

# Appendices

---

---





## Recommended Compatibility Plan for March Air Reserve Base / Inland Port Airport

---

### OVERVIEW

The *Riverside County Airport Land Use Compatibility Plan (ALUCP)* is a single document containing multiple individual compatibility plans separately adopted by the Riverside County Airport Land Use Commission (ALUC) beginning in October 2004. Chapter 2 of the document sets forth policies applicable to each of the airports for which the ALUC adopted a compatibility plan during this period. Chapter 3 provides policies unique to each individual airport including policies that establish exceptions to the Chapter 2 countywide policies. Compatibility maps associated with each individual airport are also included in Chapter 3.

The ALUC has not yet adopted for March ARB/IPA either the Chapter 2 countywide policies or Chapter 3 airport-specific policies. This appendix to the *March Air Reserve Base/Inland Port Airport (March ARB/IPA) Joint Land Use Study (JLUS)* contains airport-specific compatibility policies and background data for March ARB/IPA recommended for adoption by the Riverside County ALUC. The material is formatted here so that it can readily be inserted into the *Riverside County Airport Land Use Compatibility Plan*.

### **Volume 1—Policy Document, Chapter 3, *Individual Airport Policies and Compatibility Maps***

Most of the countywide policies listed in Chapter 2 of the ALUCP are applicable to March ARB/IPA. However, more so than with other airports in the county, features unique to March ARB/IPA—particularly its military activity—mean that special policies, including exceptions to the countywide policies, are essential. Policies proposed by the JLUS for ALUC consideration are listed in the first section of this appendix. Among these policies is a basic compatibility criteria table specifically for March ARB/IPA that would take the place of the countywide criteria identified in Table 2A for the areas within the March ARB/IPA influence area.

### **Volume 2—Background Data, Chapter W7, *West County Airports***

This chapter includes background data such as airfield configuration, activity level, and other airport-related data which would serve as the basis for the compatibility criteria and maps for March ARB/IPA.

*Insert for Riverside County ALUCP, Volume 1, Chapter 3, Individual Airport Policies and Compatibility Maps*

## **MA. MARCH AIR RESERVE BASE/INLAND PORT AIRPORT**

### **MA.1 Compatibility Map Delineation**

- 1.1 *Airport Master Plan Status:* The Compatibility Plan for March ARB/IPA is based upon the U.S. Air Force's Air Installation Compatibility Use Zones Study for March Air Reserve Base (AICUZ) dated August 2005.
- 1.2 *Airfield Configuration:* The airfield consists of two runways. The primary runway (Runway 14-32)—oriented north-northwest/south-southwest—is 13,300 feet in length and is the longest runway open to civilian use in the state. The second smaller runway, Runway 12-30, is just over 3,000 feet and its use is restricted to light aircraft. The airport has straight-in instrument approach capabilities to Runway 32 and a non-precision approach to Runway 14. No changes in the existing configuration of the airport runways and approaches are anticipated.
- 1.3 *Airport Activity:* The *Compatibility Plan* reflects the 2005 *AICUZ Study's* future mission level of 69,600 annual aircraft operations by 2010. The joint use agreement and the terms of the related air quality conformity determination limit civilian operations to no more than 21,000 per year. Military operations are anticipated to account for nearly 65 percent (44,860 annual operations) of the total airport activity. Total airport activity is not anticipated to change over the 20-year time horizon of this *Compatibility Plan*.
- 1.4 *Airport Influence Area:* The outer limits of *Zone E* and the areas within the *High Terrain Zone* define the airport influence area for March ARB/IPA. On the east side of the airfield, *Zone E* is established at 14,000 feet from the runway centerline. This distance is equivalent to the outer limits of the civilian airport conical surface, as established by FAR Part 77. The compatibility zones on the west side of the airport are more extensive as those areas are routinely overflown by both military and civilian aircraft.

### **MA.2 Additional/Specific Compatibility Policies**

Policies set forth in Chapter 2, Countywide Policies, shall be modified or supplemented for the March ARB/IPA influence area as follows. Additionally, information and guidance presented in the appendices to this ALUCP document may not be fully applicable to March ARB/IPA.

- 2.1 *Basic Land Use Compatibility Criteria:*
  - (a) Countywide Table 2A: The basic compatibility criteria listed in Table 2A do not apply to the environs of March ARB/IPA. See Exhibit MA-1 for compatibility criteria that shall be applicable to the March ARB/IPA influence area. For the purposes of land use compatibility matters involving the March ARB/IPA influence area, any reference to Table 2A in the policies of Chapter 2 shall instead be taken as a reference to Table MA-1.

- (b) Countywide Policy 3.1.3(b): The policy concerning residential densities in Compatibility Zone D is not applicable to March ARB/IPA.
  - (c) Countywide Policy 3.1.4(b): The reference to special risk-reduction building design measures is not applicable to March ARB/IPA.
- 2.2 *Infill*: Countywide Policy 3.3.1(a)(2) notwithstanding, infill residential development in the vicinity of March ARB/IPA need only be 50% bounded by similar uses to qualify as infill. All other provisions of Countywide Policy 3.3.1 apply.
- 2.3 *Supporting Compatibility Criteria for Noise*:
- (a) Countywide Policy 4.1.5: The CNEL considered normally acceptable for new residential land uses in the vicinity of March ARB/IPA is 65 dB. Table 2B is not applicable.
  - (b) Countywide Policy 4.1.6: Single-event noise levels from aircraft operations can be particularly intrusive at night. Compared to other airports in the county, extensive nighttime activity by large aircraft at March ARB/IPA warrants a greater degree of sound attenuation for the interiors of buildings housing certain uses as cited below.
    - (1) The maximum, aircraft-related, interior noise level that shall be considered acceptable shall be CNEL 40 db for all new residences, schools, libraries, museums, hotels and motels, hospitals and nursing homes, places of worship, and other noise-sensitive uses. For office uses the interior standard shall be CNEL 45 db, the same as the countywide criterion.
    - (2) To ensure compliance with these criteria, an acoustical study shall be required to be completed for any development proposed to be situated where the aviation-related noise exposure is more than 20 dB above the interior standard (e.g., within the CNEL 60 dB contour where a the interior standard is CNEL 40 dB). Standard building construction is presumed to provide adequate sound attenuation where the difference between the exterior noise exposure and the interior standard is 20 dB or less.
- 2.4 *Supporting Compatibility Criteria for Safety*:
- (a) Countywide Policy 4.2.3: The acceptability of land uses of special concern within certain compatibility zones around March ARB/IPA shall be evaluated in accordance with the criteria indicated in Table MA-1. The criteria listed in Countywide Policy 4.2.3 do not apply.
  - (b) Countywide Policy 4.2.4: The requirements for open land do not apply to the vicinity of March ARB/IPA except with regard to Compatibility Zones A and B1.
  - (c) Countywide Policy 4.2.5: For the vicinity of March ARB/IPA, new nonresidential development shall not be clustered in a manner that would result in a usage intensity within any one acre (the number of people per single acre) exceeding the limits specified in Table MA-1. Clustering of residential development is encouraged, but the density within any one acre shall be limited to no more than 4.0 times the allowable average density for the zone in which the development is proposed.
  - (d) Countywide Policy 4.2.6: The policy concerning risk reduction through building design is not applicable to the March ARB/IPA influence area.

2.5 *Supporting Compatibility Criteria for Airspace Protection:*

- (a) Countywide Policy 4.3.3: For proposed objects in the March ARB/IPA vicinity, the heights requiring ALUC review shall be as specified in Table MA-1.
- (b) Countywide Policy 4.3.4: Heights of objects shall be restricted in accordance with the airspace protection surfaces depicted in Table MA-2
- (c) Countywide Policy 4.3.5: The compatibility zones within which dedication of an aviation easement shall be required as a condition of development is as indicated in Table MA-1. Easements shall be dedicated to the March Joint Powers Authority or other civilian agency that may supersede it.
- (d) Countywide Policy 4.3.7: Additional hazards to flight as listed in Table MA-1 are to be avoided in the vicinity of March ARB/IPA.

2.6 *Supporting Compatibility Criteria for Overflight:*

- (a) Countywide Policy 4.4.3: The compatibility zones within which a deed notice shall be required as a condition of development are as indicated in Table MA-1.

2.7 *Site-Specific Exceptions:*

Four development projects near March ARB have received or are expected to receive entitlements in the form of Development Agreements or Disposition and Development Agreements from the respective jurisdictions prior to adoption of the *JLUS* by the Riverside County ALUC and the jurisdictions. As such, the exceptions to the compatibility criteria outlined in the preceding subsections are granted for these projects provided that they meet the conditions indicated below. (The locations of these exceptions are shown on Exhibit 4-3 in Chapter 4 and the numbers below correspond to the numbering on that map.)

► **B1 Exception**

- (1) March Business Center Specific Plan (SP-1) a 1,032-acre, non-residential business park located at the southwest corner of Alessandro Boulevard and I-215 freeway within the March Joint Powers Authority, approved with specific airport compatibility provisions, subject to March JPA Resolution JPA 08-01 limiting development within the Accident Potential Zones and vested through a development agreement recorded on June 7, 2004.

► **B2 Exception**

- (1) March Business Center Specific Plan (SP-1) a 1,032-acre, non-residential business park located at the southwest corner of Alessandro Boulevard and I-215 freeway within the March Joint Powers Authority, approved with specific airport compatibility provisions and vested through a development agreement recorded on June 7, 2004.

► **C1 Exceptions**

- (1) March Business Center Specific Plan (SP-1) a 1,032-acre, non-residential business park located at the southwest corner of Alessandro Boulevard and I-215 freeway within the March Joint Powers Authority, approved with specific airport compatibility provisions and vested through a development agreement recorded on June 7, 2004.

- ▶ (3) Park West Specific Plan, a 534.3-acre residential Specific Plan located south of Nuevo Rd and east of the Perris Valley Storm Channel within the City of Perris and authorized for a maximum of 2,027 residential units as identified in the Specific Plan and Development Agreement approved by Council on January 30, 2007.
- ▶ (4) Low-Income Housing, a planned 8.43-acre multifamily site located at the northeast corner of Day Street and Alessandro Boulevard within the City of Moreno Valley approved as a maximum 225 unit multifamily development through an existing Disposition and Development Agreement approved on May 26, 2009.

▶ **C2 Exceptions**

- ▶ (1) March Business Center Specific Plan (SP-1) a 1,032-acre, non-residential business park located at the southwest corner of Alessandro Boulevard and I-215 freeway within the March Joint Powers Authority, approved with specific airport compatibility provisions and vested through a development agreement recorded on June 7, 2004.
- ▶ (3) Park West Specific Plan, a 534.3-acre residential Specific Plan located south of Nuevo Rd and east of the Perris Valley Storm Channel within the City of Perris and authorized for a maximum of 2,027 residential units as identified in the Specific Plan and Development Agreement approved by Council on January 30, 2007.
- ▶ (2) Harvest Landing Specific Plan, a 341-acre mixed-use Specific Plan located south of Placentia Avenue and west of Interstate 215 within the City of Perris and authorizing 1,860 residential units and 1,306,582 square feet of business/commercial uses which is scheduled for final Council approval of the Specific Plan and Development Agreement in January 2011.

Zone	Locations	Density / Intensity Standards			Req'd Open Land	Additional Criteria	
		Residential (d.u./ac) <sup>1</sup>	Other Uses (people/ac) <sup>2</sup>			Prohibited Uses <sup>3</sup>	Other Development Conditions <sup>4</sup>
		Average <sup>5</sup>	Single Acre <sup>6</sup>				
<b>M</b>	Military						› No ALUC authority
<b>A</b>	Clear Zone <sup>7</sup>	No new dwellings allowed	0	0	Remain-ing		› All non-aeronautical structures › Assemblages of people › Objects exceeding FAR Part 77 height limits › All storage of hazardous materials › Hazards to flight <sup>8</sup>
<b>B1</b>	Inner Approach/Departure Zone	No new dwellings allowed <sup>10</sup>	25 or 50 <sup>11</sup>	100	Max. 50% lot coverage <sup>12</sup>		› Children's schools, day care centers, libraries › Hospitals, congregate care facilities, hotels/motels, restaurants, places of assembly › Bldgs with >1 aboveground habitable floor in APZ I or > 2 floors in APZ II <sup>13</sup> › Manufacture/storage of hazardous materials <sup>14</sup> › Noise sensitive outdoor nonresidential uses <sup>15</sup> › Critical community infrastructure facilities <sup>16</sup> › Hazards to flight <sup>8</sup>
<b>B2</b>	High Noise Zone	No new dwellings allowed <sup>10</sup>	100	250	No Req't		› Children's schools, day care centers, libraries › Hospitals, congregate care facilities, hotels/motels, places of assembly › Bldgs with >3 aboveground habitable floors › Noise-sensitive outdoor nonresidential uses <sup>15</sup> › Critical community infrastructure facilities <sup>16</sup> › Hazards to flight <sup>8</sup>
<b>C1</b>	Primary Approach/Departure Zone	≤3.0	100	250	No Req't		› Children's schools, day care centers, libraries › Hospitals, congregate care facilities, places of assembly › Noise-sensitive outdoor nonresidential uses <sup>15</sup> › Hazards to flight <sup>8</sup>
<b>C2</b>	Flight Corridor Zone	≤ 6.0	200	500	No Req't		› Highly noise-sensitive outdoor nonresidential uses <sup>15</sup> › Hazards to flight <sup>8</sup>
<b>D</b>	Flight Corridor Buffer	No Limit	No restriction <sup>21</sup>		No Req't		› Hazards to flight <sup>8</sup>
<b>E</b>	Other Airport Environs	No Limit	No Restriction <sup>21</sup>		No Req't		› Hazards to flight <sup>8</sup>
<b>*</b>	High Terrain	Same as Underlying Compatibility Zone			Not Applicable		› Hazards to flight <sup>8</sup> › Other uses restricted in accordance with criteria for underlying zone

Table MA-1

**Basic Compatibility Criteria**  
March Air Reserve Base / Inland Port Airport

**NOTES:**

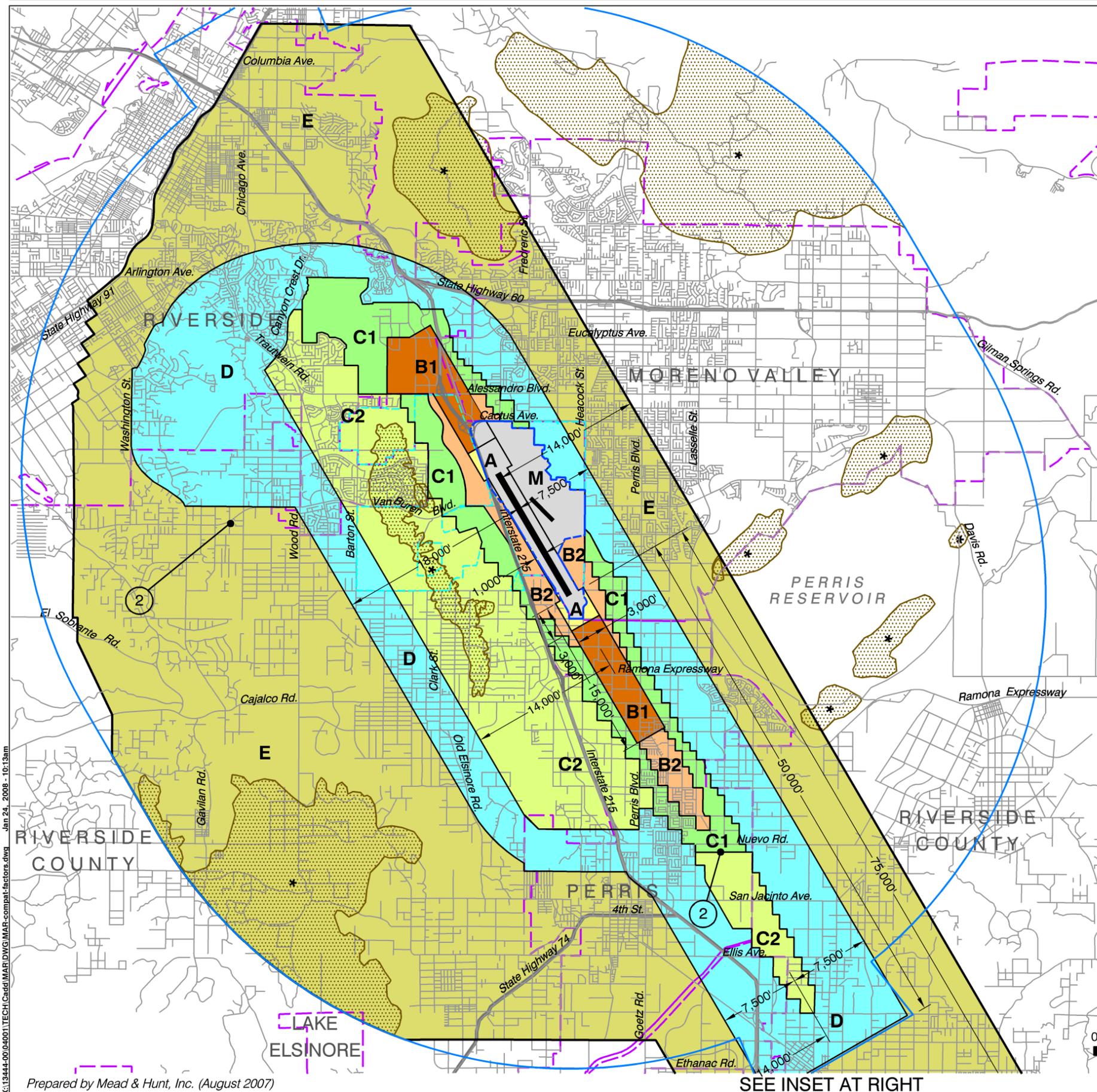
Policies referenced here are from the *Riverside County Airport Land Use Compatibility Plan* (adopted by Riverside County ALUC for other airports beginning October 2004) and are reproduced in Appendix B of this JLUS document. A complete copy of the *Compatibility Plan* is available on the Riverside County Airport Land Use Commission website at [www.rcaluc.org](http://www.rcaluc.org).

- <sup>1</sup> Residential development must not contain more than the indicated number of dwelling units (excluding secondary units) per gross acre. Clustering of units is encouraged provided that the density is limited to no more than 4.0 times the allowable average density for the zone in which the development is proposed. Gross acreage includes the property at issue plus a share of adjacent roads and any adjacent, permanently dedicated, open lands. Mixed-use development in which residential uses are proposed to be located in conjunction with nonresidential uses in the same or adjoining buildings on the same site shall be treated as nonresidential development for the purposes of usage intensity calculations; that is, the occupants of the residential component must be included in calculating the overall number of occupants on the site. A residential component shall not be permitted as part of a mixed use development in zones where residential uses are indicated as incompatible. See ALUC Policy 3.1.3(d). All existing residential development, regardless of densities, is not subject to ALUC authority.
- <sup>2</sup> Usage intensity calculations shall include all people (e.g., employees, customers/visitors, etc.) who may be on the property at a single point in time, whether indoors or outside.
- <sup>3</sup> The uses listed here are ones that are explicitly prohibited regardless of whether they meet the intensity criteria. In addition to these explicitly prohibited uses, other uses will normally not be permitted in the respective compatibility zones because they do not meet the usage intensity criteria. See Exhibit 3-7 for a full list of compatibility designations for specific land uses.
- <sup>4</sup> As part of certain real estate transactions involving residential property within any compatibility zone (that is, anywhere within an airport influence area), information regarding airport proximity and the existence of aircraft overflights must be disclosed. This requirement is set by state law. See ALUC Policy 4.4.2 for details. Easement dedication and deed notice requirements indicated for specific compatibility zones apply only to new development and to reuse if discretionary approval is required. Avigation easements are to be dedicated to the March JPA; the federal government is precluded from receiving easement dedications. See sample language in JLUS Appendix B.
- <sup>5</sup> The total number of people permitted on a project site at any time, except rare special events, must not exceed the indicated usage intensity times the gross acreage of the site. Rare special events are ones (such as an air show at the airport) for which a facility is not designed and normally not used and for which extra safety precautions can be taken as appropriate.
- <sup>6</sup> Clustering of nonresidential development is permitted. However, no single acre of a project site shall exceed the indicated number of people per acre. See ALUC Policy 4.2.5 for details.
- <sup>7</sup> Clear zone (equivalent to runway protection zone at civilian airports) limits that delineate Zone A are derived from locations indicated in the March Air Reserve Base AICUZ study. Zone A is on Air Base property or otherwise under military control.
- <sup>8</sup> Hazards to flight include physical (e.g., tall objects), visual, and electronic forms of interference with the safety of aircraft operations. Land use development that may cause the attraction of birds to increase is also prohibited. Man-made features must be designed to avoid heightened attraction of birds. In Zones A, B1, and B2, flood control facilities should be designed to hold water for no more than 48 hours following a storm and be completely dry between storms (see FAA Advisory Circular 150/5200-33B). Additionally, certain farm crops and farming practices that tend to attract birds are strongly discouraged. These include: certain crops (e.g., rice, barley, oats, wheat – particularly durum – corn, sunflower, clover, berries, cherries, grapes, and apples); farming activities (e.g., tilling and harvesting); confined livestock operations (i.e., feedlots, dairy operations, hog or chicken production facilities, or egg-laying operations); and various farming practices (e.g., livestock feed, water, and manure). Fish production (i.e., catfish, trout) conducted outside of fully enclosed buildings may require mitigation measures (e.g., netting of outdoor ponds, providing covered structures) to prevent bird attraction. Also see ALUC Policy 4.3.7.
- <sup>9</sup> March ARB must be notified of any land use having an electromagnetic radiation component to assess whether a potential conflict with Air Base radio communications could result. Sources of electromagnetic radiation include microwave transmission in conjunction with a cellular tower, radio wave transmission in conjunction with remote equipment inclusive of irrigation controllers and other similar EMR emissions.
- <sup>10</sup> Other than in Zone A, construction of a single-family home, including a second unit as defined by state law, on a legal lot of record is exempted from this restriction where such use is permitted by local land use regulations. Interior noise level standards and avigation easement requirements for the compatibility zone in which the dwelling is to be located are to be applied.
- <sup>11</sup> Non-residential uses are limited to 25 people per gross acre in Accident Potential Zone (APZ) I and 50 people per acre elsewhere in Zone B1.
- <sup>12</sup> In APZ I, any proposed development having more than 20% lot coverage must not provide on-site services to the public. Zoned fire sprinklers are required. Also, in APZ I, site design of proposed development should to the extent possible avoid placement of buildings within 100 feet of the extended runway centerline; this center strip should be devoted to parking, landscaping, and outdoor storage.
- <sup>13</sup> Within APZ II, two-story buildings are allowed.
- <sup>14</sup> Storage of aviation fuel and other aviation-related flammable materials on the airport is exempted from this criterion. In APZ I, manufacture or bulk storage of hazardous materials (toxic, explosive, corrosive) is prohibited unless storage is underground; small quantities of materials may be stored for use on site. In APZ II, aboveground storage of more than 6,000 gallons of nonaviation flammable materials per tank is prohibited.

