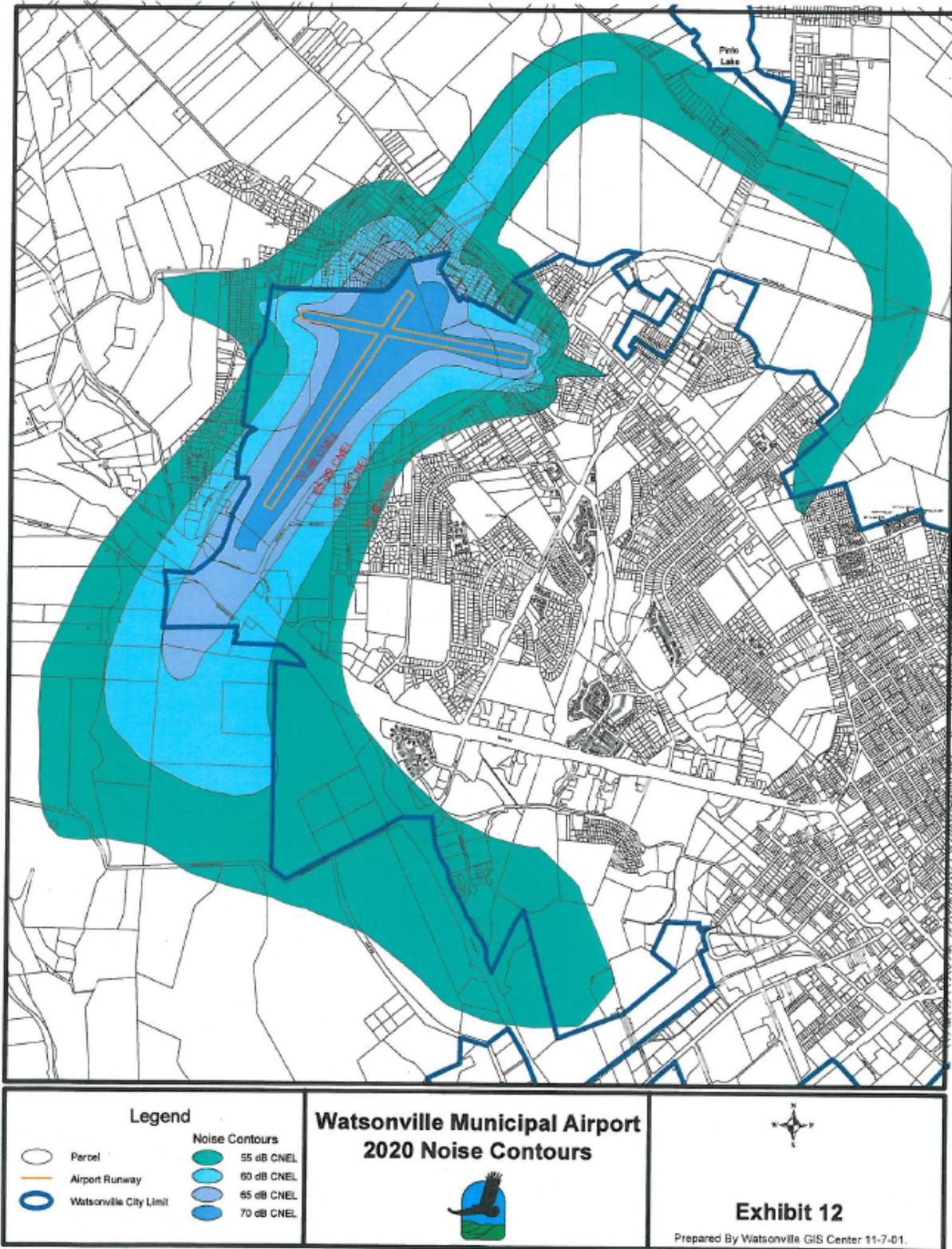


Figure H-1: Watsonville Municipal Airport Influence Area





Figure H-2: Watsonville Municipal Airport 2020 Airport Noise Contours



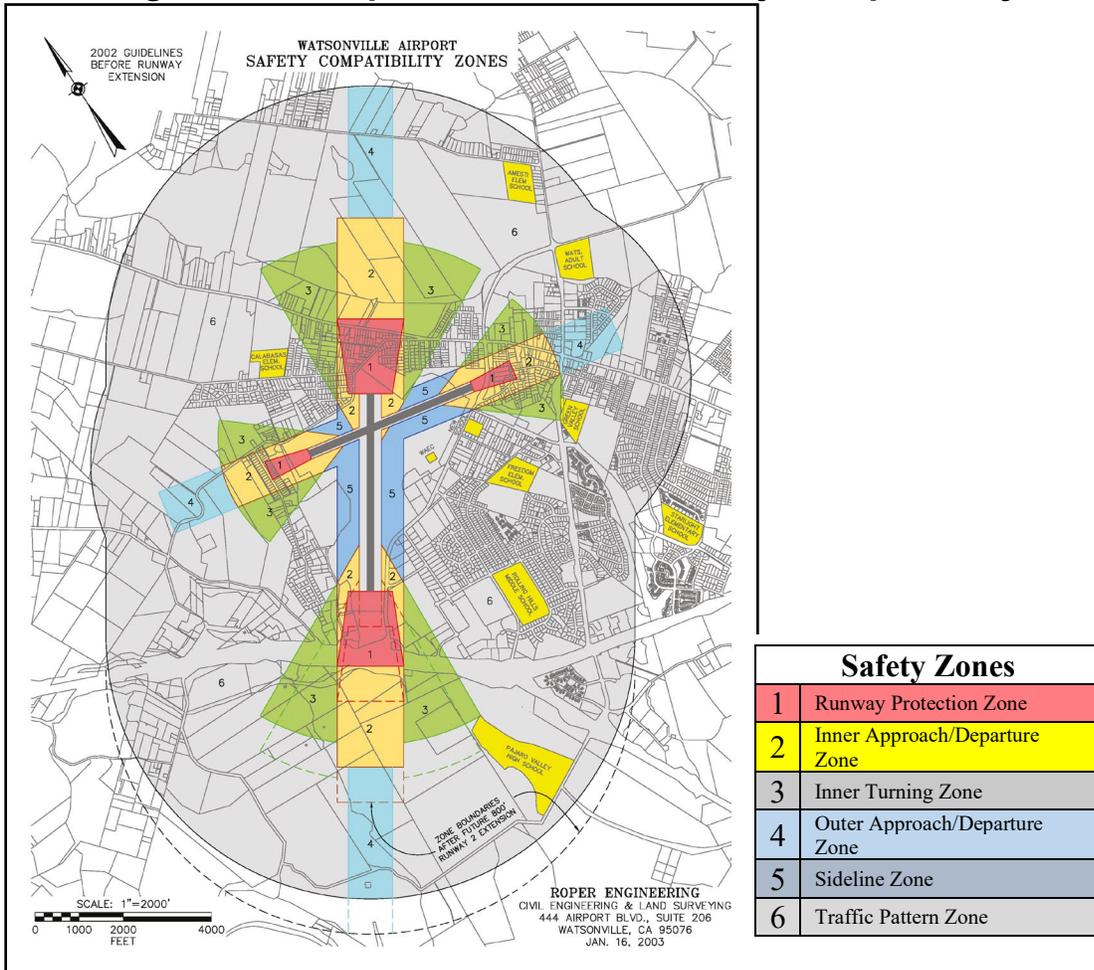


LAND USE SAFETY

Safety concerns include protecting people on the ground and in the air from accidents. There are two components to safety compatibility policies: identification of the locations where the risk of aircraft accidents is a concern, according to the Handbook, and identifying Handbook-required land use measures to address that risk.

Analysis of historical accident location patterns has been used to define a set of generic safety zones. For most airports, these generic zones will serve as the starting place for the zone delineation process. The essential remaining action is to adjust the zones to fit the circumstances of the particular airport and each runway end. The generic safety zones for runway 9-27 were then adjusted to fit the circumstances of the Watsonville Municipal Airport and each runway in accordance with criteria provided in the Handbook. Figure H-3 indicates the airport safety compatibility zones.