**Table MA–1, continued**

- <sup>15</sup> Examples of noise-sensitive outdoor nonresidential uses that should be prohibited include major spectator-oriented sports stadiums, amphitheatres, concert halls and drive-in theaters. Caution should be exercised with respect to uses such as poultry farms and nature preserves.
- <sup>16</sup> Critical community facilities include power plants, electrical substations, and public communications facilities. See ALUC Policy 4.2.3(d).
- <sup>17</sup> All new residences, schools, libraries, museums, hotels and motels, hospitals and nursing homes, places of worship, and other noise-sensitive uses must have sound attenuation features incorporated into the structures sufficient to reduce interior noise levels from exterior aviation-related sources to no more than CNEL 40 dB. This requirement is intended to reduce the disruptiveness of loud individual aircraft noise events upon uses in this zone and represents a higher standard than the CNEL 45 dB standard set by state, local, and ALUC regulations. Office space must have sound attenuation features sufficient to reduce the exterior aviation-related noise level to no more than CNEL 45 dB. To ensure compliance with these criteria, an acoustical study shall be required to be completed for any development proposed to be situated where the aviation-related noise exposure is more than 20 dB above the interior standard (e.g., within the CNEL 60 dB contour where the interior standard is CNEL 40 dB). Standard building construction is presumed to provide adequate sound attenuation where the difference between the exterior noise exposure and the interior standard is 20 dB or less.
- <sup>18</sup> Objects up to 35 feet in height are permitted. However, the Federal Aviation Administration may require marking and lighting of certain objects. See ALUC Policy 4.3.6 for details.
- <sup>19</sup> Discouraged uses should generally not be permitted unless no feasible alternative is available.
- <sup>20</sup> This height criterion is for general guidance. Shorter objects normally will not be airspace obstructions unless situated at a ground elevation well above that of the airport. Taller objects may be acceptable if determined not to be obstructions. See ALUC Policies 4.3.3 and 4.3.4.
- <sup>21</sup> Although no explicit upper limit on usage intensity is defined for *Zone D and E*, land uses of the types listed—uses that attract very high concentrations of people in confined areas—are discouraged in locations below or near the principal arrival and departure flight tracks.

**Table MA-1, continued**



**LEGEND**

**Compatibility Zones**

- Airport Influence Area Boundary
- Zone A
- Zone B1
- Zone B2
- Zone C1
- Zone C2
- Zone D
- Zone E
- Zone M
- High Terrain Zone
- FAR Part 77 Military Outer Horizontal Surface Limits
- FAR Part 77 Notification Area

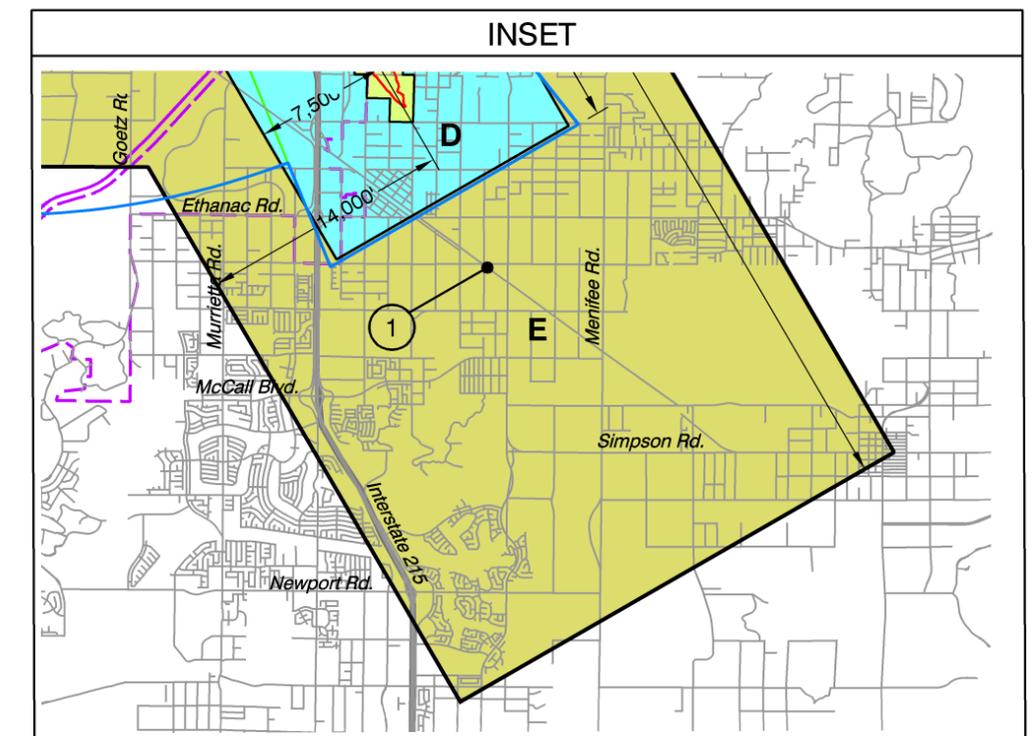
**Boundary Lines**

- March Air Reserve Base / Inland Port Airport
- March Joint Powers Authority Property Line
- City Limits

**Note:**  
All dimensions are measured from runway ends and centerlines.

① Point at which aircraft on Runway 32 ILS approach descend below 3,000 feet above runway end. Airport Elevation is 1,535 feet MSL.

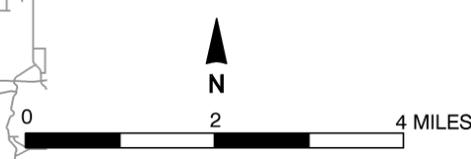
② Point at which departing aircraft typically reach 3,000 feet above runway end.



X:\13444-00\04001\TECH\MAR\DWG\MAR-compat-factors.dwg Jan 24, 2008 - 10:13am

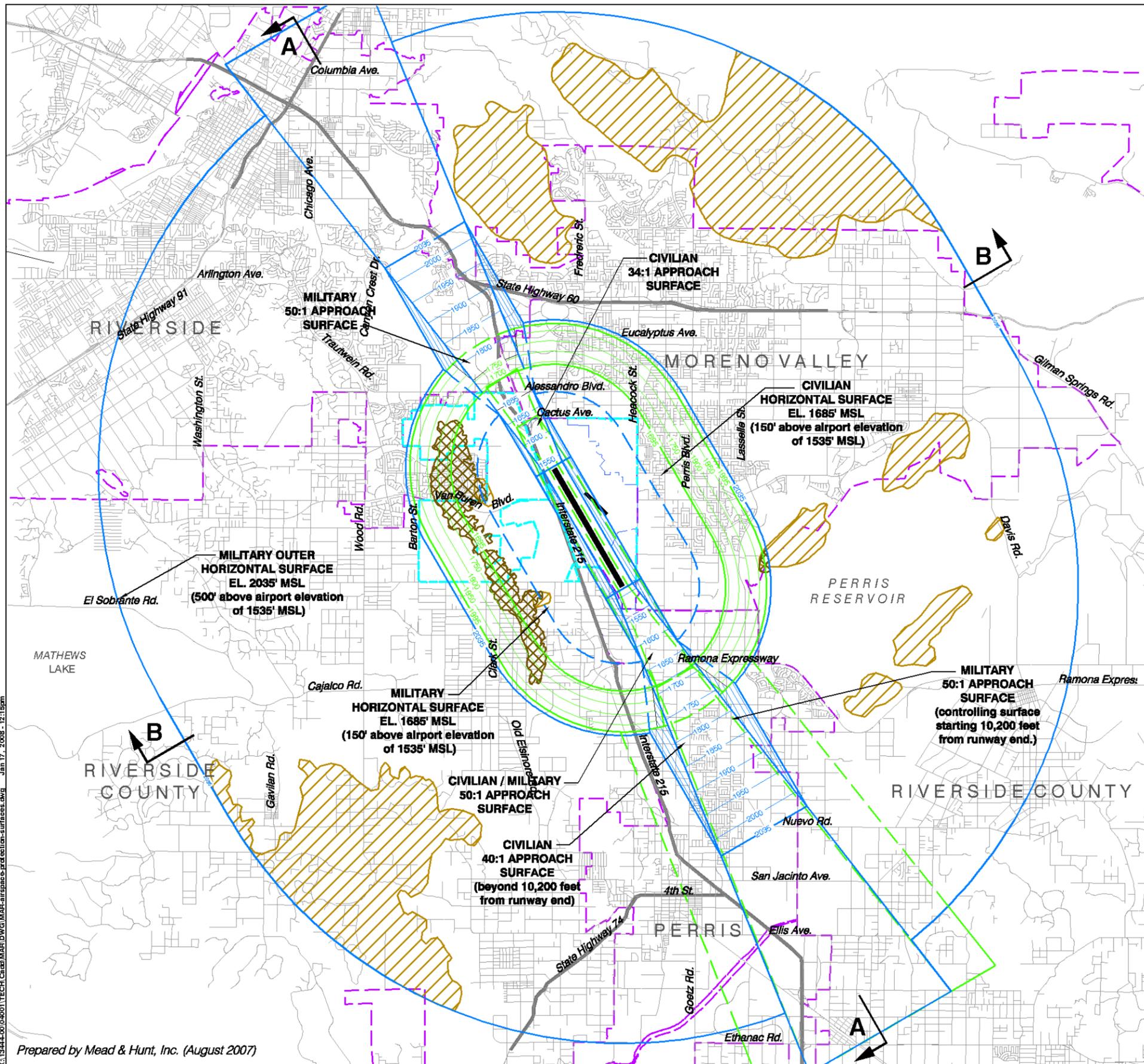
Prepared by Mead & Hunt, Inc. (August 2007)

SEE INSET AT RIGHT



**March Air Reserve Base / Inland Port Airport  
Land Use Compatibility Plan  
(December 2007 Draft)**

Map MA-1  
**Compatibility Map**  
March Air Reserve Base / Inland Port Airport



**LEGEND**

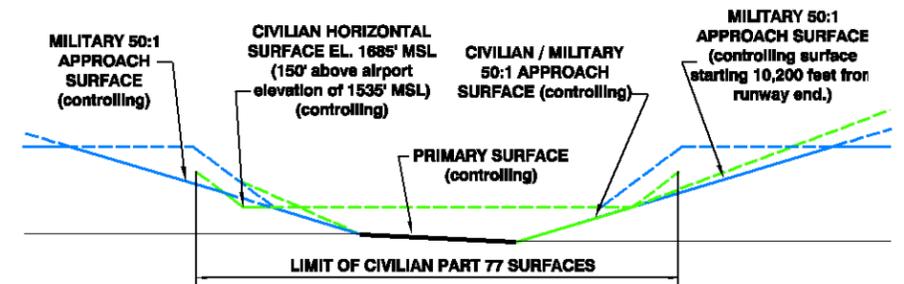
FAR Part 77

- Military Surfaces
  - Civilian Surfaces
- Dashed line indicates other set of surfaces is controlling

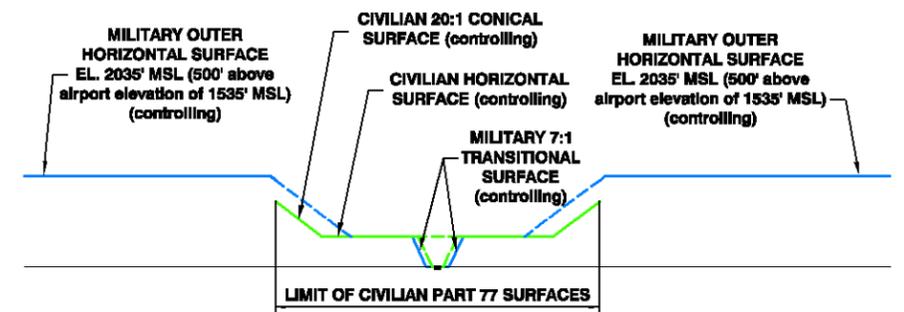
- Terrain Penetration of FAR Part 77 Surfaces
- Military
  - Civilian

Boundary Lines

- - - March Air Reserve Base / Inland Port Airport
- - - March Joint Powers Authority Property Line

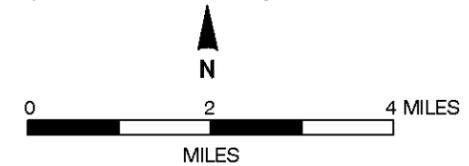


**Profile A**



**Profile B**

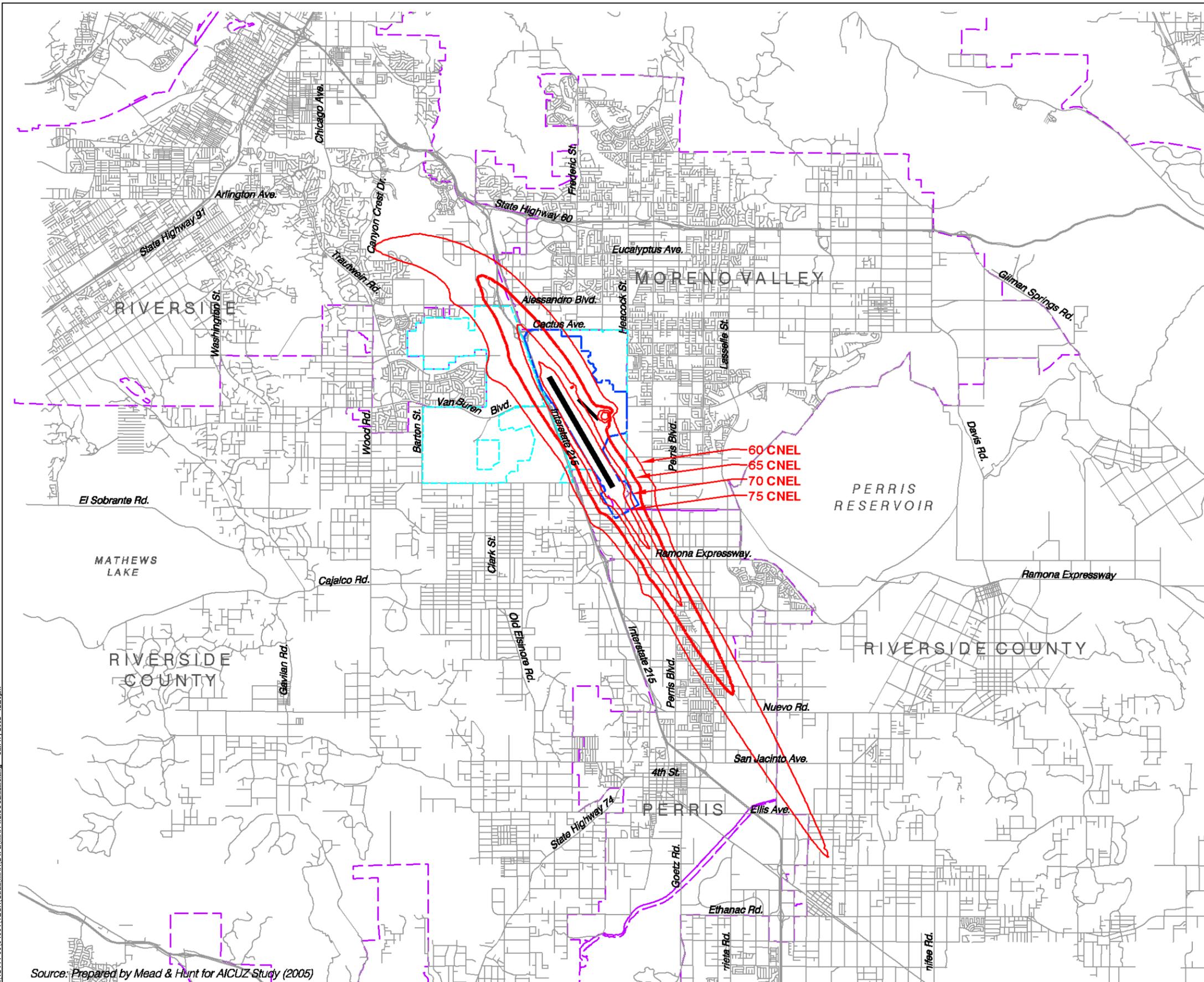
Source:  
 Civilian airspace protection surfaces from March Air Force Base Joint Use Feasibility Study (January 1997). Military airspace protection surfaces from Air Installation Compatible Use Zone Study for March Air Reserve Base (August 2005).



**March Air Reserve Base / Inland Port Airport  
 Land Use Compatibility Plan  
 (December 2007 Draft)**

Map MA-2

**Airspace Protection Surfaces  
 March Air Reserve Base / Inland Port Airport**



**LEGEND**

**Noise Contours**

- 60 dB CNEL
  - 65 dB CNEL
  - 70 dB CNEL
  - 75 dB CNEL
- } 2005 AICUZ  
Future Mission  
Average Annual Day\*

**Boundary Lines**

- March Air Reserve Base / Inland Port Airport
- March Joint Powers Authority Property Line
- City Limits

**Forecast (2010)\***

Annual Operations	69,600
Average Annual Day	191

**Source:**

Forecasts and noise contours from Air Installation Compatible Use Zone Study for March Air Reserve Base (August 2005).



**March Air Reserve Base / Inland Port Airport  
Land Use Compatibility Plan  
(December 2007 Draft)**

Map MA-3

**Noise Contours (2005 AICUZ)  
March Air Reserve Base / Inland Port Airport**

X:\13444-00\04001\TECH\Cadd\MAR\DWG\MAR-noise-contours.dwg Jan 17, 2008 - 12:20pm

Source: Prepared by Mead & Hunt for AICUZ Study (2005)

## **Background Data: March Air Reserve Base / Inland Port Airport and Environs**

### **INTRODUCTION**

March Air Reserve Base/Inland Port Airport is located in northwestern Riverside County, approximately 70 miles east of Los Angeles. For most of the second half of the twentieth century, the base was known as March Air Force Base. The current March Air Reserve Base (ARB) name became official in 1996 as a result of recommendations of the 1993 Defense Base Realignment and Closure Commission (BRAC). Although the role of March ARB has evolved over time, the runway system and other basic aeronautical components of the base have existed in largely their present configuration since the World War II era. The airport's primary runway (Runway 14-32)—oriented north-northwest/south-southeast—is 13,300 feet in length, making it one of the longest in the state. The length, width, and pavement strength of Runway 14-32 enable it to accommodate nearly any type of military or civilian aircraft. The smaller secondary runway—Runway 12-30—was once the primary runway, but its length is now reduced to just over 3,000 feet and its use restricted to light aircraft. Exhibit MA-1 summarizes major airport features and Exhibit MA-2 depicts the overall layout of the airport.

Compared to the years when March operated as an Air Force Base, aircraft activity levels are substantially lower. Activity counts maintained by the Air Force air traffic control tower personnel at the base indicate a total of 34,230 aircraft operations took place during calendar year 2006 compared to approximately 125,000 during the peak years as an Air Force Base. The following tabulation summarizes how this activity was split among military, air carrier, and general aviation users. Additional data is contained in Exhibit MA-3. Although noted as potential 2010 activity levels, the current air quality controls under the joint use agreement will limit activity to these levels indefinitely. Exhibit MA-3 summarizes the aircraft activity data for March ARB/IPA and the resulting noise contours are depicted in Exhibit MA-4. These noise contours and other compatibility factors contributing to the compatibility map delineation are depicted in Exhibit MA-5.

The March ARB/IPA facility is bordered by the City of Riverside to the northwest; the City of Moreno Valley to the northeast; the City of Perris to the south; and the County of Riverside to the west. The land uses in the vicinity of March ARB/IPA are generally compatible with base operations. Development continues to occur in the airport vicinity, however, and a potential for increased conflicts is apparent. Exhibits MA-6 through MA-8 reflects existing and planned land use information.

This page intentionally blank

**GENERAL INFORMATION**

- ▶ *Airport Ownership:* United States Air Force
  - › Airfield maintenance and usage shared with March Joint Powers Authority (JPA) by means of joint use agreement last amended June 2008
- ▶ *Year Opened:* 1918
- ▶ *Airport Property Size*
  - › Air Force property: 2,300 acres
  - › JPA property: 360 acres
- ▶ *Airport Classification:* Joint Use
- ▶ *Airport Elevation:* 1,538 feet MSL

**AIRPORT PLANNING DOCUMENTS**

- ▶ *Joint Use Agreement*
  - › Between March JPA and U.S. Air Force
  - › Amended February 2001
- ▶ *Air Installation Compatible Use Zone (AICUZ) Study*
  - › Prepared by U.S. Air Force, 2005
  - › Prior versions: 1985, 1992, 1998
- ▶ *March Inland Port Air Cargo Development Plan*
  - › Prepared for March JPA, April 1997

**RUNWAY/TAXIWAY DESIGN****Runway 14-32**

- ▶ *Critical Aircraft:* Military transport
- ▶ *Airport Reference Code:* D-VI
- ▶ *Dimensions:* 13,300 ft. long, 200 ft. wide
- ▶ *Pavement Strength (main landing gear configuration)*
  - › 65,000 lbs (single wheel)
  - › 260,000 lbs (dual wheel)
  - › 530,000 lbs (dual-tandem wheel)
- ▶ *Average Gradient:* 0.35%
- ▶ *Runway Lighting*
  - › High-intensity runway edge lights (HIRL)
  - › Rwy 32: standard 2,400-foot high-intensity approach lighting system with centerline sequenced flashers

**Runway 12-30**

- ▶ *Critical Aircraft:* Small single- and twin-engine piston
- ▶ *Airport Reference Code:* B-I (small)
- ▶ *Dimensions:* 3,010 ft. long, 100 ft. wide
- ▶ *Pavement Strength (main landing gear configuration)*
  - › 12,500 lbs (single wheel)
- ▶ *Average Gradient:* 0.44%
- ▶ *Runway Lighting:* None

**APPROACH PROTECTION**

- ▶ *Runway Clear Zones*
  - › Runways 14 and 32: 3,000-ft. long; mostly on-airport
  - › Runway 12 and 30: 1,000-ft. long; all on-airport
- ▶ *Approach Obstacles:* None

**BUILDING AREA**

- ▶ *Aircraft Parking Locations*
  - › Military: Northeast side of airport
  - › Civilian: Northeast of Runway 32 threshold
- ▶ *Other Major Facilities*
  - › Air Traffic Control Tower
  - › Extensive military facilities including military passenger terminal; aircraft maintenance facilities; alert aprons/hangars; munitions storage
  - › Former DHL air cargo facility
- ▶ *Services*
  - › No public services

**TRAFFIC PATTERNS AND APPROACH PROCEDURES**

- ▶ *Airplane Traffic Patterns*
  - › All runways: Left traffic
  - › Pattern altitude:
    - Rectangular 3,000 ft. MSL (1,465 ft. above runway elevation)
    - Overhead 3,500 ft. (1,965 ft. above runway elevation)
- ▶ *Instrument Approach Procedures (best minimums)*
  - › Runway 32 ILS (CAT II):
    - Straight-in (1,600 ft. visibility; 100 ft. descent height)
  - › Runway 32 ILS:
    - Straight-in (½ mi. visibility; 200 ft. descent height)
    - Circling (1 mi. visibility; 600 ft. descent height)
  - › Runway 32 TACAN:
    - Straight-in (½ mi. visibility; 400 ft. descent height)
    - Circling (1 mi. visibility; 600 ft. descent height)
  - › Runway 32 VOR:
    - Straight-in (½ mi. visibility; 400 ft. descent height)
    - Circling (1 mi. visibility; 600 ft. descent height)
  - › Runway 14 TACAN (offset 29° west of straight in):
    - Straight-in (1 mi. visibility; 700 ft. descent height)
    - Circling (1 mi. visibility; 700 ft. descent height)
  - › No circling northeast of runway on any procedure
- ▶ *Standard Instrument Departure Procedures (SKYES-ONE)*
  - › Rwy 14: straight out to 20 NM, then right turn
  - › Rwy 32: left turn to at 2.0± mile beyond runway end south to DIAMD intersection (south of Lake Elsinore)
- ▶ *Visual Approach Aids*
  - › Airport: Rotating beacon
  - › Runways 14 and 32: PAPI
- ▶ *Operational Restrictions / Noise Abatement Procedures*
  - › Prior permission required for all transient aircraft
  - › General Aviation provisions currently being negotiated by March ARB and March JPA

**PLANNED FACILITY IMPROVEMENTS**

- ▶ *Airfield*
  - › Construct full-length west parallel taxiway for civilian use
  - › Civilian fuel farm
- ▶ *Building Area*
  - › Air cargo facilities expansion northeast and northwest of Runway 32 approach end
- ▶ *Property*
  - › No fee acquisition planned

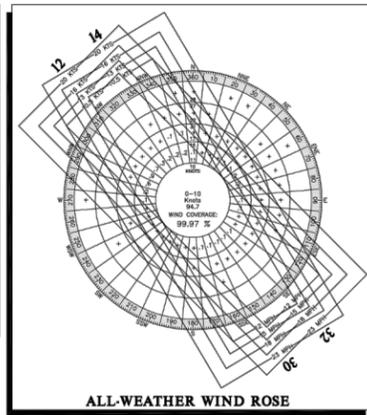
Exhibit MA-1

## Airport Features Summary

### March Air Reserve Base / Inland Port Airport

RUNWAY DATA	RUNWAY 14-32		RUNWAY 12-30*
	EXISTING	FUTURE	
EFFECTIVE GRADIENT (IN %)	0.35	SAME	0.44
PAVEMENT STRENGTH (X 1000 LBS.)	85(S)	SAME	12.5(S)
	265(D)	SAME	---
	175(S1)	SAME	---
	530(D1)	SAME	---
PAVEMENT STRENGTH (PCN NO.)	47	SAME	---
RUNWAY LIGHTING	HIRL	SAME	NONE
RUNWAY MARKING	PRECISION	SAME	VISUAL
NAVAIDS, VISUAL AIDS	LS(S)	SAME	NONE
	PAP(14,32)	SAME	---
WIND COVERAGE % (20 Knots)	99.97	SAME	99.7
AIRPORT DESIGN GROUP	V	SAME	---
APPROACH CATEGORY (FAAR PART 77)	NP1/P1R	SAME	VISUAL/VISUAL
APPROACH SURFACES	34-1/250:1	SAME	20-1/200:1
APPROACH VISIBILITY MINIMUMS	1 MI CAT II	SAME	VISUAL/VISUAL
MAXIMUM ELEV. ABOVE MSL	1,535 (14)	SAME	1,515 (12)
RUNWAY LENGTH	13,300	SAME	3,150
RUNWAY WIDTH	300	SAME	75
RUNWAY AND TAXIWAY SURFACES	CONCRETE	SAME	ASPHALT
OBSTACLE FREE ZONE (OFZ) WIDTH	400'	SAME	---
OFZ LENGTH BEYOND RUNWAY END	200'	SAME	---
RUNWAY SAFETY AREA (RSA) WIDTH	500'	SAME	---
RSA LENGTH BEYOND RUNWAY END	1,000'	SAME	---
RUNWAY OBJECT FREE AREA (ROFA) WIDTH	800'	SAME	---
ROFA LENGTH BEYOND RUNWAY END	1,000'	SAME	---
RUNWAY CATEGORY	TRANSPORT	SAME	---

\* RUNWAY 12-30 IS NOT USED FOR CIVILIAN OPERATIONS.

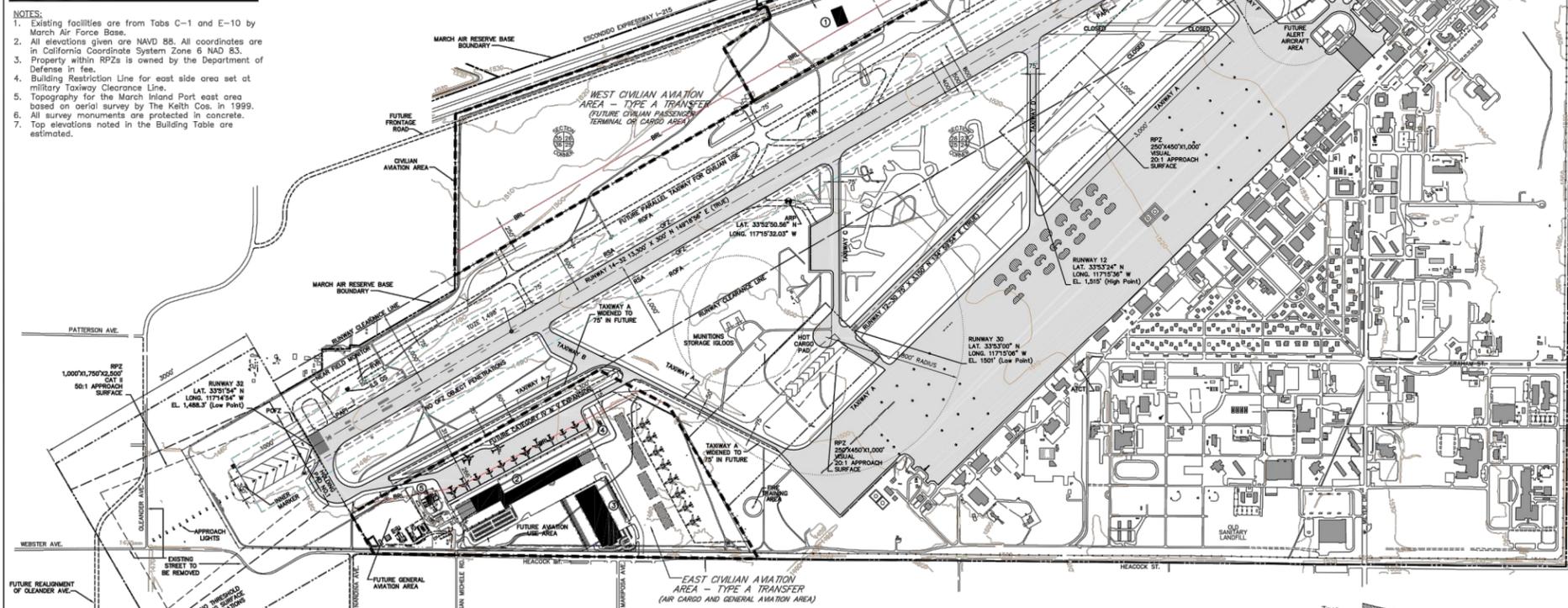


LAND CONVEYANCES		
TYPE OF TRANSFER	TRANSFER NAME	PROPERTIES OR AREAS
A	AVIATION USE	EAST CIVILIAN AVIATION AREA WEST CIVILIAN AVIATION AREA
B	AVIATION USE	AIR MUSEUM AREA

BUILDING TABLE		
ID	DESCRIPTION	TOP ELEVATION
1	AIR MUSEUM	1,560
2	AIR CARGO SORT FACILITY	1,522
3	PHILLIPS CONSUMER ELECTRONICS	1,522
4	GROUND HANDLING FACILITY	1,510
5	PROPOSED FUEL FARM	1,525



- NOTES:
- Existing facilities are from Tabs C-1 and E-10 by March Air Force Base.
  - All elevations given are NAVD 88. All coordinates are in California Coordinate System Zone 6 NAD 83.
  - Property within RPZs is owned by the Department of Defense in fee.
  - Building Restriction Line for east side area set at military Taxiway Clearance Line.
  - Topography for the March Inland Port east area based on aerial survey by The Keith Cos. in 1999.
  - All survey monuments are protected in concrete.
  - Top elevations noted in the Building Table are estimated.



APZ	Accident Potential Zone
ATCT	Air Traffic Control Tower
BRL	Building Restriction Line
DT	Dual Wheel Gear
FAR	Federal Aviation Regulations
GS	Grade Slope
HIRL	High Intensity Runway Lights
ILS	Instrument Landing System
LOC	Localizer
MSL	Mean Sea Level
OFZ	Obstacle Free Zone
PAPI	Precision Approach Path Indicator
PCN	Pavement Classification Number
ROFA	Runway Object Free Area
RPZ	Runway Protection Zone
RSA	Runway Safety Area
S	Single Wheel Gear
ST	Single Tandem Wheel Gear
VORTAC	Very High Frequency Omrange/ Tactical Air Navigation

RUNWAY END DATA			
RUNWAY	EXISTING	FUTURE	
32	LATITUDE 33°51.9' N	SAME	
	LONGITUDE 117°14.9' W	SAME	
	ELEVATION 1,488.3'	SAME	
14	LATITUDE 33°53.8' N	SAME	
	LONGITUDE 117°16.2' W	SAME	
	ELEVATION 1,635.1'	SAME	
30	LATITUDE 33°53.0' N	SAME	
	LONGITUDE 117°15.1' W	SAME	
	ELEVATION 1,501'	SAME	
12	LATITUDE 33°53.4' N	SAME	
	LONGITUDE 117°15.6' W	SAME	
	ELEVATION 1,515'	SAME	

LEGEND		
	EXISTING	FUTURE
AIRFIELD PAVEMENT	---	---
AIR FORCE BASE BOUNDARY	---	SAME
AIRPORT REFERENCE POINT (ARP)	●	SAME
MARCH IPA BUILDINGS	---	SAME
EXPLOSIVES AREA	---	SAME
FENCE	---	SAME
GROUND CONTOURS	---	SAME
MILITARY APPROACH ZONE	---	SAME
MILITARY CLEAR ZONE	---	SAME
ROAD/VEHICLE PARKING	---	SAME
RUNWAY CLEARANCE LINE	---	SAME
RUNWAY PROTECTION ZONE	---	SAME
RUNWAY SAFETY AREA	---	SAME
RUNWAY OBSTACLE FREE ZONE	---	SAME
RUNWAY OBJECT FREE AREA	---	SAME
BUILDING RESTRICTION LINE	---	SAME
CIVILIAN AVIATION AREA CONVEYANCES	---	SAME
SURVEY MONUMENT	---	SAME
SECTION CORNER	---	SAME

NO.	DATE	REVISION	BY	APP.
5	2/2007	Removed future parallel Taxiway A.	AWS	ILMS
4	7/13/06	Revised ALP per FAA comments.	ILMS	ILMS
3	11/18/04	Added cargo hub site plan and aircraft parking per operator.	DPS	JAH
2	5/18/04	Depict existing CAT II ILS, proposed CDF, cargo, fuel, and other improvements.	DPS	JAH
1	4/3/97	Added conveyance information.	SLA	CCB

**AIRPORT LAYOUT PLAN**

**MARCH INLAND PORT  
MORENO VALLEY,  
CALIFORNIA**

DMJM AVIATION | AECOM

DESIGNED: AWS CHECKED: SLA  
DRAWN: AWS DATE: FEB. 2007 SHEET 1 OF 1

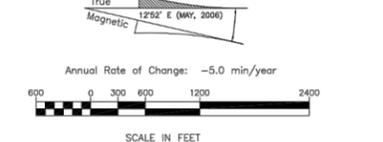
AIRPORT DATA		
	EXISTING	FUTURE
AIRPORT ELEVATION (Above MSL)	1,538	SAME
AIRPORT REFERENCE POINT (ARP) COORDINATES (NAD 83)	LATITUDE 33°52'25.56" N LONGITUDE 117°13'32.03" W	SAME
MEAN MAX. TEMP. OF HOTTEST MONTH	94°F (AUGUST)	SAME
AIRPORT AND TERMINAL NAVAIDS	LS,VORTAC	SAME
AIRPORT REFERENCE CODE	D-V	D-V
AIRPORT WIND COVERAGE % (20 Knots)	99.97	SAME
MISCELLANEOUS FACILITIES	ATCT	SAME
AIRPORT TYPE	WIND CONES	SAME
DESIGN AIRCRAFT	TRANSPORT	SAME
DPS AT AIRPORT?	AN-124	SAME
	NO	YES

**FAA APPROVAL**

The preparation of this plan was financed in part through a 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 this plan by the FAA does not in any way constitute a commitment on the part of the United States to participate in any development depicted therein nor does it indicate that the proposed development is environmentally acceptable in accordance with appropriate public laws.

SPONSOR APPROVAL

APPROVED BY \_\_\_\_\_ NAME \_\_\_\_\_ DATE \_\_\_\_\_



C:\Users\bsb3b\appdata\local\temp\AcPublish\_6500\MAR-airport diagram.dwg Nov 22, 2010 - 2:35pm

Source: DMJM Aviation (February 2007)

Exhibit MA-2  
**Airport Diagram**  
March Air Reserve Base / Inland Port Airport

<b>BASED AIRCRAFT <sup>a</sup></b>			<b>TIME OF DAY DISTRIBUTION <sup>a</sup></b>		
	<b>Current Mission</b>	<b>Future Mission</b>		<b>Current</b>	<b>Future</b>
<i>Aircraft Type</i>			<i>All Aircraft (Military &amp; Civilian)</i>		
KC-135 Tanker	10	no	Day (7:00a.m. – 7:00 p.m.)	72%	67%
C-17 Transport	8	change	Evening (7:00p.m. – 10:00p.m.)	13%	20%
F-16 Fighter/Attack	4		Night (10:00 p.m. – 7:00a.m.)	15%	13%
UH-60 Helicopter	2		<i>Military Aircraft Only</i>		
Cessna	1		Day	77%	77%
<i>Total</i>	<i>25</i>		Evening	13%	13%
			Night	10%	10%
<b>AIRCRAFT OPERATIONS <sup>a</sup></b>			<i>Civilian Aircraft Only (Commercial Cargo)</i>		
	<b>Current <sup>b</sup> Mission</b>	<b>Future <sup>c</sup> Mission</b>	Day	42%	37%
<i>Annual Operations <sup>d</sup></i>			Evening	13%	35%
Military	33,637 <sup>d</sup>	44,860	Night	45%	28%
Civilian	7,176	21,000	<b>RUNWAY USE DISTRIBUTION <sup>a</sup></b>		
CalFire	0	3,740 <sup>e</sup>	<i>All Aircraft – Day/Evening/Night</i>		
<i>Total Annual Operations</i>	<i>40,813 <sup>f</sup></i>	<i>69,600</i>	<i>Takeoffs &amp; Landings</i>		
<i>Average Per Day</i>	<i>181</i>	<i>305</i>	Runway 14	10%	no
<i>Distribution by Aircraft Type</i>			Runway 32	90%	change
Military		(64.4%)	Runway 12	Restricted Use	
Transport	33.9%	29.3%	Runway 30	Restricted Use	
Fighter/Attack	5.0%	3.2%	<b>FLIGHT TRACK USAGE <sup>a</sup></b>		
Helicopter	3.5%	3.0%	<i>Current and Future</i>		
Tanker	37.6%	27.3%	▶ Departures, Runway 32		
Contract Air Carrier	2.4%	1.6%	▶ Aircraft make immediate left turn for southbound departure or left turn to eastbound departure.		
Aero Club	?? <sup>d</sup>	??	▶ Approaches, Runway 32		
Civilian		(30.2%)	▶ Most aircraft enter wide right-traffic pattern from north		
Commercial Cargo	0.0%	18.1%	▶ Straight in approach from the south		
Business Jet	0.0%	2.8%	▶ Departures, Runway 14		
Propeller (singles & twins)	0.0%	9.3%	▶ Straight out departure		
CalFire	0.0%	5.4%	▶ Approaches, Runway 14		
<i>Distribution by Type of Operation</i>			▶ Aircraft use close in right traffic		
Local Operations			▶ Closed Traffic Pattern		
Military	50%	43%	▶ Departing Runway 32 use left traffic procedures		
Civilian	0%	0%	▶ Departing Runway 14 use right traffic procedures		
CalFire	—	0%			
Itinerant Operations					
Military	50%	57%			
Civilian	100%	100%			
CalFire	—	100%			

**Notes**

<sup>a</sup> Source: March ARB AICUZ Study (August 2005)

<sup>b</sup> "Current Mission" represents 2004 military and military-related contract carrier activity as itemized in the 2005 AICUZ Study plus anticipated civilian air cargo operations beginning late Autumn 2005.

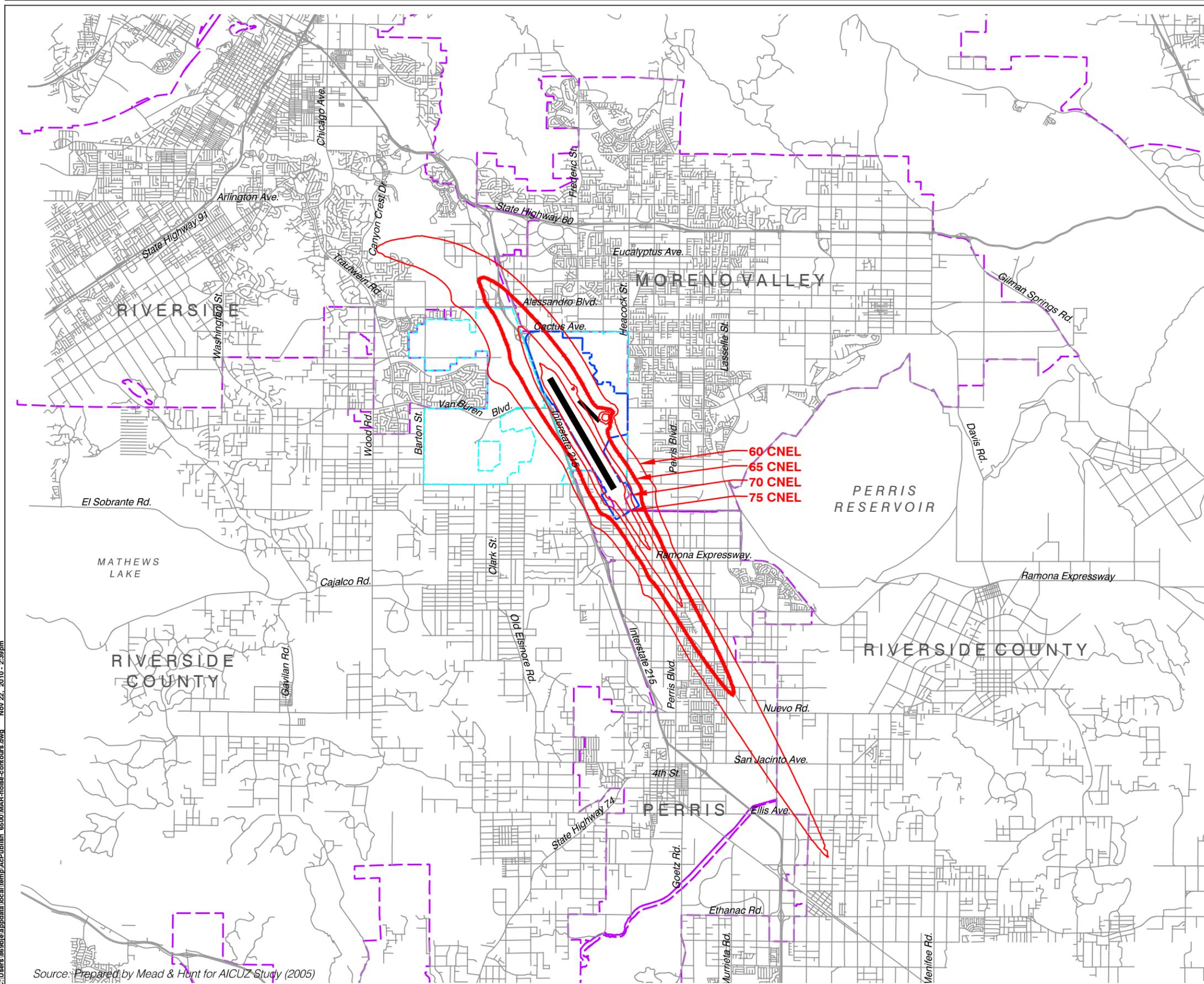
<sup>c</sup> "Future Mission" is 2005 AICUZ projected activity for 2010, including both military and civilian aircraft operations. Per the Joint Use Agreement, civilian operations are capped at 21,000 annually, excluding CalFire. The March Operations Assurance Task Force (MOATF) has determined that this 69,600 annual operations projection is representative of a 20-year forecast for compatibility planning purposes.

<sup>d</sup> Air Force Aero Club operations on the secondary runway are not included in the AICUZ data.

<sup>e</sup> California Department of Forestry and Fire Protection no longer plans to establish a fire attack base at March ARB.

<sup>f</sup> Total activity level for CY 2006 equaled 34,230 operations: military 16,201; general aviation 13,421; and air carrier 4,608. This data is from air traffic control tower and includes Aero Club aircraft operations on the secondary runway. Unlike AICUZ data, the tower counts contract military transport operations as air carrier rather than military and Air Force Aero Club operations as general aviation.

**Exhibit MA-3****Airport Activity Data Summary****March Air Reserve Base / Inland Port Airport**



**LEGEND**

**Noise Contours**

- 60 dB CNEL
  - 65 dB CNEL
  - 70 dB CNEL
  - 75 dB CNEL
- } 2005 AICUZ  
Future Mission  
Average Annual Day\*

**Boundary Lines**

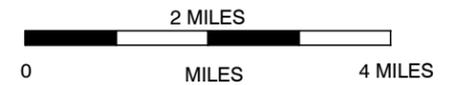
- March Air Reserve Base / Inland Port Airport
- March Joint Powers Authority Property Line
- City Limits

**Forecast (2010)\***

Annual Operations	69,600
Average Annual Day	191

**Source:**

Forecasts and noise contours from Air Installation Compatible Use Zone Study for March Air Reserve Base (August 2005).