Figure H-3: Airport Master Plan Safety Compatibility Zones



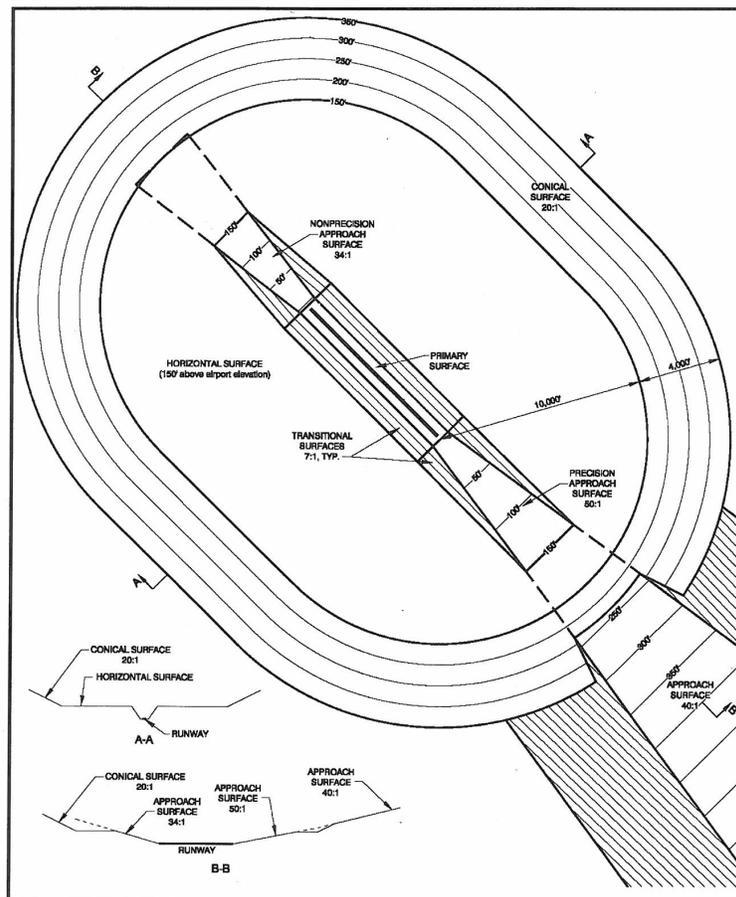


Using criteria in the Handbook, General Plan policies designate land uses which are acceptable and which are unacceptable in various portions of the airport environs. These policies are portrayed in the form of a set of compatibility criteria applicable within each of the previously defined safety zones.

AIRSPACE PROTECTION

Airspace Protection is defined by the protection of airspace from hazards to flight. Federal height criteria is provided in FAA Advisory Circular 70/7460-2J Proposed Construction or Alteration of Objects that May Affect the Navigable Airspace, and Advisory Circular 150/5190-4A A Model Zoning Ordinance to Limit Height of Objects Around Airports. Limiting the heights of structures to the heights established by the FAR Part 77 surfaces provides an ample margin of safety for normal aircraft operations. A three-dimensional view of typical airspace protection surfaces is depicted in Figure H-4.

Figure H-4: Example of Civil Airport Airspace Protection Surfaces



A variety of land uses, facilities, and structures on and near airports can create visual, electronic or wildlife hazard attractants that pose a threat to aircraft operations. General Plan policies therefore require an assessment of the potential for these types of hazards on and near airports,



using the Handbook and applicable FAA regulations, to avoid the establishment of non-compatible land uses.

Height ceilings by altitude (airspace protection surfaces) for the Watsonville Municipal Airport are depicted on Figure H-5 and listed below. Any object that penetrates one of these surfaces is, by FAA definition, deemed an obstruction.

- (1) Primary surface. A surface longitudinally centered on a runway. The primary surface extends 200 feet beyond each end of each 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:

250 feet for Runways 9 and 27

1,000 feet for Runways 2 and 20

The area of the heliport 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.

- (2) Horizontal surface. A horizontal plane 150 feet above the established airport elevation, the perimeter of which is constructed by swinging arcs of 10,000 feet from the center of each end of the primary surface of Runways 2 and 20 and connecting the adjacent arcs by lines tangent to those arcs.
- (3) 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.
- (4) 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. The inner edge of the approach surface is the same width as the primary surface and it expands uniformly as follows:

Runways 9 and 27: Width of 1,250 feet extending for a horizontal distance of 5,000 feet at a slope of 20 to 1

Runway 20: Width of 4,000 extending for a horizontal distance of 10,000 feet at a slope of 34 to 1

Runway 2: Width of 16,000 feet extending for a horizontal distance of 10,000 feet at a slope of 50 to 1 with an additional 40,000 feet at a slope of 40 to 1