**March Air Reserve Base / Inland Port Airport  
Land Use Compatibility Plan**  
(December 2010)

Exhibit MA-4

**Noise Contours (2005 AICUZ)**  
March Air Reserve Base / Inland Port Airport



**LEGEND**

**Compatibility Zones**

- Airport Influence Area Boundary
- Zone A
- Zone B1
- Zone B2
- Zone C1
- Zone C2
- Zone D
- Zone E
- Zone M

**Noise and Overflight Compatibility Factors**

- 75 dB CNEL
  - 70 dB CNEL
  - 65 dB CNEL
  - 60 dB CNEL
- 2005 AICUZ  
Future Mission
- General Approach/Departure Traffic Pattern Envelope (approximately 80% of aircraft overflights estimated to occur within these limits)
  - Closed Circuit Traffic Pattern Envelope (approximately 80% of large aircraft overflights estimated to occur within these limits)

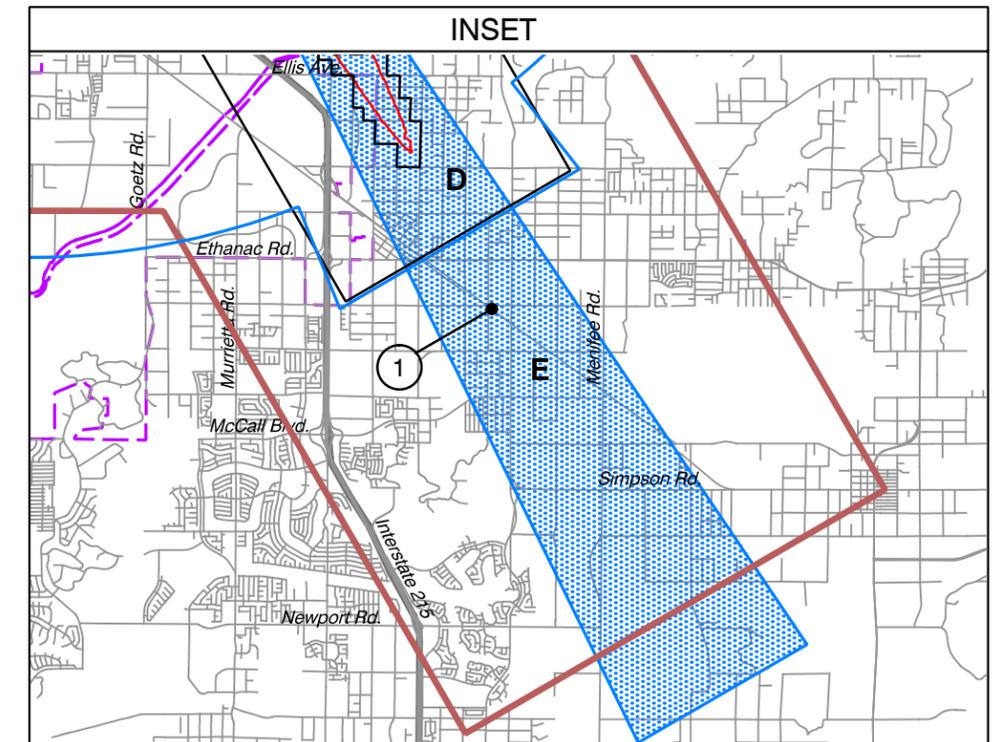
**Safety and Airspace Compatibility Factors**

- Accident Potential Zones
- FAR Part 77 Surface Limits
- Military Outer Horizontal Surface
- Civilian Conical Surface
- Terrain Penetration of FAR Part 77 Surfaces
- Military
- Civilian

**Boundary Lines**

- March Air Reserve Base / Inland Port Airport
- March Joint Powers Authority Property Line
- City Limits

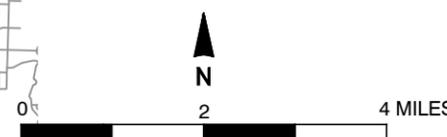
- ① Point at which aircraft on Runway 32 ILS approach descend below 3,000 feet above runway end. Airport Elevation is 1,535 feet MSL.
- ② Point at which departing aircraft typically reach 3,000 feet above runway end.



**March Air Reserve Base / Inland Port Airport  
Land Use Compatibility Plan  
(December 2010)**

Exhibit MA-5

**Compatibility Factors Map  
March Air Reserve Base / Inland Port Airport**



SEE INSET AT RIGHT

**AIRPORT SITE**

- ▶ *Location*
  - › Northwestern section of Riverside County
  - › 10 miles southeast of central Riverside
  - › Situated on high valley floor of Perris Valley
- ▶ *Nearby Terrain*
  - › Relatively flat in immediate vicinity
  - › Santa Ana and San Jacinto Mountain Ranges located to the west and east, respectively
  - › Terrain greater than 150 ft. above the airport elevation (1,538 ft. MSL) exists several miles to the northeast (Box Springs Mts.), southwest (Santa Ana Mts.) and southeast (Lakeview Mts.)

**AIRPORT ENVIRONS LAND USE JURISDICTIONS**

- ▶ *March Joint Powers Authority*
  - › Has land use authority over March JPA property
- ▶ *Riverside County*
  - › Airport lies entirely within unincorporated area
- ▶ *City of Moreno Valley*
  - › Borders airport to the east
- ▶ *City of Perris*
  - › Borders airport to the south and lies beneath primary airport approach routes
- ▶ *City of Riverside*
  - › Borders airport to the west-northwest and lies beneath primary airport departure routes

**EXISTING AIRPORT AREA LAND USES**

- ▶ *General Character*
  - › Immediate area lies within the March JPA boundary and is primarily developed to the northeast and undeveloped west of Highway 215
  - › Lands within the cities of Riverside and Moreno Valley are primarily devoted to existing land uses
  - › Urban development encroaches airport to the south (City of Perris) and west (County of Riverside)
  - › Scattered rural residential development to the north (City of Riverside) and south (City of Perris)
  - › Perris reservoir located 3 mi. southeast
- ▶ *Runway Approaches*
  - › Northwest (Runway 14): Sycamore Canyon Park with residential neighborhoods, Sycamore Canyon and Canyon Springs neighborhoods with major activity centers
  - › Southeast (Runway 32): Industrial, commercial and business park uses; residential uses 2 mi.

**STATUS OF COMMUNITY PLANS**

- ▶ *Riverside County*
  - › General Plan adopted by Board of Supervisors October 2003
  - › Reche Canyon, Mead Valley and Lake Mathews Area Plans Final Drafts (October 2003)
- ▶ *March Joint Powers Authority*
  - › General Plan adopted by March JPA (1999)
  - › General Plan Land Use Map adopted August 2004
  - › March Business Center Specific Plan adopted February 2003
  - › Development Code adopted July 1997
  - › Zoning Map adopted May 2004
- ▶ *City of Moreno Valley*
  - › General Plan adopted by City Council in 1988
  - › General Plan Update in progress; pending adoption mid 2006
- ▶ *City of Perris*
  - › General Plan adopted by City Council October 1991
  - › General Plan 2030 Update in progress; pending adoption late 2006
- ▶ *City of Riverside*
  - › General Plan 2025 adopted by City Council November 2007

**PLANNED AIRPORT AREA LAND USES**

- ▶ *March Joint Powers Authority*
  - › Northeast: Low Density Residential, Mixed Use, Business Park, Office and Recreational area
  - › West: Industrial, Business Park, Mixed Use and Commercial uses with scattered Recreational uses west of Highway 215
  - › South: Aviation-related uses
- ▶ *Riverside County*
  - › Southwest: Very low density residential, Business Park and Light Industrial
- ▶ *City of Moreno*
  - › Northeast: Office, Commercial, Specific Plan areas and Residential uses
  - › East: Low density residential uses with scattered commercial uses and public facilities
- ▶ *City of Perris*
  - › South: Industrial and commercial uses
- ▶ *City of Riverside*
  - › Northwest: Industrial/Business Parks and Sycamore Canyon Park facility
  - › West: Medium residential uses with scattered commercial uses and parks

Exhibit MA-6

## Airport Environs Information

### March Air Reserve Base / Inland Port Airport

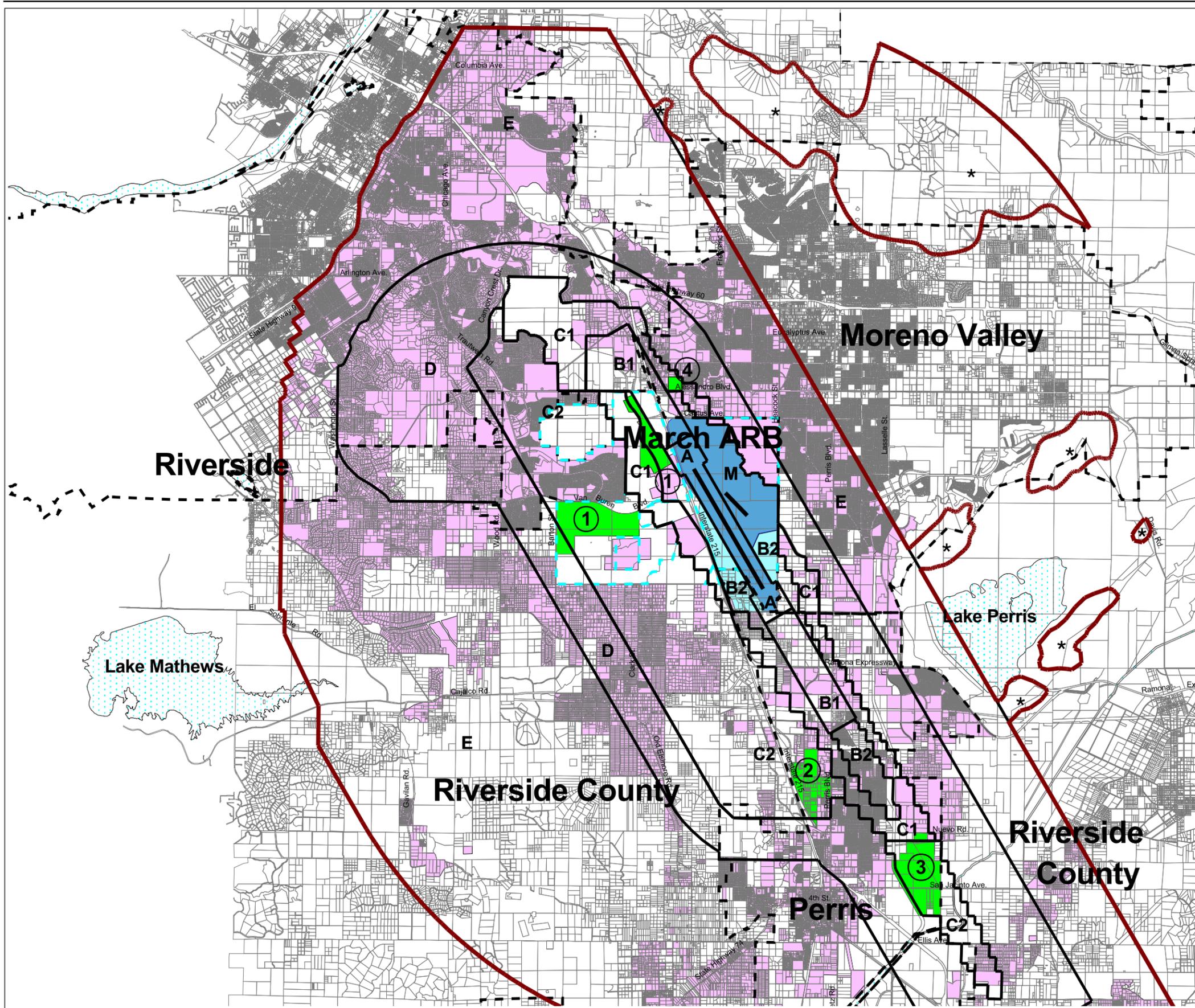
**ESTABLISHED AIRPORT COMPATIBILITY MEASURES**

- ▶ *Riverside County General Plan (October 2003)*
  - › Prohibit new residential uses, except single-family dwellings on legal residential lots of record, within airports' 60 dB CNEL contour as defined by ALUC (Policy N 7.3)
  - › Submit proposed actions to ALUC as required by state law (Policy LU 1.8); other actions and projects may be submitted on voluntary and advisory basis (LU 14.8)
- ▶ *City of Riverside General Plan (September 1994)*
  - › Residential development and noise sensitive uses deemed conditionally acceptable in 60-70 CNEL range; normally unacceptable at 70-75 CNEL; clearly unacceptable above 75 CNEL
  - › Transportation Element Policy T 3.8 states that city "should limit building heights and land use intensities beneath airport approach and departure paths to protect public safety"
- ▶ *City of Riverside Zoning Codes*
  - › Airport zone (AIR) and airport industrial (AI) zone restrict types of uses and heights of structures on and near airports
  - › No FAR Part 77 height limit zoning
- ▶ *City of Perris General Plan (1991)*
  - › Residential development and noise sensitive uses (e.g., schools) deemed conditionally acceptable in 60-70 CNEL range; low density residential deemed conditionally acceptable in 55-70 CNEL range; residential uses normally unacceptable at 70-75 CNEL; clearly unacceptable above 75 CNEL
  - › Perris Municipal Code (Chapter 16.22) regulates new development located near airports and requires noise mitigations on residential uses exposed to exterior noise levels of 60 dBA CNEL or greater
- ▶ *City of Moreno Valley General Plan (1988)*
  - › Data not available at this time
- ▶ *City of Moreno Valley Zoning*
  - › Air Installation Compatibility Use Overlay District (AICUZ) limits types of uses within the airport's accident potential zones I and II

**DRAFT AIRPORT COMPATIBILITY MEASURES**

- ▶ *City of Riverside General Plan 2025 Update*
  - › Limit building heights and land use intensities beneath airport approach and departure paths to protect public safety (Policy CCM 11.2)
  - › Utilize the Airport Protection Overlay Zone to advise landowners of special noise considerations associated with their development (Policy N 2.5)
  - › Ensure development within airport influence area is consistent with Airport Protection Overlay Zone (Policy PS 4.6)
- ▶ *City of Perris General Plan 2030 Update*
  - › Low density residential uses are deemed conditionally acceptable within Accident Potential Zone II; all other residential uses are restricted. All residential uses are deemed conditionally acceptable in 60-70 dB DNL range; strongly discouraged in 70-75 DNL; not acceptable above 75 DNL
  - › Consult AICUZ and ALUP guidelines when considering development proposed projects (Policy I.D)
  - › Consider recommendations of the ALUC regarding potential land uses or projects affecting the Perris Valley Airport Environs Area (Policy VI.B.2); March ARB / IPA influence area not specifically referenced
- ▶ *City of Moreno Valley General Plan Update*
  - › Data not available at this time

Exhibit MA-6, continued



**Legend**

- City Limits
- Runway
- Airport Influence Area Boundary
- Compatibility Zones
- March Air Reserve Base
- Inland Port Airport Property
- March Joint Powers Authority Property
- High Terrain Zone
- Existing Development
- Site-Specific Exceptions (existing local agency commitments to development projects)
  - ① March Business Center (March JPA)
  - ② Harvest Landing (Perris)
  - ③ Park West (Perris)
  - ④ Low-Income housing (Moreno Valley)

Note: This map depicts land where major development exists or has been approved by local jurisdictions.

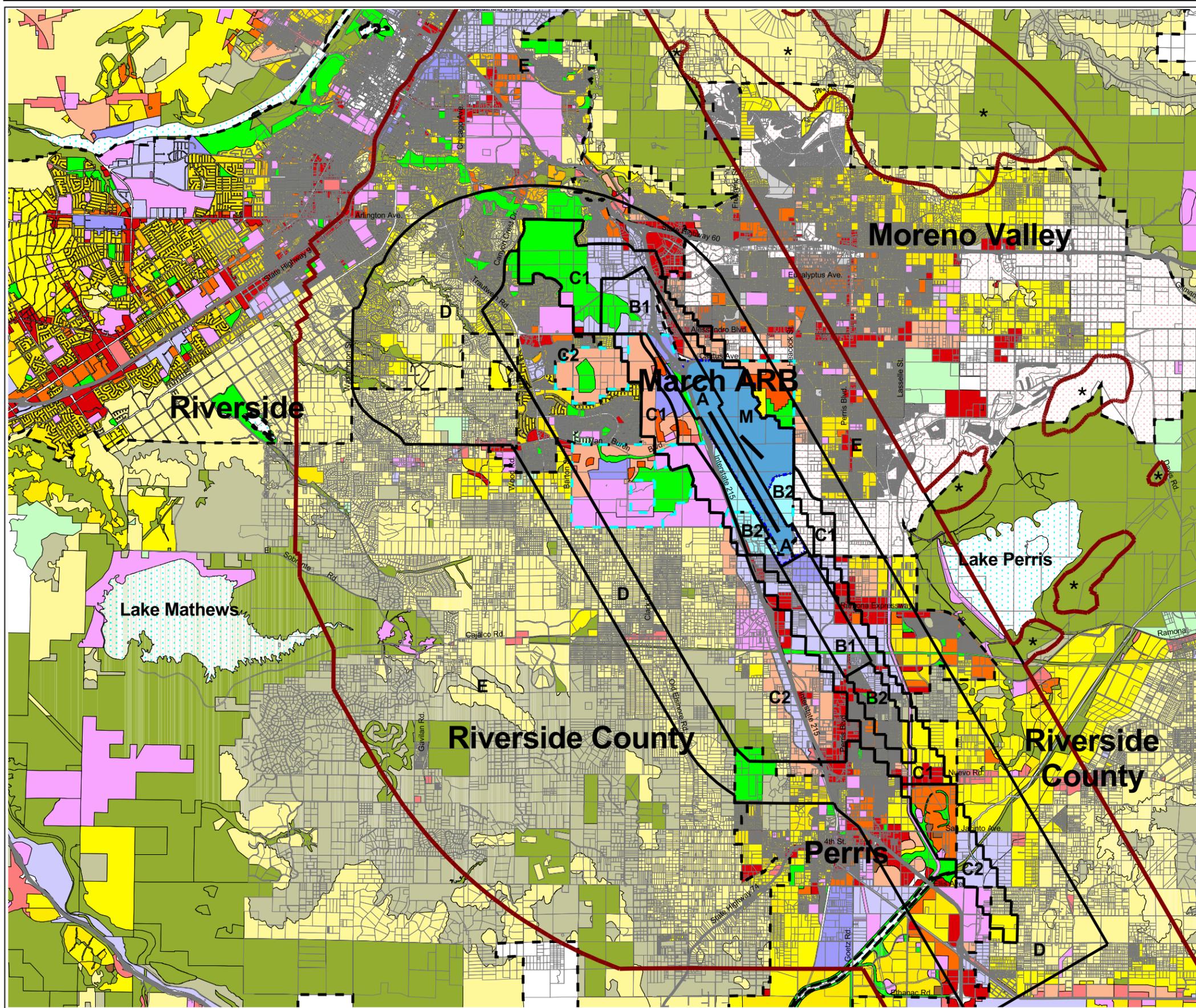
Sources:  
 Google Earth (2007)  
 County of Riverside (2005)  
 City of Riverside (2006)  
 City of Perris (2006)



**March Air Reserve Base / Inland Port Airport  
 Land Use Compatibility Plan  
 (December 2010)**

Exhibit MA-7

**Existing Development  
 March Air Reserve Base / Inland Port Airport**



**Legend**

- City Limits
- Runway
- Airport Influence Area Boundary
- Compatibility Zones
- March Air Reserve Base
- Inland Port Airport Property
- March Joint Powers Authority Property
- High Terrain Zone

- Residential >20 du/ac
- Residential 8.1-20.0 du/ac
- Residential 4.1-8.0 du/ac
- Residential 1.1-4.0 du/ac
- Residential ≤1.0 du/ac
- Mobile Home Park
- High-Intensity Commercial/Office
- Low-Intensity Commercial /Office
- Office/Business Park
- Heavy Industrial
- Light Industrial/Warehousing
- Mixed Use
- School
- Other Public/Institutional
- Parks & Recreation
- Rural Residential
- Agriculture
- Open Space/Conservation
- Federal Lands
- State Lands
- Indian Lands
- Unclassified
- Specific Plan Area

Note: This map is combined and simplified from the following map sources:  
 Riverside County General Plan (October 2003)  
 City of Riverside General Plan 2025 Update (August 2005)  
 City of Moreno Valley General Plan (October 2006)  
 City of Perris General Plan (April 2005)



**March Air Reserve Base / Inland Port Airport  
 Land Use Compatibility Plan  
 (December 2010)**

Exhibit MA-8

**General Plan Land Use Designations  
 March Air Reserve Base / Inland Port Airport**

## Policy Excerpts from Riverside County ALUCP

---

*Note: The following are excerpts from Chapter 2, Countywide Policies, as found in the “Riverside County Airport Land Use Compatibility Plan, Volume 1, Policy Document” adopted by the Riverside County Airport Land Use Commission beginning in October 2004 for 11 of the 14 public-use or military airports in or affecting the county. The March Air Reserve Base / Inland Port Airport (ARB/IPA) is not among the airports for which the countywide policies have been adopted. The March Joint Land Use Study (JLUS) is intended to serve as the basis for the Airport Land Use Compatibility Plan for this airport. Except where specific exceptions are proposed as listed in Appendix A of this JLUS, the countywide policies are anticipated to be applicable to March ARB/IPA.*

### 1. GENERAL APPLICABILITY

#### 1.5. Types of Actions Reviewed

- 1.5.1. *Actions Which Always Require ALUC Review:* As required by state law, the following types of actions shall be referred to the Airport Land Use Commission for determination of consistency with the Commission’s *Plan* prior to their approval by the local jurisdiction:
- (a) The adoption or approval of any amendment to a general or specific plan affecting the property within an airport influence area (Public Utilities Code Section 21676(b)).
  - (b) The adoption or approval of a zoning ordinance or building regulation which (1) affects property within an airport influence area, and (2) involves the types of airport impact concerns listed in Section 1.4 (Public Utilities Code Section 21676(b)).
  - (c) Adoption or modification of the master plan for an existing public-use airport (Public Utilities Code Section 21676(c)).
  - (d) Any proposal for expansion of an existing airport or heliport if such expansion will require an amended airport permit from the state of California (Public Utilities Code Section 21664.5).
  - (e) Any proposal for a new airport or heliport whether for public use or private use (Public Utilities Code Section 21661.5) if the facility requires a state airport permit.
- 1.5.2. *Other Land Use Actions Subject to ALUC Review:* In addition to the above types of land use actions for which ALUC review is mandatory, other types of land use actions are subject to review under the following circumstances:
- (a) Until such time as (1) the Commission finds that a local agency’s general plan or specific plan is consistent with the *Airport Land Use Compatibility Plan*, or (2) the local agency has overruled the Commission’s determination of inconsistency,

state law provides that the ALUC may require the local agency to refer all actions, regulations, and permits involving land within an airport influence area to the Commission for review (Public Utilities Code Section 21676.5(a)). Only those actions that the ALUC elects not to review are exempt from this requirement. Commission policy is that only the *major land use actions* listed in Policy 1.5.3 shall be submitted for review.

- (b) After a local agency has revised its general plan or specific plan (see Section 3.2) or has overruled the Commission, the Commission no longer has authority under state law to require that all actions, regulations, and permits be referred for review. However, the Commission and the local agency can agree that the Commission should continue to review individual projects in an advisory capacity.
  - (1) The Commission requests local agencies to continue to submit *major land use actions* as listed in Policy 1.5.3. ALUC review of these types of projects can serve to enhance their compatibility with airport activity.
  - (2) Review of these actions is requested only if a review has not previously been conducted as part of a general plan, specific plan, or zoning ordinance action or if sufficient project-level detail to enable a full assessment of compatibility was not available at the time of a previous review.
  - (3) Because the ALUC acts in an advisory capacity when reviewing projects under these circumstances, local jurisdictions are not required to adhere to the overruling process if they elect to approve a project without incorporating design changes or conditions suggested by the Commission.
- (c) Proposed redevelopment of a property for which the existing use is consistent with the general plan and/or specific plan, but nonconforming with the compatibility criteria set forth in this plan, shall be subject to ALUC review. This policy is intended to address circumstances that arise when a general or specific plan land use designation does not conform to ALUC compatibility criteria, but is deemed consistent with the compatibility plan because the designation reflects an existing land use. Proposed redevelopment of such lands voids the consistency status and is to be treated as new development subject to ALUC review even if the proposed use is consistent with the local general plan or specific plan. (Also see Policies 3.3.2 and 3.3.3.)
- (d) Proposed land use actions covered by Paragraphs (a), (b), and (c) above shall initially be reviewed by the ALUC Executive Director. If the Executive Director determines that significant compatibility issues are evident, the proposal shall be forwarded to the Commission for review and decision. The Commission authorizes the Executive Director to approve proposed actions having no apparent compatibility issues of significance.

1.5.3. *Major Land Use Actions:* The scope or character of certain *major land use actions*, as listed below, is such that their compatibility with airport activity is a potential concern. Even though these actions may be basically consistent with the local general plan or specific plan, sufficient detail may not be known to enable a full airport compatibility evaluation at the time that the general plan or specific plan is reviewed. To enable better assessment of compliance with the compatibility criteria set forth herein, ALUC review of these actions may be warranted. The circumstances under which ALUC review of these actions is to be conducted are indicated in Policy 1.5.2 above.

- (a) Actions affecting land uses within any compatibility zone.
- (1) Any proposed expansion of the sphere of influence of a city or special district.
  - (2) Proposed pre-zoning associated with future annexation of land to a city.
  - (3) Proposed development agreements or amendments to such agreements.
  - (4) Proposed residential development, including land divisions, consisting of five or more dwelling units or lots.
  - (5) Any discretionary development proposal for projects having a building floor area of 20,000 square feet or greater unless only ministerial approval (e.g., a building permit) is required.
  - (6) Major capital improvements (e.g., water, sewer, or roads) which would promote urban uses in undeveloped or agricultural areas to the extent that such uses are not reflected in a previously reviewed general plan or specific plan.
  - (7) Proposed land acquisition by a government entity for any facility accommodating a congregation of people (for example, a school or hospital).
  - (8) Any off-airport, nonaviation use of land within *Compatibility Zone A* of any airport.
  - (9) Proposals for new development (including buildings, antennas, and other structures) having a height of more than:
    - 35 feet within *Compatibility Zone B1, B2, or a Height Review Overlay Zone*;
    - 70 feet within *Compatibility Zone C*; or
    - 150 feet within *Compatibility Zone D or E*.
  - (10) Any obstruction reviewed by the Federal Aviation Administration in accordance with Part 77 of the Federal Aviation Regulations that receives a finding of anything other than “not a hazard to air navigation.”
  - (11) Any project having the potential to create electrical or visual hazards to aircraft in flight, including:
    - Electrical interference with radio communications or navigational signals;
    - Lighting which could be mistaken for airport lighting;
    - Glare in the eyes of pilots of aircraft using the airport; and
    - Impaired visibility near the airport.
  - (12) Projects having the potential to cause attraction of birds or other wildlife that can be hazardous to aircraft operations to be increased within the vicinity of an airport.
- (b) Proposed nonaviation development of airport property if such development has not previously been included in an airport master plan or community general plan reviewed by the Commission. (See Policy 1.2.5 for definition of *aviation-related use*.)
- (c) Regardless of location within Riverside County, any proposal for construction or alteration of a structure (including antennas) taller than 200 feet above the ground level at the site. (Such structures also require notification to the Federal Aviation Administration in accordance with Federal Aviation Regulations, Part 77, Paragraph 77.13(a)(1).)

- (d) Any other proposed land use action, as determined by the local planning agency, involving a question of compatibility with airport activities.

### 3. COMPATIBILITY CRITERIA FOR LAND USE ACTIONS

#### 3.1 Basic Criteria

3.1.3. *Residential Development:* The following criteria shall be applied to evaluation of the compatibility of proposed residential development.

- (a) Any subdivision of land for residential uses within *Compatibility Zones A, B1, B2, and C* shall not result in a density greater than that indicated in the Compatibility Criteria matrix, Table 2A.
  - (1) Secondary units, as defined by state law, shall be excluded from density calculations.
  - (2) Clustering of development shall be limited in accordance with Policy 4.2.5(a)(2).
- (b) Within *Compatibility Zone D*, local land use jurisdictions have two options. The basic option is to limit densities to no more than 0.2 dwelling units per acre. Additionally, a high-density option is provided. This option requires that densities be *greater than* 5.0 dwelling units per acre (i.e., an average parcel size *less than* 0.2 gross acres). See Table 3A for an explanation of the rationale behind these options.
- (c) Other development conditions as also listed in Table 2A apply to sites within certain compatibility zones.
- (d) Mixed use development in which residential uses are proposed to be located in conjunction with nonresidential uses in the same or adjoining buildings on the same site shall be treated as nonresidential development. The occupancy of the residential portion shall be added to that of the nonresidential portion and evaluated with respect to the nonresidential usage intensity criteria below.
  - (1) This mixed-use development policy is intended for dense, urban-type developments where the resultant ambient noise levels are relatively high. The policy is not intended to apply to projects in which the residential component is isolated from the nonresidential uses of the site.
  - (2) Noise attenuation and other requirements that may be specifically relevant to residential uses shall still apply.

3.1.4. *Nonresidential Development:* The compatibility of nonresidential development shall be assessed primarily with respect to its usage intensity (the number of people per acre) and the noise-sensitivity of the use. Additional criteria listed in Table 2A shall also apply.

- (a) The total number of people permitted on a project site at any time, except for rare special events, must not exceed the indicated usage intensity times the gross acreage of the site.

- (1) Usage intensity calculations shall include all people (e.g., employees, customers/visitors, etc.) who may be on the property at any single point in time, whether indoors or outside.
  - (2) Rare special events are ones (such as 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.
- (b) No single acre of a project site shall exceed the number of people per acre indicated in Policy 4.2.5(b) and listed in Table 2A unless special risk reduction building design measures are taken as described in Policy 4.2.6.
  - (c) The noise exposure limitations cited in Policy 4.1.4 and listed in Table 2B shall be the basis for assessing the acceptability of proposed nonresidential land uses relative to noise impacts. The ability of buildings to satisfy the interior noise level criteria noted in Policy 4.1.6 shall also be considered.

### 3.3. Special Conditions

3.3.1. *Infill*: Where development not in conformance with the criteria set forth in this *Compatibility Plan* already exists, additional infill development of similar land uses may be allowed to occur even if such land uses are to be prohibited elsewhere in the zone. This exception does not apply within *Compatibility Zones A* or *B1*.

- (a) A parcel can be considered for *infill* development if it meets *all* of the following criteria plus the applicable provisions of either Sub-policy (b) or (c) below:
  - (1) The parcel size is no larger than 20.0 acres.
  - (2) At least 65% of the site's perimeter is bounded (disregarding roads) by existing uses similar to, or more intensive than, those proposed.
  - (3) The proposed project would not extend the perimeter of the area defined by the surrounding, already developed, incompatible uses.
  - (4) Further increases in the residential density, nonresidential usage intensity, and/or other incompatible design or usage characteristics (e.g., through use permits, density transfers, addition of second units on the same parcel, height variances, or other strategy) are prohibited.
  - (5) The area to be developed cannot previously have been set aside as open land in accordance with policies contained in this *Plan* unless replacement open land is provided within the same compatibility zone.
- (b) For residential development, the average development density (dwelling units per gross acre) of the site shall not exceed the lesser of:
  - (1) The average density represented by all existing lots that lie fully or partially within a distance of 300 feet from the boundary of the parcel to be divided; or
  - (2) Double the density permitted in accordance with the criteria for that location as indicated in the Compatibility Criteria matrix, Table 2A.
- (c) For nonresidential development, the average usage intensity (the number of people per gross acre) of the site's proposed use shall not exceed the lesser of:
  - (1) The average intensity of all existing uses that lie fully or partially within a distance of 300 feet from the boundary of the proposed development; or

- (2) Double the intensity permitted in accordance with the criteria for that location as indicated in the Compatibility Criteria matrix, Table 2A.
  - (d) The single-acre and risk-reduction design density and intensity multipliers described in Policies 4.2.5 and 4.2.6 and listed in Table 2A are applicable to infill development.
  - (e) Infill development on some parcels should not enable additional parcels to then meet the qualifications for infill. The ALUC's intent is that parcels eligible for infill be determined just once. Thus, in order for the ALUC to consider proposed development under these infill criteria, the entity having land use authority (Riverside County or affected cities) must first identify the qualifying locations in its general plan or other adopted planning document approved by the ALUC. This action may take place in conjunction with the process of amending a general plan for consistency with the ALUC plan or may be submitted by the local agency for consideration by the ALUC at the time of initial adoption of this *Compatibility Plan*. In either case, the burden for demonstrating that a proposed development qualifies as infill rests with the affected land use jurisdiction and/or project proponent.
- 3.3.2. *Nonconforming Uses:* Existing uses (including a parcel or building) not in conformance with this *Compatibility Plan* may only be expanded as follows:
- (a) Nonconforming residential uses may be expanded in building size provided that the expansion does not result in more dwelling units than currently exist on the parcel (a bedroom could be added, for example, but a separate dwelling unit could not be built). No ALUC review of such improvements is required.
  - (b) A nonconforming nonresidential development may be continued, leased, or sold and the facilities may be maintained or altered (including potentially enlarged), provided that the portion of the site devoted to the nonconforming use is not expanded and the usage intensity (the number of people per acre) is not increased above the levels existing at the time of adoption of this *Compatibility Plan*. No ALUC review of such changes is required.
  - (c) ALUC review is required for any proposed expansion of a nonconforming use (in terms of the site size or the number of dwelling units or people on the site). Factors to be considered in such reviews include whether the development qualifies as infill (Policy 3.3.1) or warrants approval because of other special conditions (Policy 3.3.6).
- 3.3.3. *Reconstruction:* An existing nonconforming development that has been fully or partially destroyed as the result of a calamity may be rebuilt only under the following conditions:
- (a) Nonconforming residential uses may be rebuilt provided that the expansion does not result in more dwelling units than existed on the parcel at the time of the damage.
  - (b) A nonconforming nonresidential development may be rebuilt provided that it has been only partially destroyed and that the reconstruction does not increase the floor area of the previous structure or result in an increased intensity of use (i.e., more people per acre). Partial destruction shall be considered to mean

damage that can be repaired at a cost of no more than 75% of the assessor's full cash value of the structure at the time of the damage.

- (c) Any nonresidential use that has been more than 75% destroyed must comply with all applicable standards herein when reconstructed.
- (d) Reconstruction under Paragraphs (1) or (2) above must begin within 24 months of the date the damage occurred.
- (e) The above exceptions do not apply within *Zone A* or where such reconstruction would be in conflict with a county or city general plan or zoning ordinance.
- (f) Nothing in the above policies is intended to preclude work required for normal maintenance and repair.

3.3.4. *Development by Right:* Nothing in these policies prohibits:

- (a) Construction of a single-family home, including a second unit as defined by state law, on a legal lot of record if such use is permitted by local land use regulations.
- (b) Construction of other types of uses if local government approvals qualify the development as effectively existing (see Policy 1.2.10 for definition).
- (c) Lot line adjustments provided that new developable parcels would not be created and the resulting gross density or intensity of the affected property would not exceed the applicable criteria indicated in the Compatibility Criteria matrix, Table 2A.

3.3.5. *Parcels Lying within Two or More Compatibility Zones:* For the purposes of evaluating consistency with the compatibility criteria set forth herein, any parcel that is split by compatibility zone boundaries shall be considered as if it were multiple parcels divided at the compatibility zone boundary line. However, the density or intensity of development allowed within the more restricted portion of the parcel can (and is encouraged to) be transferred to the less restricted portion. This transfer of development is permitted even if the resulting density or intensity in the less restricted area would then exceed the limits which would otherwise apply within that compatibility zone.

3.3.6. *Other Special Conditions:* The compatibility criteria set forth in this *Plan* are intended to be applicable to all locations within each airport's influence area. However, it is recognized that there may be specific situations where a normally incompatible use can be considered compatible because of terrain, specific location, or other extraordinary factors or circumstances related to the site.

- (a) After due consideration of all the factors involved in such situations, the Commission may find a normally incompatible use to be acceptable.
- (b) In reaching such a decision, the Commission shall make specific findings as to why the exception is being made and that the land use will not create a safety hazard to people on the ground or aircraft in flight nor result in excessive noise exposure for the proposed use. Findings also shall be made as to the nature of the extraordinary circumstances that warrant the policy exception.
- (c) The burden for demonstrating that special conditions apply to a particular development proposal rests with the project proponent and/or the referring agency, not with the ALUC.

- (d) The granting of a special conditions exception shall be considered site specific and shall not be generalized to include other sites.
- (e) Special conditions that warrant general application in all or part of the influence area of one airport, but not at other airports, are set forth in Chapter 3 of this *Compatibility Plan*.

## 4. SUPPORTING COMPATIBILITY CRITERIA

### 4.1. Noise

- 4.1.1. *Policy Objective:* The purpose of noise compatibility policies is to avoid establishment of noise-sensitive land uses in the portions of airport environs that are exposed to significant levels of aircraft noise.
- 4.1.2. *Noise Contours:* The evaluation of airport/land use noise compatibility shall consider both the current and future Community Noise Equivalent Level (CNEL) contours of each airport as depicted in Chapter 3 of this *Plan*.
  - (a) At most airports in the county, anticipated growth in aircraft operations results in projected future noise contours being larger than current ones. However, in some instances, factors such as introduction of a quieter aircraft fleet mix, planned changes to the configuration of airport runways, or expected modifications to flight procedures can result in current contours being larger than the future contours in some or all of the airport environs. In these cases, a composite of the contours for the two time frames shall be considered in compatibility analyses.
  - (b) For airport at which aircraft activity has substantial seasonal or weekly characteristics, noise contours associated with the peak operating season or days of the week shall be taken into account in assessing land use compatibility.
  - (c) Projected noise contours included in Chapter 3 are calculated based upon forecasted aircraft activity as indicated in an airport master plan or that is considered by the Riverside County Airport Land Use Commission to be plausible (refer to activity data in the Background Data volumes). The Airport Land Use Commission or the entities that operate airports in Riverside County should periodically review these projected noise level contours and update them if appropriate.
- 4.1.3. *Application of Noise Contours:* The locations of CNEL contours are among the factors used to define compatibility zone boundaries and criteria. Because of the inherent variability of flight paths and other factors that influence noise emissions, the depicted contour boundaries are not absolute determinants of the compatibility or incompatibility of a given land use on a specific site or a portion thereof. Noise contours can only quantify noise impacts in a general manner. Except on large parcels or blocks of land (sites large enough to have 3 dB or more of variation in CNELs), they should *not* be used as site design criteria. (Note, though, that the airport noise contours set forth in this *Plan* are to be used as the basis for determining compliance with interior noise level criteria as listed in Policy 4.1.6.)
- 4.1.4. *Noise Exposure in Residential Areas:* Unless otherwise indicated in the airport-specific policies listed in Chapter 3, the maximum CNEL considered normally acceptable for

new residential land uses in the vicinity of the airports covered by this *Plan* is 60 dB for all airports except low-activity outlying airports (Chiriaco Summit and Desert Center) for which the criterion is 55 dB. These standards shall be based upon noise contours calculated as described above.

- 4.1.5. *Noise Exposure for Other Land Uses:* Noise level compatibility standards for other types of land uses shall be applied in the same manner as the above residential noise level criteria. The extent of outdoor activity associated with a particular land use is an important factor to be considered in evaluating its compatibility with airport noise. Examples of acceptable noise levels for other land uses in an airport's vicinity are presented in Table 2B of the Riverside County ALUCP.
- 4.1.6. *Interior Noise Levels:* Land uses for which interior activities may be easily disrupted by noise shall be required to comply with the following interior noise level criteria.
- (a) The maximum, aircraft-related, interior noise level that shall be considered acceptable for land uses near airports is 45 dB CNEL in:
    - ▶ Any habitable room of single- or multi-family residences;
    - ▶ Hotels and motels;
    - ▶ Hospitals and nursing homes;
    - ▶ Churches, meeting halls, theaters, and mortuaries;
    - ▶ Office buildings; and
    - ▶ Schools, libraries, and museums.
  - (b) The noise contours depicted in Chapter 3 of this *Plan* shall be used in calculating compliance with these criteria. The calculations should assume that windows are closed.
  - (c) When reviewed as part of a general plan or zoning ordinance amendment or as a major land use action, evidence that proposed structures will be designed to comply with the above criteria shall be submitted to the ALUC under the following circumstances:
    - (1) Any mobile home situated within an airport's 55-dB CNEL contour. [A typical mobile home has an average exterior-to-interior noise level reduction (NLR) of approximately 15 dB with windows closed.]
    - (2) Any single- or multi-family residence situated within an airport's 60-dB CNEL contour. [Wood frame buildings constructed to meet 1990s standards for energy efficiency typically have an average NLR of approximately 20 dB with windows closed.]
    - (3) Any hotel or motel, hospital or nursing home, church, meeting hall, office building, mortuary, school, library, or museum situated with an airport's 65-dB CNEL contour.
- 4.1.7. *Engine Run-Up and Testing Noise:* ALUC consideration of noise from aircraft engine run-ups and testing activities shall be limited as follows:
- (a) Aircraft noise associated with pre-flight engine run-ups, taxiing of aircraft to and from runways, and other operation of aircraft on the ground is considered part of airport operations and therefore is not subject to ALUC authority.
    - (1) Noise from these sources can be, but normally is not, represented in airport noise contours. It is not included in the noise contours prepared for this *Compatibility Plan*. Nevertheless, when reviewing the compatibility of pro-

posed land uses in locations near the airport where such noise may be significant, the Commission may seek additional data and may take into account noise from these ground-based sources.

(2) Noise from aircraft ground operations also should be considered by the Commission when reviewing airport master plans or development plans in accordance with Section 2.4 herein.

(b) Noise from the testing of aircraft engines on airport property is not deemed an activity inherent in the operation of an airport and thus it is not an airport-related impact addressed by this *Compatibility Plan*. Noise from these sources should be addressed by the noise policies of local agencies in the same manner as noise from other industrial sources. (Engine testing noise is not normally included in the noise contours prepared for an airport. However, aircraft noise modeling programs have the capability of including noise from this source. At airports where engine testing takes place or is proposed, the ALUC may need to ascertain whether the noise was or was not included in the noise contour calculations.)

4.1.8. *Construction of New or Expanded Airports or Heliports:* Any proposed construction of a new airport or heliport or expansion of facilities at an existing airport or heliport which would result in a significant increase in cumulative noise exposure (measured in terms of CNEL) shall include measures to reduce the exposure to a less-than-significant level. For the purposes of this plan, a noise increase shall be considered significant if:

- (a) In locations having an existing ambient noise level of less than 60 dB CNEL, the project would increase the noise level by 5.0 dB or more.
- (b) In locations having an existing ambient noise level of between 60 and 65 dB CNEL, the project would increase the noise level by 3.0 dB or more.
- (c) In locations having an existing ambient noise level of more than 65 dB CNEL, the project would increase the noise level by 1.5 dB or more.

## 4.2. Safety

4.2.1. *Policy Objective:* The intent of land use safety compatibility criteria is to minimize the risks associated with an off-airport aircraft accident or emergency landing.

- (a) Risks both to people and property in the vicinity of an airport and to people on board the aircraft shall be considered.
- (b) The most stringent land use controls shall be applied to the areas with the greatest potential risks.

4.2.2. *Risks to People on the Ground:* The principal means of reducing risks to people on the ground is to restrict land uses so as to limit the number of people who might gather in areas most susceptible to aircraft accidents. The usage intensity criteria cited in the Basic Compatibility Criteria table reflect the risks associated with various locations in the environs of the airports in the county. (Methods for determining the concentration of people for various land uses are provided in Appendix C.)

- 4.2.3. *Land Uses of Special Concern:* Certain types of land uses represent special safety concerns irrespective of the number of people associated with those uses. Land uses of particular concern include:
- (a) *Uses Having Vulnerable Occupants:* Uses in which the occupants have reduced effective mobility or are unable to respond to emergency situations shall be prohibited within all *Compatibility Zones* except *Zone E*. These uses include children's schools and day care centers (with 7 or more children), hospitals, nursing homes, and other uses in which the majority of occupants are children, elderly, and/or handicapped.
    - (1) This general policy may be superseded by airport specific policies (see Chapter 3).
    - (2) Hospitals are medical facilities which include provision for overnight stays by patients. Medical clinics are permitted in *Compatibility Zones C* and *D* provided that these facilities meet the maximum intensity standards listed in the Compatibility Criteria matrix, Table MA-1.
  - (b) *Multi-story Buildings:* In the event of an emergency resulting from an aircraft accident, low-rise buildings can be more readily evacuated than those with more floors. On this basis, the following limitations are established:
    - (1) Within *Compatibility Zone A*, new occupied structures are not permitted.
    - (2) Within *Compatibility Zones B1* and *B2*, new buildings shall be limited to no more than two occupied floors above ground.
    - (3) Within *Compatibility Zone C*, new buildings shall be limited to no more than three occupied floors above ground.
  - (c) *Hazardous Materials Storage:* Construction of facilities for the manufacture or storage of fuel, explosives, and other hazardous materials within the airport environs is restricted as follows:
    - (1) Within *Compatibility Zone A*, manufacture or storage of any such substance is prohibited.
    - (2) Within *Compatibility Zones B1* and *B2*, only the following is permitted:
      - ▶ Fuel or hazardous substances stored in underground tanks.
      - ▶ On-airport storage of aviation fuel and other aviation-related flammable materials.
      - ▶ Aboveground storage of less than 6,000 gallons of nonaviation flammable materials (this limit coincides with a break-point used in the Uniform Fire Code to distinguish between different classes of tanks).
    - (3) Within *Compatibility Zone C*, manufacture or storage of hazardous materials other than the types listed in Sub-policy (2) above is prohibited unless no other feasible alternative site exists and the facility is designed in a manner that minimizes its susceptibility to damage from an aircraft accident.
  - (d) *Critical Community Infrastructure:* Construction of power plants, electrical substations, public communications facilities, and other critical community infrastructure shall be restricted as follows:
    - (1) Within *Compatibility Zone A*, all such uses are prohibited.

- (2) Within *Compatibility Zones B1* and *B2*, such uses are prohibited unless no other feasible alternative site exists and the facility is designed in a manner that minimizes its susceptibility to damage from an aircraft accident.

4.2.4. *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.

- (a) To qualify as open land, an area should be:
  - (1) 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.
  - (2) Have minimum dimensions of approximately 75 feet by 300 feet.
- (b) Roads and automobile parking lots are acceptable as open land areas if they meet the above criteria.
- (c) Open land requirements for each compatibility zone are to be 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 or specific plan level or as part of large (10 acres or more) development projects.
- (d) Clustering of development, subject to the limitations noted below, and providing contiguous landscaped and parking areas is encouraged as a means of increasing the size of open land areas.
- (e) Building envelopes and the airport compatibility zones should be indicated on all development plans and tentative maps for projects located within the influence area of airports covered by this *Compatibility Plan*. Portraying this information is intended to assure that individual development projects provide the open land areas identified in the applicable general plan, specific plan, or other large-scale plan.