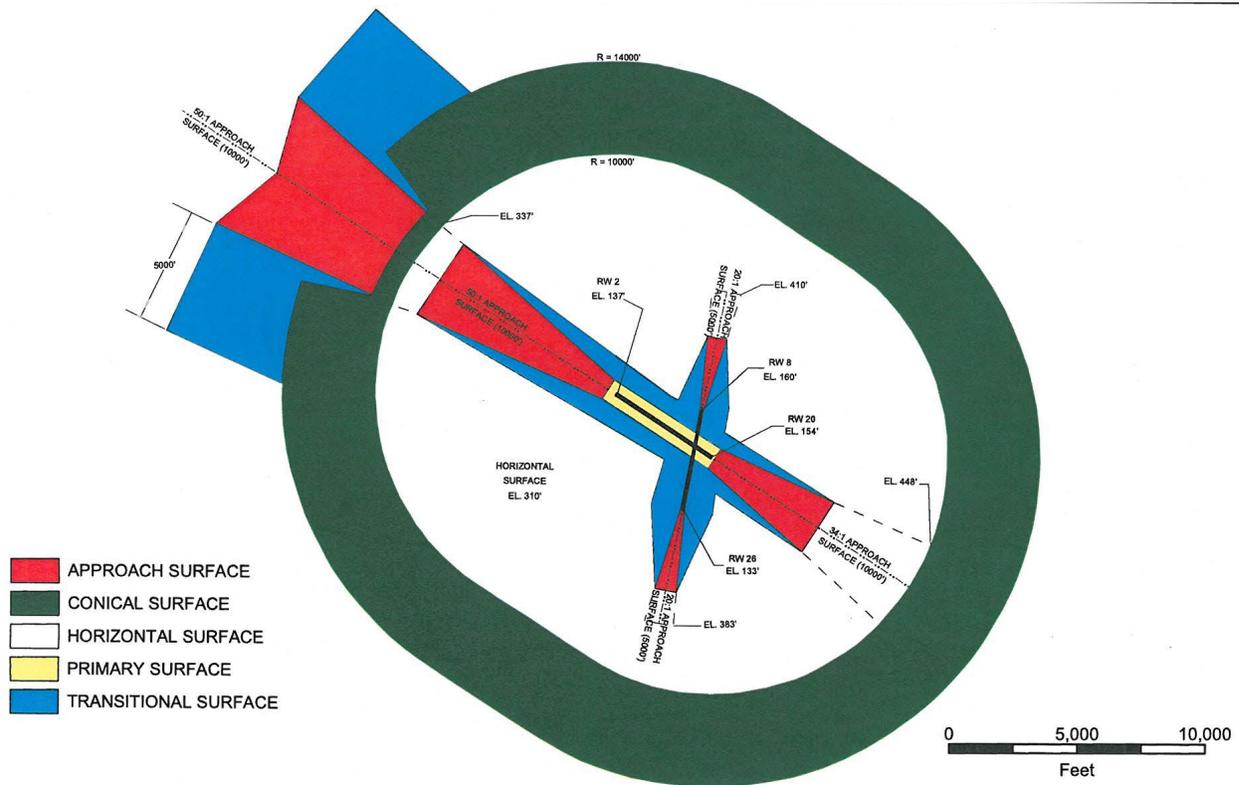
The heliport approach surface begins at each end of the heliport primary surface with the same width as the primary surface, and extends outward and upward for a horizontal



distance of 4,000 feet where its width is 500 feet. The slope of the approach surface is 8 to 1.

- (5) 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 Runway 2 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. Heliport transitional 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.

Figure H-5: Graphical Height Ceilings and Altitudes of Airspace Protection Surface



GENERAL CONCERNS RELATED TO AIRCRAFT OVERFLIGHT

Overflight concerns are defined by the annoyances and other general concerns arising from routine aircraft flights over a community. As the term is applied herein, an overflight means any distinctly visible and audible passage of an aircraft, but not necessarily one which is directly overhead. One method of addressing this impact in the land use permitting process involves the buyer awareness measure which, rather than applying direct restrictions on the types of land



uses, seeks to inform the public of potential annoyances associated with overflight. Business and Professions Code Sections 11010(a) and (b)(13) require that: property owners record an acknowledgement on the property deed, acknowledging the annoyances and inconveniences associated with proximity to airport operations, prior to issuance of any building or discretionary permit for a new or expanded building, as required by the Handbook.

COORDINATION TO IMPLEMENT AIRPORT LAND USE COMPATIBILITY POLICIES

The boundaries of the AIA, the safety compatibility zones, and the noise contours in the vicinity of the airport are based on Watsonville Municipal Airport Master Plan (AMP - 2003), on the Handbook, and on FAR Part 77 that reflects the anticipated growth of the airport. The AMP is an airport-sponsored, comprehensive planning study that describes existing conditions as well as interim and long-term development plans for the airport that will enable it to meet future aviation demand. The AMP contains an FAA-approved activity forecast and an Airport Layout Plan. It should be noted the AMP has a fundamentally distinct and separate function from the General Plan airport land use compatibility policies. These policies govern the area outside of the airport property that is within its AIA, while the AMP governs airport operations and the area under the control of the airport.

Successful implementation of the airport land use compatibility plan relies on close coordination with the City of Watsonville and the Airport Manager regarding applications for permits for new or expanded buildings located with the AIA, as well as any potential amendments to land use compatibility policies.