4.2.5. *Limitations on Clustering:* Policy 4.2.4(d) notwithstanding, limitations shall be set on the maximum degree of clustering or usage intensity acceptable within a portion of a large project site. These criteria are intended to limit the number of people at risk in a concentrated area.

- (a) Clustering of new residential development shall be limited as follows:
  - (1) Within *Compatibility Zone A*, clustering is not applicable.
  - (2) Within *Compatibility Zones B1, B2, and C*, no more than 4 dwelling units shall be allowed in any individual acre. Buildings shall be located as far as practical from the extended runway centerline and normal aircraft flight paths.
- (b) Unless special design measures as listed in Policy 4.2.6 are utilized, usage intensity of new nonresidential development shall be limited as follows:
  - (1) Within *Compatibility Zone A*, clustering is not applicable.
  - (2) Within *Compatibility Zone B1*, uses shall be limited to a maximum of 50 people per any individual acre (i.e., a maximum of double the average intensity crite-

tion set in Table MA-1). Theaters, restaurants, most shopping centers, motels, intensive manufacturing or office uses, and other similar uses typically do not comply with this criterion.

- (3) Within *Compatibility Zone B2*, uses shall be limited to a maximum of 200 people per any individual acre (i.e., a maximum of double the average intensity criterion set in Table MA-1). Theaters, major shopping centers (500,000 or more square feet), large motels and hotels with conference facilities, and similar uses typically do not comply with this criterion.
- (4) Within *Compatibility Zone C*, uses shall be limited to a maximum of 150 people per any individual acre (i.e., a maximum of double the average intensity criterion set in Table MA-1). Theaters, fast-food establishments, high-intensity retail stores or shopping centers, motels and hotels with conference facilities, and similar uses typically do not comply with this criterion.
- (5) Within *Compatibility Zone D*, uses shall be limited to a maximum of 300 people per any individual acre (i.e., a maximum of triple the average intensity criterion set in Table MA-1).

- (c) For the purposes of the above policies, the one-acre areas to be evaluated shall be rectangular (reasonably close to square, not elongated or irregular) in shape.
- (d) In no case shall a proposed development be designed to accommodate more than the total number of dwelling units per acre (for residential uses) or people per acre (for nonresidential uses) indicated in Table MA-1 times the gross acreage of the project site. A project site may include multiple parcels. Appendix D lists examples of the types of land uses which are potentially compatible under these criteria and the types of land uses which are considered incompatible.

4.2.6. *Risk Reduction Through Building Design:* The number of people permitted to occupy a single nonresidential building may be increased by a factor of up to 1.3 times the limitations set by the preceding policy on clustering if special measures are taken to reduce the risks to building occupants in the event that the building is struck by an aircraft.

- (a) This intensity bonus is not applicable within *Compatibility Zone A* (no buildings are permitted) or *E* (densities and intensities are not limited) and shall not be applied to buildings situated within *Compatibility Zones B1, B2, or C* for runways routinely used by large aircraft (aircraft having a maximum certificated takeoff weight of more than 12,500 pounds).
- (b) Building design features which would enable application of an intensity bonus include, but are not limited to, the following:
  - › Using concrete walls;
  - › Limiting the number and size of windows;
  - › Upgrading the strength of the building roof;
  - › Avoiding skylights;
  - › Enhancing the fire sprinkler system;
  - › Limiting buildings to a single story; and
  - › Increasing the number of emergency exits.

- (c) Project proponents who wish to request an intensity bonus must include appropriate details of the building design along with their project review application.
- (d) Intensity bonuses shall be considered and approved by affected local jurisdictions on a case-by-case basis. The criteria to be used by each jurisdiction when considering intensity bonus requests shall be reviewed and approved by the ALUC as part of the general plan consistency process or subsequent action.

### 4.3. Airspace Protection

- 4.3.1. *Policy Objective:* Tall structures, trees, and other objects, particularly when located near airports or on high terrain, may constitute hazards to aircraft in flight. Federal regulations establish the criteria for evaluating potential obstructions. These regulations also require that the Federal Aviation Administration be notified of proposals for creation of certain such objects. The FAA conducts “aeronautical studies” of these objects and determines whether they would be hazards, but it does not have the authority to prevent their creation. The purpose of ALUC airspace protection policies, together with regulations established by local land use jurisdictions and the state government, is to ensure that hazardous obstructions to the navigable airspace do not occur.
- 4.3.2. *Basis for Height Limits:* The criteria for limiting the height of structures, trees, and other objects in the vicinity of an airport shall be based upon: Part 77, Subpart C, of the Federal Aviation Regulations (FAR); the United States Standard for Terminal Instrument Procedures (TERPS); and applicable airport design standards published by the Federal Aviation Administration. Airspace plans depicting the critical areas for airspace protection around each of the airports covered by this *Compatibility Plan* are depicted in Chapter 3.
- 4.3.3. *ALUC Review of Height of Proposed Objects:* Based upon FAA criteria, proposed objects that would exceed the heights indicated below for the respective compatibility zones potentially represent airspace obstructions issues. Development proposals that include any such objects shall be reviewed by the ALUC. Objects of lesser height normally would not have a potential for being airspace obstructions and therefore do not require ALUC review with respect to airspace protection criteria (noise, safety, and overflight concerns may still be present). Caution should be exercised, however, with regard to any object more than 50 feet high proposed to be located on a site that is substantially higher than surrounding terrain.
  - (a) Within *Compatibility Zone A*, the height of any proposed development, including vegetation, requires review.
  - (b) Within *Compatibility Zone B1*, ALUC review is required for any proposed object taller than 35 feet unless the airport controls an easement on the land on which the object is to be located and grants a waiver to height restrictions.
  - (c) Within *Compatibility Zone B2*, ALUC review is required for any proposed object taller than 35 feet.
  - (d) Within *Compatibility Zones C and D*, ALUC review is required for any proposed object taller than 70 feet.
  - (e) Within *Compatibility Zone E*, ALUC review is required for any proposed object taller than 100 feet.

- (f) Within the *Height Review Overlay Zone*, ALUC review is required for any proposed object taller than 35 feet above the ground. The approximate extent of the *Height Review Overlay Zone* is indicated on the respective *Compatibility Map* included for each airport in Chapter 3.
- 4.3.4. *Height Restriction Criteria:* The height of objects within the influence area of each airport shall be reviewed, and restricted if necessary, according to the following criteria. The locations of these zones are depicted on the respective *Compatibility Map* for each airport.
- (a) Within *Compatibility Zone A*, the height of all objects shall be limited in accordance with applicable Federal Aviation Administration criteria including FAR Part 77, TERPS, and/or airport design standards.
- (b) Within *Compatibility Zones B1, B2, or Height Review Overlay Zone:*
- (1) Objects up to 35 feet tall are acceptable and do not require ALUC review for the purposes of height factors.
  - (2) ALUC review is required for any proposed object taller than 35 feet.
  - (3) Federal Aviation Administration review may be necessary for proposed objects adjacent to the runway edges and the FAA may require marking and lighting of certain objects (the affected areas are generally on airport property).
- (c) Within *Compatibility Zones C and D*, generally, there is no concern with regard to any object up to 70 feet tall unless it is located on high ground or it is a solitary object (e.g., an antenna) more than 35 feet taller than other nearby objects.
- (d) Within *Compatibility Zone E*, generally, there is no concern with regard to any object up to 100 feet tall unless it is located on high ground or it is a solitary object (e.g., an antenna) more than 35 feet above the ground.
- 4.3.5. *Avigation Easement Dedication:* As a condition for development approval, the owner of any property proposed for development within *Compatibility Zones A, B1, or B2* or a *Height Review Overlay Zone* shall be required to dedicate an avigation easement to the entity owning the affected airport. 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. An example of an avigation easement is provided in Appendix G.
- 4.3.6. *FAA Notification:* Proponents of a project involving objects that may exceed a Part 77 surface must notify the Federal Aviation Administration as required by FAR Part 77, Subpart B, and by the Public Utilities Code, Sections 21658 and 21659. (Notification to the Federal Aviation Administration under FAR Part 77, Subpart B, is required even for certain proposed construction that does not exceed the height limits

allowed by Subpart C of the regulations. Refer to Appendix B for the specific Federal Aviation Administration notification requirements.)

- (a) Local jurisdictions shall inform project proponents of the requirements for notification to the Federal Aviation Administration.
  - (b) The requirement for notification to the Federal Aviation Administration shall not necessarily trigger an airport compatibility review of an individual project by the Airport Land Use Commission if the project is otherwise in conformance with the compatibility criteria established herein.
  - (c) FAA review is required for any proposed structure more than 200 feet above the surface level of its site. All such proposals also shall be submitted to the ALUC for review regardless of where in the county they would be located.
  - (d) Any project submitted to the ALUC for airport land use compatibility review for reason of height-limit issues shall include a copy of FAR Part 77 notification to the Federal Aviation Administration and the FAA findings if available.
- 4.3.7. *Other Flight Hazards:* New land uses that may cause visual, electronic, or increased bird strike hazards to aircraft in flight shall not be permitted within any airport's influence area. Specific characteristics to be avoided include:
- (a) Glare or distracting lights which could be mistaken for airport lights;
  - (b) Sources of dust, steam, or smoke which may impair pilot visibility;
  - (c) Sources of electrical interference with aircraft communications or navigation; and
  - (d) Any proposed use, especially landfills and certain agricultural uses, that creates an increased attraction for large flocks of birds. (Refer to FAA Order 5200.5A, *Waste Disposal Sites on or Near Airports* and Advisory Circular 150/5200-33A, *Hazardous Wildlife Attractants On or Near Airports*.)

#### 4.4. Overflight

- 4.4.1. *Policy Objective:* Noise from individual operations, especially by comparatively loud aircraft, can be intrusive and annoying in locations beyond the limits of the mapped noise contours. Sensitivity to aircraft overflights 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 more informed decisions regarding acquisition or lease of property in the affected areas. Overflight compatibility is particularly important with regard to residential land uses.
- 4.4.2. *State Law Requirements Regarding Real Estate Transfer Disclosure:* Effective January 1, 2004, California state statutes (Business and Professional Code Section 11010 and Civil Code Sections 1102.6, 1103.4, and 1353) require as part of residential real estate transactions that information be disclosed regarding whether the property is situated within an airport influence area.
- (a) With certain exceptions, these state requirements apply both to the sale or lease of newly subdivided lands and to the sale of existing residential property.
  - (b) The statutes define an *airport influence area* 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.” The *airport influence area* for each of the airports in Riverside County subject to this *Compatibility Plan* is indicated on that airport’s *compatibility map* contained in Chapter 3 herein.

- (c) Where disclosure is required, 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 (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.

- (d) For the purposes of this *Compatibility Plan*, the above real estate disclosure provisions of state law shall continue in effect as Airport Land Use Commission policy with respect to new development even if the law is rescinded. Furthermore, each land use jurisdiction affected by this *Compatibility Plan* should adopt a policy designating the airport influence area as the area wherein disclosure of airport influences is required in conjunction with the transfer of residential real estate. Such local jurisdiction policies also should be applied to lease or rental agreements for existing residential property.

4.4.3. *Deed Notices:* In addition to the preceding real estate transfer disclosure requirements, a *deed notice* shall be recorded for each parcel associated with any discretionary land use action affecting property within an airport influence area. (Note that the *aviation easement* required by Policy 4.3.5 to be dedicated in conjunction with development in *Zones A, B1, B2*, and the *Height Review Overlay Zone* serves as a deed notice in those locations.) The notice shall include the language indicated above with respect to real estate transfer disclosures.

4.4.4. *Land Use Conversion:* The compatibility of uses in the airport influence areas shall be preserved to the maximum feasible extent. Particular emphasis should be placed on preservation of existing agricultural and open space uses.

- (a) The conversion of land from existing or planned agricultural, open space, industrial, or commercial use to residential uses within *Compatibility Zones A, B1, B2, and C* is strongly discouraged.
- (b) In *Compatibility Zone D*, general plan amendments (as well as other discretionary actions such as rezoning, subdivision approvals, use permits, etc.) that would convert land to residential use or increase the density of residential uses should be subject to careful consideration of overflight impacts.

## Typical Avigation Easement

This indenture made this \_\_\_\_ day of \_\_\_\_\_, 20\_\_, between \_\_\_\_\_ hereinafter referred to as Grantor, and the [Insert County or City name], a political subdivision in the State of California, hereinafter referred to as Grantee.

The Grantor, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, does hereby grant to the Grantee, its successors and assigns, a perpetual and assignable easement over the following described parcel of land in which the Grantor holds a fee simple estate. *[For military airports: Grantee shall hold said easement on behalf of the United States Government.]* The property which is subject to this easement is depicted as \_\_\_\_\_ on “Exhibit A” attached and is more particularly described as follows:

[Insert legal description of real property]

The easement applies to the Airspace above an imaginary plane over the real property. The plane is described as follows:

The imaginary plane above the hereinbefore described real property, as such plane is defined by Part 77 of the Federal Aviation Regulations, and consists of a plane [describe approach, transition, or horizontal surface]; the elevation of said plane being based upon the \_\_\_\_\_ Airport official runway end elevation of \_\_\_\_\_ feet Above Mean Sea Level (AMSL), as determined by [Insert Name and Date of Survey or Airport Layout Plan that determines the elevation] the approximate dimensions of which said plane are described and shown on Exhibit A 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, the easement and continuing right to fly, 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 and 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 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) A continuing right to clear and keep clear from the Airspace any portions of buildings, structures or improvements of any 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
- (4) The right to mark and light, or cause or require to be marked and 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
- (5) The right of ingress to, passage within, and egress from the hereinabove described real property, for the purposes described in subparagraphs (3) and (4) above at reasonable times and after reasonable notice.

**Table B-1**

## Typical Avigation Easement

## Sample Deed Notice

A statement similar to the following should be included on the deed for any real property subject to the deed notice requirements set forth in the [Insert ALUC name] Airport Land Use Compatibility Plan. Such notice should be recorded by the county of [Insert County name]. Also, this deed notice should be included on any parcel map, tentative map, or final map for subdivision approval.

*For military airports:*

The [Insert ALUC name] Airport Land Use Compatibility Plan and [Insert County / City Name] Ordinance (Ordinance No. \_\_\_\_\_) identify a [Insert Airport name] Airport Influence Area. Properties within this area are routinely subject to overflights by aircraft using this military airport and, as a result, residents may experience inconvenience, annoyance, or discomfort arising from the noise of such operations. State law (Public Utilities Code Section 21670 et seq.) supports the importance of military airports in protection of the public interest of the people of the United States and the state of California. Residents of property near such airports should therefore be prepared to accept the inconvenience, annoyance, or discomfort from normal aircraft operations. Residents also should be aware that the current volume of aircraft activity may increase in the future in response to federal military needs. Any subsequent deed conveying this parcel or subdivisions thereof shall contain a statement in substantially this form.

Table B-2

## Sample Deed Notice



## Federal Aviation Regulations Part 77

### Objects Affecting Navigable Airspace

---

#### Subpart A

#### GENERAL

Amdt. 77-11, Sept. 25, 1989.

#### **77.1 Scope.**

This part:

- (a) Establishes standards for determining obstructions in navigable airspace;
- (b) Sets forth the requirements for notice to the Administrator of certain proposed construction or alteration;
- (c) Provides for aeronautical studies of obstructions to air navigation, to determine their effect on the safe and efficient use of airspace;
- (d) Provides for public hearings on the hazardous effect of proposed construction or alteration on air navigation; and
- (e) Provides for establishing antenna farm areas.

#### **77.2 Definition of Terms.**

For the purpose of this part:

“Airport available for public use” means an airport that is open to the general public with or without a prior request to use the airport.

“A seaplane base” is considered to be an airport only if its sea lanes are outlined by visual markers.

“Nonprecision 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 nonprecision 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.

“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.

“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.

**77.3 Standards.**

- (a) The standards established in this part for determining obstructions to air navigation are used by the Administrator in:
  - (1) Administering the Federal-aid Airport Program and the Surplus Airport Program;
  - (2) Transferring property of the United States under section 16 of the Federal Airport Act;
  - (3) Developing technical standards and guidance in the design and construction of airports; and
  - (4) Imposing requirements for public notice of the construction or alteration of any structure where notice will promote air safety.
- (b) The standards used by the Administrator in the establishment of flight procedures and aircraft operational limitations are not set forth in this part but are contained in other publications of the Administrator.

**77.5 Kinds of Objects Affected.**

This part applies to:

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

**Subpart B**

**NOTICE OF CONSTRUCTION OR ALTERATION**

**77.11 Scope.**

- (a) This subpart requires each person proposing any kind of construction or alteration described in §77.13(a) to give adequate notice to the Administrator. It specifies the locations and dimensions of the construction or alteration for which notice is required and prescribes the form and manner of the notice. It also requires supplemental notices 48 hours before the start and upon the completion of certain construction or alteration that was the subject of a notice under §77.13(a).
- (b) Notices received under this subpart provide a basis for:

- (1) Evaluating the effect of the construction or alteration on operational procedures and proposed operational procedures;
- (2) Determinations of the possible hazardous effect of the proposed construction or alteration on air navigation;
- (3) Recommendations for identifying the construction or alteration in accordance with the current Federal Aviation Administration Advisory Circular AC 70/7460-1 entitled "Obstruction Marking and Lighting," which is available without charge from the Department of Transportation, Distribution Unit, TAD 484.3, Washington, D.C. 20590.
- (4) Determining other appropriate measures to be applied for continued safety of air navigation; and
- (5) Charting and other notification to airmen of the construction or alteration.

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

- (a) Except as provided in §77.15, each sponsor who proposes any of the following construction or alteration shall notify the Administrator in the form and manner prescribed in §77.17:
  - (1) Any construction or alteration of more than 200 feet in height above the ground level at its site.
  - (2) Any construction or alteration of greater height than an imaginary surface extending outward and upward at one of the following slopes:
    - (i) 100 to 1 for a horizontal distance of 20,000 feet from the nearest point of the nearest runway of each airport specified in paragraph (a)(5) of this section with at least one runway more than 3,200 feet in actual length, excluding heliports.
    - (ii) 50 to 1 for a horizontal distance of 10,000 feet from the nearest point of the nearest runway of each airport specified in paragraph (a)(5) of this section with its longest runway no more than 3,200 feet in actual length, excluding heliports.
    - (iii) 5 to 1 for a horizontal distance of 5,000 feet from the nearest point of the nearest landing and takeoff area of each heliport specified in paragraph (a)(5) of this section.
  - (3) 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) (1) or (2) of this section.
  - (4) When requested by the FAA, any construction or alteration that would be in an instrument approach area (defined in the FAA standards governing instrument approach procedures) and available information indicates it might exceed a standard of Subpart C of this part.
  - (5) Any construction or alteration on any of the following airports (including heliports):

- (i) An airport that is available for public use and is listed in the Airport Directory of the current Airman's Information Manual or in either the Alaska or Pacific Airman's Guide and Chart Supplement.
  - (ii) An airport under construction, that is the subject of a notice or proposal on file with the Federal Aviation Administration, and, except for military airports, it is clearly indicated that airport will be available for public use.
  - (iii) An airport that is operated by an armed force of the United States.
- (b) Each sponsor who proposes construction or alteration that is the subject of a notice under paragraph (a) of this section and is advised by an FAA regional office that a supplemental notice is required shall submit that notice on a prescribed form to be received by the FAA regional office at least 48 hours before the start of the construction or alteration.
  - (c) Each sponsor who undertakes construction or alteration that is the subject of a notice under paragraph (a) of this section shall, within 5 days after that construction or alteration reaches its greatest height, submit a supplemental notice on a prescribed form to the FAA regional office having jurisdiction over the region involved, if -
    - (1) The construction or alteration is more than 200 feet above the surface level of its site; or
    - (2) An FAA regional office advises him that submission of the form is required.

**77.15 Construction or Alteration Not Requiring Notice.**

No person is required to notify the Administrator for any of the following construction or alteration:

- (a) Any object that would be shielded by existing structures of a permanent and substantial character or by natural terrain or topographic features of equal or greater height, and would be located in the congested area of a city, town, or settlement where it is evident beyond all reasonable doubt that the structure so shielded will not adversely affect safety in air navigation.
- (b) Any antenna structure of 20 feet or less in height except one that would increase the height of another antenna structure.
- (c) Any air navigation facility, airport visual approach or landing aid, aircraft arresting device, or meteorological device, of a type approved by the Administrator, or an appropriate military service on military airports, the location and height of which is fixed by its functional purpose.
- (d) Any construction or alteration for which notice is required by any other FAA regulation.

**77.17 Form and Time of Notice.**

- (a) Each person who is required to notify the Administrator under §77.13 (a) shall send one executed form set (four copies) of FAA Form 7460-1, Notice of Proposed Construction or Alteration, to the Manager, Air Traffic Division, FAA Regional Office having jurisdiction over the area within which the construction or alteration will be located. Copies of FAA Form 7460-1 may be obtained from the headquarters of the Federal Aviation Administration and the regional offices.
- (b) The notice required under §77.13(a) (1) through (4) must be submitted at least 30 days before the earlier of the following dates:

- (1) The date the proposed construction or alteration is to begin.
- (2) The date an application for a construction permit is to be filed.

However, a notice relating to proposed construction or alteration that is subject to the licensing requirements of the Federal Communications Act may be sent to FAA at the same time the application for construction is filed with the Federal Communications Commission, or at any time before that filing.

- (c) A proposed structure or an alteration to an existing structure that exceeds 2,000 feet in height above the ground will be presumed to be a hazard to air navigation and to result in an inefficient utilization of airspace and the applicant has the burden of overcoming that presumption. Each notice submitted under the pertinent provisions of this Part 77 proposing a structure in excess of 2,000 feet above ground, or an alteration that will make an existing structure exceed that height, must contain a detailed showing, directed to meeting this burden. Only in exceptional cases, where the FAA concludes that a clear and compelling showing has been made that it would not result in an inefficient utilization of the airspace and would not result in a hazard to air navigation, will a determination of no hazard be issued.
- (d) In the case of an emergency involving essential public services, public health, or public safety that requires immediate construction or alteration, the 30 day requirement in paragraph (b) of this section does not apply and the notice may be sent by telephone, telegraph, or other expeditious means, with an executed FAA Form 7460-1 submitted within 5 days thereafter. Outside normal business hours, emergency notices by telephone or telegraph may be submitted to the nearest FAA Flight Service Station.
- (e) Each person who is required to notify the Administrator by paragraph (b) or (c) of §77.13, or both, shall send an executed copy of FAA Form 117-1, Notice of Progress of Construction or Alteration, to the Manager, Air Traffic Division, FAA Regional Office having jurisdiction over the area involved.

### **77.19 Acknowledgment of Notice.**

- (a) The FAA acknowledges in writing the receipt of each notice submitted under §77.13(a).
- (b) If the construction or alteration proposed in a notice is one for which lighting or marking standards are prescribed in the FAA Advisory Circular AC 70/7460-1, entitled “Obstruction Marking and Lighting,” the acknowledgment contains a statement to that effect and information on how the structure should be marked and lighted in accordance with the manual.
- (c) The acknowledgment states that an aeronautical study of the proposed construction or alteration has resulted in a determination that the construction or alteration:
  - (1) Would not exceed any standard of Subpart C and would not be a hazard to air navigation;
  - (2) Would exceed a standard of Subpart C but would not be a hazard to air navigation; or
  - (3) Would exceed a standard of Subpart C and further aeronautical study is necessary to determine whether it would be a hazard to air navigation, that the sponsor may request within 30 days that further study, and that, pending completion of any further study, it is presumed the construction or alteration would be a hazard to air navigation.

## Subpart C

### OBSTRUCTION STANDARDS

#### 77.21 Scope.

- (a) This subpart establishes standards for determining obstructions to air navigation. It applies to existing and proposed manmade objects, objects of natural growth, and terrain. The standards apply to the use of navigable airspace by aircraft and to existing air navigation facilities, such as an air navigation aid, airport, Federal airway, instrument approach or departure procedure, or approved off airway route. Additionally, they apply to a planned facility or use, or a change in an existing facility or use, if a proposal therefore is on file with the Federal Aviation Administration or an appropriate military service on the date the notice required by §77.13(a) is filed.
- (b) At those airports having defined runways with specially prepared hard surfaces, the primary surface for each such runway extends 200 feet beyond each end of the runway. At those airports having defined strips or pathways that are used regularly for the taking off and landing of aircraft and have been designated by appropriate authority as runways, but do not have specially prepared hard surfaces, each end of the primary surface for each such runway shall coincide with the corresponding end of the runway. At those airports, excluding seaplane bases, having a defined landing and takeoff area with no defined pathways for the landing and taking off of aircraft, a determination shall be made as to which portions of the landing and takeoff area are regularly used as landing and takeoff pathways. Those pathways so determined shall be considered runways and an appropriate primary surface as defined in §77.25(c) will be considered as being longitudinally centered on each runway so determined, and each end of that primary surface shall coincide with the corresponding end of that runway.
- (c) The standards in this subpart apply to the effect of construction or alteration proposals upon an airport if, at the time of filing of the notice required by §77.13(a), that airport is -
  - (1) Available for public use and is listed in the Airport Directory of the current Airman's Information Manual or in either the Alaska or Pacific Airman's Guide and Chart Supplement; or
  - (2) A planned or proposed airport or an airport under construction, that is the subject of a notice or proposal on file with the Federal Aviation Administration, and, except for military airports, it is clearly indicated that that airport will be available for public use; or,
  - (3) An airport that is operated by an armed force of the United States.

#### 77.23 Standards for Determining Obstructions.

- (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 500 feet above ground level at the site of the object.
  - (2) A height that is 200 feet above ground level 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 of distance from the airport up to a maximum of 500 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 §77.25, §77.28, or §77.29. 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 air 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) Seventeen 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) Fifteen feet for any other public roadway.
  - (3) Ten feet or the height of the highest mobile object that would normally traverse the road, whichever is greater, for a private road.
  - (4) Twenty-three feet for a railroad, and,
  - (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.

## **77.25 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 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 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, or planned 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 a primary surface is:
  - (1) 250 feet for utility runways having only visual approaches.
  - (2) 500 feet for utility runways having nonprecision 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 nonprecision instrument runways having visibility minimums greater than three-fourths statute mile.
    - (iii) 1,000 feet for a nonprecision instrument runway having a nonprecision instrument approach with visibility minimums as low as three-fourths of a statute mile, and for precision instrument runways.

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 nonprecision instrument approach;
    - (iv) 3,500 feet for that end of a nonprecision 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 nonprecision instrument runway, other than utility, having a nonprecision 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 nonprecision 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.

## **77.27 [Reserved]**

## **77.28 Military 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 an armed force of the United States.
  - (1) Inner horizontal surface. A plane 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.

## **77.29 Airport Imaginary Surfaces for Heliports.**

- (a) Heliport primary surface. The area of the primary surface coincides in size and shape with the designated takeoff and landing area of a heliport. This surface is a horizontal plane at the elevation of the established heliport elevation.
- (b) Heliport 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) Heliport transitional surfaces. These surfaces extend outward and upward from the lateral boundaries of the heliport 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 OF EFFECT OF PROPOSED CONSTRUCTION ON NAVIGABLE AIRSPACE**

### **77.31 Scope.**

- (a) This subpart applies to the conduct of aeronautical studies of the effect of proposed construction or alteration on the use of air navigation facilities or navigable airspace by aircraft. In the aeronautical studies, present and future IFR and VFR aeronautical operations and procedures are reviewed and any possible changes in those operations and procedures and in the construction proposal that would eliminate or alleviate the conflicting demands are ascertained.
- (b) The conclusion of a study made under this subpart is normally a determination as to whether the specific proposal studied would be a hazard to air navigation.

### **77.33 Initiation of Studies.**

- (a) An aeronautical study is conducted by the FAA:
- (1) Upon the request of the sponsor of any construction or alteration for which a notice is submitted under Subpart B of this part, unless that construction or alteration would be located within an antenna farm area established under Subpart F of this part; or

- (2) Whenever the FAA determines it appropriate.

### **77.35 Aeronautical Studies.**

- (a) The Regional Manager, Air Traffic Division of the region in which the proposed construction or alteration would be located, or his designee, conducts the aeronautical study of the effect of the proposal upon the operation of air navigation facilities and the safe and efficient utilization of the navigable airspace. This study may include the physical and electromagnetic radiation effect the proposal may have on the operation of an air navigation facility.
- (b) To the extent considered necessary, the Regional Manager, Air Traffic Division or his designee:
  - (1) Solicits comments from all interested persons;
  - (2) Explores objections to the proposal and attempts to develop recommendations for adjustment of aviation requirements that would accommodate the proposed construction or alteration;
  - (3) Examines possible revisions of the proposal that would eliminate the exceeding of the standards in Subpart C of this part; and
  - (4) Convenes a meeting with all interested persons for the purpose of gathering all facts relevant to the effect of the proposed construction or alteration on the safe and efficient utilization of the navigable airspace.
- (c) The Regional Manager, Air Traffic Division or his designee issues a determination as to whether the proposed construction or alteration would be a hazard to air navigation and sends copies to all known interested persons. This determination is final unless a petition for review is granted under §77.37.
- (d) If the sponsor revises his proposal to eliminate exceeding of the standards of Subpart C of this part, or withdraws it, the Regional Manager, Air Traffic Division, or his designee, terminates the study and notifies all known interested persons.

### **77.37 Discretionary Review.**

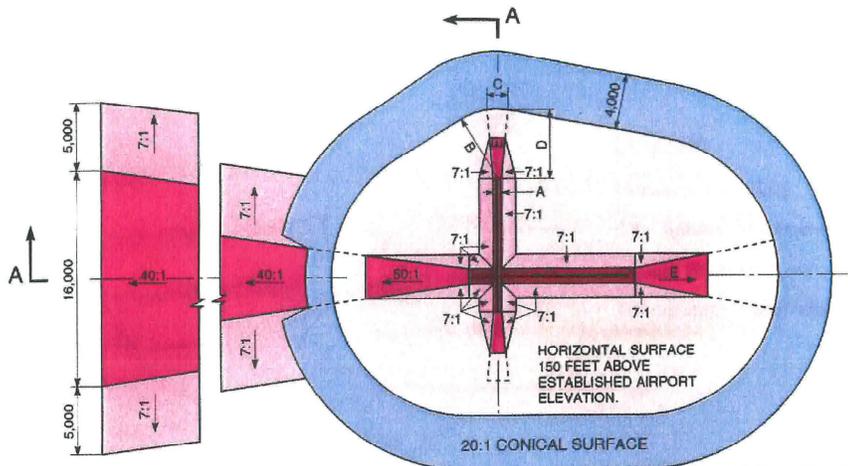
- (a) The sponsor of any proposed construction or alteration or any person who stated a substantial aeronautical objection to it in an aeronautical study, or any person who has a substantial aeronautical objection to it but was not given an opportunity to state it, may petition the Administrator, within 30 days after issuance of the determination under §77.19 or §77.35 or revision or extension of the determination under §77.39 (c), for a review of the determination, revision, or extension. This paragraph does not apply to any acknowledgment issued under §77.19 (c) (1).
- (b) The petition must be in triplicate and contain a full statement of the basis upon which it is made.
- (c) The Administrator examines each petition and decides whether a review will be made and, if so, whether it will be:
  - (1) A review on the basis of written materials, including study of a report by the Regional Manager, Air Traffic Division of the aeronautical study, briefs, and related submissions by any inter-

ested party, and other relevant facts, with the Administrator affirming, revising, or reversing the determination issued under §77.19, §77.35 or §77.39 (c); or

- (2) A review on the basis of a public hearing, conducted in accordance with the procedures prescribed in Subpart E of this part.

### **77.39 Effective Period of Determination of No Hazard.**

- (a) Unless it is otherwise extended, revised, or terminated, each final determination of no hazard made under this subpart or Subpart B or E of this part expires 18 months after its effective date, regardless of whether the proposed construction or alteration has been started, or on the date the proposed construction or alteration is abandoned, whichever is earlier.
- (b) In any case, including a determination to which paragraph (d) of this section applies, where the proposed construction or alteration has not been started during the applicable period by actual structural work, such as the laying of a foundation, but not including excavation, any interested person may, at least 15 days before the date the final determination expires, petition the FAA official who issued the determination to:
  - (1) Revise the determination based on new facts that change the basis on which it was made; or
  - (2) Extend its effective period.
- (c) The FAA official who issued the determination reviews each petition presented under paragraph (b) of this section, and revises, extends, or affirms the determination as indicated by his findings.
- (d) In any case in which a final determination made under this subpart or Subpart B or E of this part relates to proposed construction or alteration that may not be started unless the Federal Communications Commission issues an appropriate construction permit, the effective period of each final determination includes -
  - (1) The time required to apply to the Commission for a construction permit, but not more than 6 months after the effective date of the determination; and
  - (2) The time necessary for the Commission to process the application except in a case where the Administrator determines a shorter effective period is required by the circumstances.
- (e) If the Commission issues a construction permit, the final determination is effective until the date prescribed for completion of the construction. If the Commission refuses to issue a construction permit, the final determination expires on the date of its refusal.

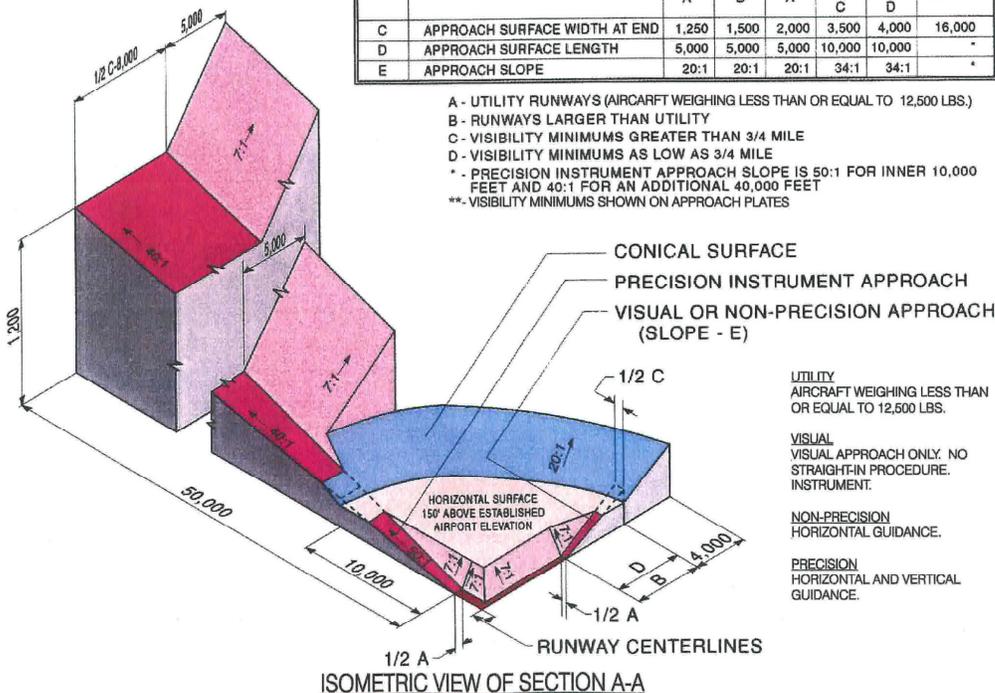


**FAA CATEGORIES**

- VISUAL [A(V)]
- VISUAL [B(V)]
- NON-PRECISION [A(NP)]
- NON-PRECISION [C]
- NON-PRECISION [D]
- PRECISION [PIR]

DIM	ITEM	DIMENSIONAL STANDARDS (FEET)					
		VISUAL RUNWAY		NON-PRECISION INSTRUMENT RUNWAY			PRECISION INSTRUMENT RUNWAY
		A	B	A	B		
				C	D		
A	WIDTH OF PRIMARY SURFACE AND APPROACH SURFACE WIDTH AT INNER END	250	500	500	500	1,000	1,000
B	RADIUS OF HORIZONTAL SURFACE	5,000	5,000	5,000	10,000	10,000	10,000
		VISUAL APPROACH		NON-PRECISION INSTRUMENT APPROACH			PRECISION INSTRUMENT APPROACH
		A	B	A	B		
C	APPROACH SURFACE WIDTH AT END	1,250	1,500	2,000	3,500	4,000	16,000
D	APPROACH SURFACE LENGTH	5,000	5,000	5,000	10,900	10,000	*
E	APPROACH SLOPE	20:1	20:1	20:1	20:1	34:1	34:1

- A - UTILITY RUNWAYS (AIRCRAFT WEIGHING LESS THAN OR EQUAL TO 12,500 LBS.)
- B - RUNWAYS LARGER THAN UTILITY
- C - VISIBILITY MINIMUMS GREATER THAN 3/4 MILE
- D - VISIBILITY MINIMUMS AS LOW AS 3/4 MILE
- \* - PRECISION INSTRUMENT APPROACH SLOPE IS 50:1 FOR INNER 10,000 FEET AND 40:1 FOR AN ADDITIONAL 40,000 FEET
- \*\* - VISIBILITY MINIMUMS SHOWN ON APPROACH PLATES



- UTILITY AIRCRAFT WEIGHING LESS THAN OR EQUAL TO 12,500 LBS.
- VISUAL VISUAL APPROACH ONLY. NO STRAIGHT-IN PROCEDURE. INSTRUMENT.
- NON-PRECISION HORIZONTAL GUIDANCE.
- PRECISION HORIZONTAL AND VERTICAL GUIDANCE.

Exhibit C-1

**FAR Part 77 Imaginary Surfaces**

 U.S. Department of Transportation Federal Aviation Administration	Failure To Provide All Requested Information May Delay Processing of Your Notice <h2 style="margin: 0;">Notice of Proposed Construction or Alteration</h2>	<b>FOR FAA USE ONLY</b> Aeronautical Study Number - - -
<b>1. Sponsor (person, company, etc. proposing this action) :</b> Attn. of: _____ Name: _____ Address: _____ _____ City: _____ State: _____ Zip: _____ Telephone: _____ Fax: _____		<b>9. Latitude:</b> ___ °    ___ '    ___ . ___ "
<b>2. Sponsor's Representative (if other than #1) :</b> Attn. of: _____ Name: _____ Address: _____ _____ City: _____ State: _____ Zip: _____ Telephone: _____ Fax: _____		<b>10. Longitude:</b> ___ °    ___ '    ___ . ___ "
<b>3. Notice of:</b> <input type="checkbox"/> New Construction <input type="checkbox"/> Alteration <input type="checkbox"/> Existing		<b>11. Datum:</b> <input type="checkbox"/> NAD 83 <input type="checkbox"/> NAD 27 <input type="checkbox"/> Other _____
<b>4. Duration:</b> <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary (    ___ months,    ___ days)		<b>12. Nearest:</b> City: _____ State: _____
<b>5. Work Schedule:</b> Beginning _____ End _____		<b>13. Nearest Public-use (not private-use) or Military Airport or Heliport:</b> _____
<b>6. Type:</b> <input type="checkbox"/> Antenna Tower <input type="checkbox"/> Crane <input type="checkbox"/> Building <input type="checkbox"/> Power Line <input type="checkbox"/> Landfill <input type="checkbox"/> Water Tank <input type="checkbox"/> Other _____		<b>14. Distance from #13. to Structure:</b> _____
<b>7. Marking/Painting and/or Lighting Preferred:</b> <input type="checkbox"/> Red Lights and Paint <input type="checkbox"/> Dual - Red and Medium Intensity White <input type="checkbox"/> White - Medium Intensity <input type="checkbox"/> Dual - Red and High Intensity White <input type="checkbox"/> White - High Intensity <input type="checkbox"/> Other _____		<b>15. Direction from #13. to Structure:</b> _____
<b>8. FCC Antenna Structure Registration Number (if applicable):</b> _____		<b>16. Site Elevation (AMSL):</b> _____ ft.
		<b>17. Total Structure Height (AGL):</b> _____ ft.
		<b>18. Overall height (#16. + #17.) (AMSL):</b> _____ ft.
		<b>19. Previous FAA Aeronautical Study Number (if applicable):</b> _____
		<b>20. Description of Location:</b> (Attach a USGS 7.5 minute Quadrangle Map with the precise site marked and any certified survey.)
<b>21. Complete Description of Proposal:</b>		Frequency/Power (kW)
Notice is required by 14 Code of Federal Regulations, part 77 pursuant to 49 U.S.C., Section 44718. Persons who knowingly and willingly violate the notice requirements of part 77 are subject to a civil penalty of \$1,000 per day until the notice is received, pursuant to 49 U.S.C., section 46301 (a).		
I hereby certify that all of the above statements made by me are true, complete, and correct to the best of my knowledge. In addition, I agree to mark and/or light the structure in accordance with established marking and lighting standards as necessary.		
Date	Typed or Printed name and Title of Person Filing Notice	Signature

Exhibit C-2

# FAR Part 77 Notification

FAA Form 7460

## Methods for Determining Concentrations of People

---

### INTRODUCTION

One criterion used in the *March Air Reserve Base/Inland Port Airport Joint Land Use Study (JLUS)* 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 intensity, it is considered inconsistent with compatibility planning policies. It is recognized that people per acre is not a common measure in other facets of land use planning. This appendix, therefore, both provides guidance on how the people-per-acre determination can be made and defines the relationships between this measure and others found in land use planning.

In presenting this information, it is not the expectation that individual local land use jurisdictions must follow any of the exact methodologies or formulas outlined. Different jurisdictions will have their own particular approaches. As long as the results accomplish the basic objective of limiting usage intensities to levels close to those established in the *JLUS*, then the requirement of being consistent with the criteria in the *JLUS* will generally be met.

### COUNTING PEOPLE

The most difficult part about calculating a use's intensity is estimating the number of people expected to use a particular facility under normal circumstances. All people—not just employees, but also customers and visitors—who may be on the property at a single point in time, whether indoors or outside, must be counted. The only exceptions are for rare special events. These are defined as events, such as 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.

Ideally, the actual number of people for which the facility is designed would be known. The number of seats in a proposed movie theater can be determined with high accuracy once the theater size is decided. Other buildings, though, may be built as a shell and the eventual number of occupants not known until a specific tenant is found. Furthermore, even then, the number of occupants can change in the future as tenants change. Even greater uncertainty is involved with relatively open uses not having fixed seating—retail stores or sports parks, for example.

Absent clearly measurable occupancy numbers, other sources must be relied upon to estimate the number of people in a proposed development.

### Survey of Similar Uses

A survey of similar uses already in existence is one option. Gathering data in this manner can be time-consuming and costly, however. Also, unless the survey sample is sufficiently large and conducted at various times, inconsistent numbers may result. Except for uncommon uses for which occupancy

levels cannot be estimated through other means, surveys are most appropriate as supplemental information.

## Maximum Occupancy

A second option for estimating the number of people who will be on a site is to rely upon data indicating the maximum occupancy of a building measured in terms of the number of square feet per occupant. The number of people on the site, assuming limited outdoor or peripheral uses, can be calculated by dividing the total floor area of a proposed use by the square footage per occupant. The challenge of this methodology lies in establishing realistic figures for square feet per occupant. The number varies greatly from one use to another and, for some uses, has changed over time as well.

A commonly used source of maximum occupancy data is the standards set in the Uniform or California Building Code (UBC or CBC). The chart reproduced as Table D1 indicates the required number of square feet per occupant for various types of uses. The CBC, though, is intended primarily for purposes of structural design and fire safety and represents a legal maximum occupancy in most jurisdictions. A CBC-based methodology consequently results in occupancy numbers that are higher than normal maximum usage in most instances. The numbers also are based upon usable floor area and do not take into account corridors, stairs, building equipment rooms, and other functions that are part of a building's gross square footage. 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% of their maximum occupancy levels, even at the busiest times of day. Therefore, the number of people calculated for office and retail uses can usually be divided in half 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.

Another source of data on square footage per occupant comes from the facility management industry. The data is used to help businesses determine how much building space they need to build or lease and thus tends to be more generous than the UBC/CBC standards. The numbers vary not only by the type of facility, as with the UBC/CBC, but also by type of industry. The following are selected examples of square footage per employee gathered from a variety of sources.

› Call centers	150 – 175
› Typical offices	180 – 250
› Law, finance, real estate offices	300 – 325
› Research & development, light industry	300 – 500
› Health services	500

The numbers above do not take into account the customers who may also be present for certain uses. For retail business, dining establishments, theaters, and other uses where customers outnumber employees, either direct measures of occupancy—the number of seats, for example—or other methodologies must be used to estimate the potential number of people on the site.

## Parking Space Requirements

For many jurisdictions and a wide variety of uses, the number of people present on a site can be calculated based upon the number of automobile parking spaces that are required. Certain limitations and assumptions must be considered when applying this methodology, however. An obvious limitation is

that parking space requirements can be correlated with occupancy numbers only where nearly all users arrive by private vehicle rather than by public transportation, walking, or other method. Secondly, the jurisdiction needs to have a well-defined parking ordinance that lists parking space requirements for a wide range of uses. For most uses, these requirements are typically stated in terms of the number of parking spaces that must be provided per 1,000 square feet of gross building size or a similar ratio. Lastly, assumptions must be made with regard to the average number of people who will arrive in each car.

Both of the critical ratios associated with this methodology—parking spaces to building size and occupants to vehicles—vary from one jurisdiction to another even for the same types of uses. In deriving a methodology for determining usage intensities, each jurisdiction thus will need to define a set of numbers that best fit local conditions. Research of local ordinances and other sources, though, indicates that the following ratios can be used as a starting point.

- ▶ **Parking Space Ratios**—These examples of required parking space requirements are typical of those found in ordinances adopted by urban and suburban jurisdictions. The numbers are ratios of spaces required per 1,000 square feet of gross floor area. Gross floor area is normally measured to the outside surfaces of a building and includes all floor levels as well as stairways, elevators, storage, and mechanical rooms.

▶ Small Restaurants	10.0
▶ Medical Offices	4.0 – 5.7
▶ Shopping Centers	4.0 – 5.0
▶ Health Clubs	3.3 – 5.0
▶ Business Professional Offices	3.3 – 4.0
▶ Retail Stores	3.0 – 3.5
▶ Research & Development	2.5 – 4.0
▶ Manufacturing	2.0 – 2.5
▶ Furniture, Building Supply Stores	0.7 – 1.0

- ▶ **Vehicle Occupancy**—Data indicating the average number of people occupying each vehicle parking at a particular business or other land use can be found in various transportation surveys. The numbers vary both from one community or region to another and over time, thus current local data is best if available. The following data represent typical vehicle occupancy for different trip purposes.

▶ Work	1.05 – 1.2
▶ Education	1.2 – 2.0
▶ Medical	1.5 – 1.7
▶ Shopping	1.5 – 1.8
▶ Dining, Social, Recreational	1.7 – 2.3

## CALCULATING USAGE INTENSITIES

Once the number of people expected in a particular development—both over the entire site and within individual buildings—has been estimated, the usage intensities can be calculated. The criteria in Chapter 3 of this *JLUS* are measured in terms of the average intensity over the entire project site.

- ▶ **Average Intensity**—The average intensity is calculated by dividing the total number of people on the site by the site size. A 10-acre site expected to be occupied by as many as 1,000 people at a time, thus would have an average intensity of 100 people per acre. The site size equals the total size of the parcel or parcels to be developed.
- ▶ **Single-Acre Intensity**—This number indicates the maximum number of people who will be concentrated in any one acre of a development. From a risk perspective, the single-acre intensity gives an indication of the number of people who would be exposed to an individual aircraft accident. The one-acre area is to be measured in a shape that is close to square; that is about 200 feet by 200 feet. For buildings having a footprint—generally the gross area of the ground floor—of an acre or less, the single-acre intensity equals the number of people in the building.

Having calculated the usage intensities of a proposed development, a comparison can be made with the criteria set forth in the *JLUS* to determine whether the proposal is consistent or inconsistent with the policies.

Table D2 shows sample calculations for a selection of different uses. For the purposes of the analyses presented, a use is considered consistent with the *JLUS* criteria if the usage intensity calculated by either of the two methods (parking or maximum occupancy) is less than the maximum allowable. However, both the sitewide average and single-acre intensity criteria must be met. Note as well, that different assumptions regarding parking space ratios, people per car, and maximum occupancy will result in different outcomes. Each jurisdiction will need to establish its own set of parameters to apply to the consistency determination process.

## USAGE INTENSITY RELATIONSHIP TO FLOOR AREA RATIO

As noted earlier, usage intensity or people per acre is not a common metric in land use planning. Some jurisdictions consequently may wish to explore an alternative methodology that instead relies upon floor area ratios (FAR). FAR—the gross square footage of the buildings on a site divided by the site size—is a more common measure in land use planning. Some counties and cities adopt explicit FAR limits in their zoning ordinance or other policies. Those that do not, often set limits on the number of floors a building can have, thus effectively setting a floor area ratio as well.

The major shortcoming with FAR is that it does not directly correlate with risks to people because different types of buildings with the same FAR can have vastly different numbers of people inside. For FAR to be applied as a factor in setting development limitations, assumptions must be made as to how much space each person (employees and others) in the building will occupy. Additionally, the component values—the sizes of the buildings and the site—still must be known.

Nevertheless, if maximum occupancy numbers are assumed for a variety of uses, the maximum FAR that would be consistent with the usage intensity criteria in the *JLUS* can be calculated. The following is an example of this process.

- ▶ For Zone B1:
  - › For an office use, assume 225 square feet per person
  - › At 225 square feet per person, a building with 1.0 acre (43,560 square feet) of floor area could hold 194 people
  - › The maximum allowable average sitewide usage intensity is 50 people per acre in the APZ II area
  - › The maximum FAR for an office use in this zone therefore would be 50/194 or 0.26
- ▶ For other urban/suburban/military zones, the equivalent numbers for office uses are:
  - › Zone B2, C1, and C2: 100 people per acre; FAR = 0.52
- ▶ For rural areas, allowable FARs for office uses would be limited as follows:
  - › Zone B1: 40 people per acre; FAR = 0.21
  - › Zone B2: 100 people per acre; FAR = 0.52
  - › Zone C: 80 people per acre; FAR = 0.41
  - › Zone D: 150 people per acre; FAR = 0.77
- ▶ Light industrial or research and development uses, would have more square feet of floor area per person. Using 350 square feet per person yields the following results for urban/suburban/military zones:
  - › Zone B1: 80 people per acre; FAR = 0.64
  - › Zone B2: 160 people per acre; FAR = 1.29
  - › Zone C: 120 people per acre; FAR = 0.96

<i>Use</i>	<i>Minimum Square Feet per Occupant</i>
1. Aircraft Hangars (no repair)	500
2. Auction Rooms	7
3. Assembly Areas, Concentrated Use (without fixed seats)	7
Auditoriums	
Churches and Chapels	
Dance Floors	
Lobby Accessory to Assembly Occupancy	
Lodge Rooms	
Reviewing Stands	
Stadiums	
Waiting Areas	3
4. Assembly Areas, Less Concentrated Use	15
Conference Rooms	
Dining Rooms	
Drinking Establishments	
Exhibit Rooms	
Gymnasiums	
Lounges	
Stages	
Gaming	11
5. Bowling Alley (assume no occupant load for bowling lanes)	4
6. Children's Homes and Homes for the Aged	80
7. Classrooms	20
8. Congregate Residences	200
9. Courtrooms	40
10. Dormitories	50
11. Dwellings	300
12. Exercising Rooms	50
13. Garage, Parking	200
14. Health-Care Facilities	80
Sleeping Rooms	120
Treatment Rooms	240
15. Hotels and Apartments	200
16. Kitchen – Commercial	200
17. Library Reading Room	50
Stack Areas	100
18. Locker Rooms	50
19. Malls	Varies
20. Manufacturing Areas	200
21. Mechanical Equipment Room	300
22. Nurseries for Children (Daycare)	35
23. Offices	100
24. School Shops and Vocational Rooms	50
25. Skating Rinks	50 on the skating area; 15 on the deck
26. Storage and Stock Rooms	300
27. Stores – Retail Sales Rooms	
Basements and Ground Floors	30
Upper Floors	60
28. Swimming Pools	50 for the pool area; 15 on the deck
29. Warehouses	500
30. All Others	100

*Source: California Building Code (2001), Table 10-A*

Table D1

## Occupant Load Factors

### California Building Code

<b>Project Data</b>									
Type of Use	Office	Office	Office	Office	R&D	Light Industrial	"Big Box"	Furniture Store	Restaurant
Parcel Size (ac.)	2.50	4.50	4.50	5.00	5.00	3.00	5.00	4.00	1.65
Gross Building Floor Area (s.f.)	40,000	80,000	100,000	250,000	120,000	80,000	80,000	40,000	6,000
Number of Bldgs	1	2	1	3	4	1	1	1	1
Floors	2	3	2	5	2	1	1	1	1
Footprint of Largest Bldg (s.f.)	20,000	15,000	50,000	30,000	20,000	80,000	80,000	40,000	6,000
<b>Standards and Assumptions</b>									
Parking Space Ratio (spaces/1,000 s.f.)	3.50	3.50	3.50	3.50	2.50	2.00	4.50	1.00	10.00
People/Car	1.10	1.10	1.10	1.10	1.10	1.10	1.80	1.50	2.20
Typical Max. Occupancy (s.f./person)	225	225	225	225	400	500	100	400	40
<b>Calculated Project Data</b>									
Floor Area Ratio	0.37	0.41	0.51	1.15	0.55	0.61	0.37	0.23	0.08
Parking Spaces Required	140	280	350	875	300	160	360	40	60
Total Occupants [Parking]	154	308	385	963	330	176	648	60	132
Total Occupants [Max. Occupancy]	178	356	444	1,111	300	160	800	100	150
<b>Usage Intensity Calculations</b>									
People/Acre, Whole Site [Parking]	62	68	86	193	66	59	130	15	80
People/Acre, Whole Site [Max. Occ.]	71	79	99	222	60	53	160	25	91
People/Acre, 1-Acre [Parking]	154	154	335	321	83	96	353	60	132
People/Acre, 1-Acre [Max. Occ.]	178	178	387	370	75	87	436	100	150

Table D2

## Sample People-Per-Acre Calculations



## Glossary of Terms and Acronyms

---

**Accident Potential Zone I (APZ I):** At military airports, the area beyond the clear zone that possesses a significant potential for accidents.

**Accident Potential Zone II (APZ II):** At military airports, the area beyond APZ I having a measurable potential for accidents.

**Air Carriers:** The commercial system of air transportation, consisting of the certificated air carriers, air taxis (including commuters), supplemental air carriers, commercial operators of large aircraft, and air travel clubs.

**Air Installation Compatible Use Zone (AICUZ):** A land use compatible plan prepared by the U.S. Department of Defense for military airfields. AICUZ plans serve as recommendations to local governments bodies having jurisdiction over land uses surrounding these facilities.

**Aircraft Accident:** An occurrence incident to flight in which, as a result of the operation of an aircraft, a person (occupant or nonoccupant) receives fatal or serious injury or an aircraft receives substantial damage.

- ▶ Except as provided below, *substantial damage* means damage or structural failure which adversely affects the structural strength, performance, or flight characteristics of the aircraft, and which would normally require major repair or replacement of the affected component.
- ▶ Engine failure, damage limited to an engine, bent fairings or cowling, dented skin, small puncture holes in the skin or fabric, ground damage to rotor or propeller blades, damage to landing gear, wheels, tires, flaps, engine accessories, brakes, or wingtips are not considered substantial damage.

**Aircraft Incident:** A mishap associated with the operation of an aircraft in which neither fatal nor serious injuries nor substantial damage to the aircraft occur.

**Aircraft Mishap:** The collective term for an aircraft accident or an incident.

**Aircraft Operation:** The airborne movement of aircraft at an airport or about an en route fix or at other point 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)

**Airport:** 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)

**Airport Elevation:** The highest point of an airport's useable runways, measured in feet above mean sea level. (AIM)

**Airport Land Use Commission (ALUC):** A commission authorized under the provisions of California Public Utilities Code, Section 21670 et seq. and established (in any county within which a

public-use airport is located) for the purpose of promoting compatibility between airports and the land uses surrounding them.

**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 (AMP):** A long-range plan for development of an airport, including descriptions of the data and analyses on which the plan is based.

**Airport Reference Code (ARC):** A coding system used to relate airport design criteria to the operation and physical characteristics of the airplanes intended to operate at an airport. (Airport Design AC)

**Airports, Classes of:** For the purposes of issuing a Site Approval Permit, The California Department of Transportation, Division of Aeronautics classifies airports into the following categories: (CCR)

- ▶ *Agricultural Airport or Heliport:* An airport restricted to use only by agricultural aerial applicator aircraft (FAR Part 137 operators).
- ▶ *Emergency Medical Services (EMS) Landing Site:* A site used for the landing and taking off of EMS helicopters that is located at or as near as practical to a medical emergency or at or near an medical facility and
  - (1) has been designated an EMS landing site by an officer authorized by a public safety agency, as defined in PUC Section 21662.1, using criteria that the public safety agency has determined is reasonable and prudent for the safe operation of EMS helicopters and
  - (2) is used, over any twelve month period, for no more than an average of six landings per month with a patient or patients on the helicopter, except to allow for adequate medical response to a mass casualty event even if that response causes the site to be used beyond these limits, and
  - (3) is not marked as a permitted heliport as described in Section 3554 of these regulations, and
  - (4) is used only for emergency medical purposes.
- ▶ *Heliport on Offshore Oil Platform:* A heliport located on a structure in the ocean, not connected to the shore by pier, bridge, wharf, dock or breakwater, used in the support of petroleum exploration or production.
- ▶ *Personal-Use Airport:* An airport limited to the non-commercial use of an individual owner or family and occasional invited guests.
- ▶ *Public-Use Airport:* An airport that is open for aircraft operations to the general public and is listed in the current edition of the *Airport/Facility Directory* that is published by the National Ocean Service of the U.S. Department of Commerce.
- ▶ *Seaplane Landing Site:* An area of water used, or intended for use, for landing and takeoff of seaplanes.

- ▶ *Special-Use Airport or Heliport:* An airport not open to the general public, access to which is controlled by the owner in support of commercial activities, public service operations, and/or personal use.
- ▶ *Temporary Helicopter Landing Site:* A site, other than an emergency medical service landing site at or near a medical facility, which is used for landing and taking off of helicopters and
  - (1) is used or intended to be used for less than one year, except for recurrent annual events and
  - (2) is not marked or lighted to be distinguishable as a heliport and
  - (3) is not used exclusively for helicopter operations.

**Ambient Noise Level:** The level of noise that is all-encompassing within a given environment for which a single source cannot be determined. It is usually a composite of sounds from many and varied sources near to and far from the receiver.

**Approach Protection Easement:** A form of easement which both conveys all of the rights of an aviation easement and sets specified limitations on the type of land uses allowed to be developed on the property.

**Approach Speed:** The recommended speed contained in aircraft manuals used by pilots when making an approach to landing. This speed will vary for different segments of an approach as well as for aircraft weight and configuration. (AIM)

**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 protected areas defined by the Federal Aviation Administration, together with aircraft aprons, hangars, fixed base operations, terminal buildings, etc.

**Aviation Easement:** A type of easement which typically conveys the following rights:

- ▶ A right-of-way for free and unobstructed passage of aircraft through the airspace over the property at any altitude above a surface specified in the easement (usually set in accordance with FAR Part 77 criteria).
- ▶ A right to subject the property to noise, vibrations, fumes, dust, and fuel particle emissions associated with normal airport activity.
- ▶ A right to prohibit the erection or growth of any structure, tree, or other object that would enter the acquired airspace.
- ▶ A right-of-entry onto the property, with proper advance notice, for the purpose of removing, marking, or lighting any structure or other object that enters the acquired airspace.
- ▶ A right to prohibit electrical interference, glare, misleading lights, visual impairments, and other hazards to aircraft flight from being created on the property.

**Based Aircraft:** Aircraft stationed at an airport on a long-term basis.

**California Environmental Quality Act (CEQA):** Statutes adopted by the state legislature for the purpose of maintaining a quality environment for the people of the state now and in the future. The Act establishes a process for state and local agency review of projects, as defined in the implementing guidelines, which may adversely affect the environment.

**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)

**Clear Zone:** An area situated immediately beyond the end of a military airport runway that possesses a high potential for accidents and has traditionally been acquired by the Federal Government in fee and kept clear of obstructions to flight.

**Combining District:** A zoning district which establishes development standards in areas of special concern over and above the standards applicable to basic underlying zoning districts.

**Commercial Activities:** Airport-related activities which may offer a facility, service or commodity for sale, hire or profit. Examples of commodities for sale are: food, lodging, entertainment, real estate, petroleum products, parts and equipment. Examples of services are: flight training, charter flights, maintenance, aircraft storage, and tiedown. (CCR)

**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 evaluating airport noise. It represents the average daytime noise level during a 24-hour day, adjusted to an equivalent level to account for the lower tolerance of people to noise during evening and nighttime periods relative to the daytime period. (State Airport Noise Standards)

**Compatibility Plan:** As used herein, a plan, usually adopted by an Airport Land Use Commission, which sets forth policies for promoting compatibility between airports and the land uses which surround them. Often referred to as a *Comprehensive Land Use Plan (CLUP)*.

**Controlled Airspace:** Any of several types of airspace within which some or all aircraft may be subject to air traffic control. (FAR 1)

**Day-Night Average Sound Level (DNL):** The noise metric adopted by the U.S. Environmental Protection Agency for measurement of environmental noise. It represents the average daytime noise level during a 24-hour day, measured in decibels and adjusted to account for the lower tolerance of people to noise during nighttime periods. The mathematical symbol is  $L_{dn}$ .

**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 formal statement added to the legal description of a deed to a property and on any subdivision map. As used in airport land use planning, a deed notice would state 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.

**Designated Body:** A local government entity, such as a regional planning agency or a county planning commission, chosen by the county board of supervisors and the selection committee of city mayors to act in the capacity of an airport land use commission.

**Displaced Threshold:** A landing threshold that is located at a point on the runway other than the designated beginning of the runway (see *Threshold*). (AIM)

**Department of Defense (DoD):** The U.S. department that is in charge of ensuring national security and regulating military moves.

**Easement:** A less-than-fee-title transfer of real property rights from the property owner to the holder of the easement.

**Equivalent Sound Level ( $L_{eq}$ ):** The level of constant sound which, in the given situation and time period, has the same average sound energy as does a time-varying sound.

**FAR Part 77:** The part of the Federal Aviation Regulations which deals with objects affecting navigable airspace.

**FAR Part 77 Surfaces:** Imaginary airspace 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.

**Federal Aviation Administration (FAA):** The U.S. government agency which 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.

**Findings:** Legally relevant subconclusions which expose a government agency's mode of analysis of facts, regulations, and policies, and which bridge the analytical gap between raw data and ultimate decision.

**Fixed Base Operator (FBO):** A business which operates at an airport and 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:** That portion of civil aviation which encompasses all facets of aviation except air carriers. (FAA Stats)

**Glide Slope:** An electronic signal radiated by a component of an ILS to provide vertical guidance for aircraft during approach and landing.

**Global Positioning System (GPS):** A navigational system which 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.

**Helipad:** A small, designated area, usually with a prepared surface, on a heliport, airport, landing/takeoff area, apron/ramp, or movement area used for takeoff, landing, or parking of helicopters. (AIM)

**Heliport:** A facility used for operating, basing, housing, and maintaining helicopters. (HAI)

**Infill:** Development which takes place on vacant property largely surrounded by existing development, especially development which is similar in character.

**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 (refer to *Nonprecision Approach Procedure* and *Precision Approach Procedure*). (AIM)

**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. (AIM)

**Instrument Landing System (ILS):** A precision instrument approach system which normally consists of the following electronic components and visual aids: (1) Localizer; (2) Glide Slope; (3) Outer Marker; (4) Middle Marker; (5) Approach Lights. (AIM)

**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. (FAA ATA)

**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. (AIM)

**Inverse Condemnation:** An action brought by a property owner seeking just compensation for land taken for a public use against a government or private entity having the power of eminent domain. It is a remedy peculiar to the property owner and is exercisable by that party where it appears that the taker of the property does not intend to bring eminent domain proceedings.

**Land Use Density:** A measure of the concentration of land use development in an area. Mostly the term is 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 attracted by the land use.

**Large Airplane:** An airplane of more than 12,500 pounds maximum certificated takeoff weight. (Airport Design AC)

**Localizer (LOC):** The component of an ILS which provides course guidance to the runway. (AIM)

**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)

**National Transportation Safety Board (NTSB):** The U.S. government agency responsible for investigating transportation accidents and incidents.

**Navigational Aid (Navaid):** Any visual or electronic device airborne or on the surface which provides point-to-point guidance information or position data to aircraft in flight. (AIM)

**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.

**Nonconforming Use:** An existing land use which does not conform to subsequently adopted or amended zoning or other land use development standards.

**Nonprecision Approach Procedure:** A standard instrument approach procedure in which no electronic glide slope is provided. (FAR 1)

**Nonprecision Instrument Runway:** A runway with an approved or planned straight-in instrument approach procedure which has no existing or planned precision instrument approach procedure. (Airport Design AC)

**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 Federal Aviation Regulations Part 77, *Objects Affecting Navigable Airspace*.

**Overflight:** Any distinctly visible and audible passage of an aircraft in flight, not necessarily directly overhead.

**Overflight Easement:** An easement which describes the right to overfly the property above a specified surface and includes the right to subject the property to noise, vibrations, fumes, and emissions. An overflight easement is used primarily as a form of buyer notification.

**Overflight Zone:** The area(s) where aircraft maneuver to enter or leave the traffic pattern, typically defined by the FAR Part 77 horizontal surface.

**Overlay Zone:** See *Combining District*.

**Planning Area Boundary:** An area surrounding an airport designated by an ALUC for the purpose of airport land use compatibility planning conducted in accordance with provisions of the State Aeronautics Act.

**Precision Approach Procedure:** A standard instrument approach procedure where an electronic glide slope is provided. (FAR 1)

**Precision Instrument Runway:** A runway with an existing or planned precision instrument approach procedure. (Airport Design AC)

**Referral Area:** The area around an airport defined by the planning area boundary adopted by an airport land use commission within which certain land use proposals are to be referred to the commission for review.

**Runway Protection Zone (RPZ):** An area (formerly called a *clear zone*) off the end of a civilian airport runway used to enhance the protection of people and property on the ground. (Airport Design AC)

**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.

**Single-Event Noise:** As used in herein, the noise from an individual aircraft operation or overflight.

**Single Event Noise Exposure Level (SENEL):** A measure, in decibels, of the noise exposure level of a single event, such as an aircraft flyby, measured over the time interval between the initial and final times for which the noise level of the event exceeds a threshold noise level and normalized to a reference duration of one second. SENEL is a noise metric established for use in California by the state Airport Noise Standards and is essentially identical to *Sound Exposure Level (SEL)*.

**Site Approval Permit:** A written approval issued by the California Department of Transportation authorizing construction of an airport in accordance with approved plans, specifications, and conditions. Both public-use and special-use airports require a site approval permit. (CCR)

**Small Airplane:** An airplane of 12,500 pounds or less maximum certificated takeoff weight. (Airport Design AC)

**Sound Exposure Level (SEL):** A time-integrated metric (i.e., continuously summed over a time period) which quantifies the total energy in the A-weighted sound level measured during a transient noise event. The time period for this measurement is generally taken to be that between the moments when the A-weighted sound level is 10 dB below the maximum.

**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-in landing or made to straight-in landing weather minimums. (AIM)

**Taking:** Government appropriation of private land for which compensation must be paid as required by the Fifth Amendment of the U.S. Constitution. It is not essential that there be physical seizure or appropriation for a *taking* to occur, only that the government action directly interferes with or substantially disturbs the owner's right to use and enjoyment of the property.

**Terminal Instrument Procedures (TERPS):** Procedures for instrument approach and departure of aircraft to and from civil and military airports. There are four types of terminal instrument procedures: precision approach, nonprecision approach, circling, and departure.

**Threshold:** The beginning of that portion of the runway usable for landing (also see *Displaced Threshold*). (AIM)

**Touch-and-Go:** An operation by an aircraft that lands and departs on a runway without stopping or exiting the runway. (AIM)

**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)

**Visual Approach:** An approach where the pilot must use visual reference to the runway for landing under VFR conditions.

**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. (Airport Design AC)

**Zoning:** A police power measure, enacted primarily by units of local government, in which the community is divided into districts or zones within which permitted and special uses are established, as are regulations governing lot size, building bulk, placement, and other development standards. Requirements vary from district to district, but they must be uniform within districts. A zoning ordinance consists of two parts: the text and a map.

### Glossary Sources

**FAR 1:** *Federal Aviation Regulations Part 1, Definitions and Abbreviations*

**AIM:** *Aeronautical Information Manual*

**Airport Design AC:** Federal Aviation Administration, *Airport Design Advisory Circular 150/5300-13*

**CCR:** California Code of Regulations, Title 21, Section 3525 et seq., *Division of Aeronautics*

**FAA ATA:** Federal Aviation Administration, *Air Traffic Activity*

**FAA Stats:** Federal Aviation Administration, *Statistical Handbook of Aviation*

**HAI:** Helicopter Association International

**NTSB:** National Transportation and Safety Board