
Background Data: Nevada County Airport and Environs

INTRODUCTION

Chapter 3 documents information regarding Nevada County Airport and its environs to provide the setting upon which this *Nevada County Airport Land Use Compatibility Plan* is based. The physical configuration of the runway system and the volume and characteristics of the aircraft operations are critical determinants of the impacts that aircraft activity has on surrounding land uses. As described in this chapter, changes to the runway configuration are expected at Nevada County Airport. These changes, coupled with projected growth of aircraft operations at the airport, have been taken into account in the plan preparation.

The character of current and planned land uses in the area surrounding the airport is also considered in the development of the compatibility policies. Planned Loma Rica land uses are detailed later in this chapter. A significant land use proposal in the airport environs is the Loma Rica Ranch Specific Plan (Loma Rica). It is important that any new development, whether in Loma Rica or elsewhere in the airport influence area, take place in a manner that is compatible with the airport.

AIRPORT HISTORY AND DEVELOPMENT

Located in western Nevada County and 1 mile east of the City of Grass Valley, Nevada County airport is a general aviation facility serving Grass Valley, Nevada City, and the nearby Sierra Foothills region. It functions as a transportation facility for local business aircraft, a point of access for visitors to the community, a base for aerial fire attack aircraft, a site for emergency access to the community, and a base for local personal and recreational flyers. The airport is owned and operated by the County of Nevada.

The airport was constructed in 1933 by the Idaho-Maryland Mine Company to serve nearby mines. Other important events in the airport's history include:

- In 1941, the Army Air Corps utilizes the airport as a squadron training site.
- In 1959, the 3,200-foot-long and 50-foot-wide runway is paved.
- Circa 1960, the Forest Service establishes an air tanker base at the east end of the airport.

- ▶ Circa 1966, the runway pavement is extended 1,200 feet eastward and the western 500 feet is designated as an overrun, resulting in a runway length of 3,900 feet. The midfield apron area also is constructed.
- ▶ In 1970, the runway length is established as 4,400 feet with a 500-foot displaced threshold at the west end.
- ▶ In 1978, the runway length is redefined as 3,920 feet with the western 500 feet designated as an overrun. The 20 feet is obtained by including the 10-foot long, painted runway threshold stripe at each end of the runway into the calculation.
- ▶ In 1981, an Airport Master Plan was adopted.
- ▶ In 1987, the Foothill Airport Land Use Commission adopts the Comprehensive Land Use Plan for the airport based on the 1981 Master Plan.
- ▶ In 1992, a new Airport Master Plan was adopted.
- ▶ In 1996, the runway is extended from 3,920 to 4,350 feet.

Existing Airfield System

Nevada County Airport has a single runway that is aligned east to west. The runway is 4,350-feet long and 75 feet wide, and designated as Runway 7-25. The Airport Reference Code (ARC) classification for the airport is ARC B-I (Small). This means the airport is used primarily by aircraft with approach speeds lower than 121 knots, wingspans less than 49 feet, and weighs less than 12,500 pounds. However, the airport is capable of accommodating larger and heavier aircraft at the pilot's discretion. The designated design aircraft is the twin-engine Cessna 421. Other major features at Nevada County Airport are detailed further in **Exhibit 3-1**, The Airport Features Summary.

Airport Reference Code (ARC). A coding system defined by the Federal Aviation Administration (FAA) to relate airport design criteria to the operation and physical characteristics of the airplanes intended to operate at an airport.

AIRPORT PLANS

Airport land use compatibility plans and airport master plans are closely interrelated. Section 21675(a) of the California Public Utilities Code requires that an airport land use compatibility plan be based upon a long-range airport master plan adopted by the airport owner/proprietor. If such a plan does not exist for a particular airport, an airport layout plan may be used with the approval of the California Division of Aeronautics. Furthermore, the compatibility plan must reflect “the anticipated growth of the airport during at least the next 20 years.”

Airport Master Plan Status

In 1992, Nevada County prepared an Airport Master Plan for the airport. This study evaluated the airport's capabilities and role, forecast future aviation demand for 2010, and identified development of new or expanded facilities that would be required to accommodate anticipated increases in aircraft activity. On January 28, 1992, the Master Plan was adopted by the Nevada County Board of Supervisors and has not been updated since then. The significant development proposed in the Master Plan was extending the runway from 3,920 to 4,350 feet, which was completed in 1996.

Airport Layout Plan Status

Modifications to the configuration of the airfield must be considered in the Compatibility Plan, as noise and safety impacts may shift and affect surrounding land uses previously excluded from the airport influence area. Proposed alterations to the airfield system are illustrated on the latest Nevada County Airport Layout Plan (ALP) drawing.

Exhibit 3-2 illustrates the most recent ALP drawing, dated April 2009, and conditionally approved by the Federal Aviation Administration (FAA) in February 2010. The conditional approval requires that an environmental determination be completed by the airport proprietor prior to project construction of projects shown on the plan. The principal development proposal shown on the ALP is to relocate the Runway 25 threshold 300 feet east to the existing end of pavement, resulting in a runway length of 4,650 feet, and the acquisition of property and avigation easements.

As the 2009 ALP represents the airport proprietor's ultimate vision for the airport, the 2009 ALP is used as the basis of this *Compatibility Plan*. In accordance with state law (Section 21675(a)), the FAA-approved 2009 ALP was submitted to and accepted by the California Department of Transportation (Caltrans), Division of Aeronautics on April 27, 2011, for the purposes of this *Compatibility Plan*.

Airspace Plan

The Airspace Plan included in the 2009 ALP drawing set is presented in **Exhibit 3-3**. The drawing depicts the Federal Aviation Regulations (FAR) Part 77 airspace surfaces for the airport, reflecting the future runway length and straight-in instrument approaches. The size and shape of imaginary surfaces are a function of the type of aircraft using a runway and the lowest visibility minimums allowed for that runway.

The Airspace Plan is based upon a nonprecision approach to Runway 7 and a visual approach to Runway 25. No additional instrument approaches or lower visual minimums are proposed for the airport.

FAR Part 77 Surfaces. Imaginary airspace surfaces established with relation to each runway of an airport. There are five types of surfaces: primary, approach, transitional, horizontal, and conical. FAR Part 77 establishes standards and notification requirements for objects affecting navigable airspace. Notification allows the FAA to evaluate the potential hazardous effect of proposed construction on air navigation and to identify mitigation measures to prevent or minimize the adverse impacts to the safe use of navigable airspace.

AIRCRAFT ACTIVITY DATA AND FORECASTS

As noted above, state law (Section 21675(a)) requires that the *Compatibility Plan* reflect the anticipated growth of the airport during at least the next 20 years. Nothing in the law precludes ALUCs from extending the planning horizon beyond 20 years. In fact, some ALUCs will base a *Compatibility Plan* on an arbitrary forecast year or on the ultimate growth of the airport (e.g., build-out).

The purpose of extending the forecast period beyond the required 20-year timeframe, if prudent, is to take a more conservative approach by assessing the greatest extents of off-airport impacts based on a higher level of future aircraft activity. The decision to extend the forecast horizon is based on the airport proprietor's goals and objectives for expansion at the airport and the initiatives in place to fulfill those objectives.

Existing Activity

The airport is a non-towered general aviation facility. Therefore, precise operational statistics are not available. Instead, current activity levels, fleet mix and flight patterns must be deciphered through conversations with airport management and users of the airport.

Discussions with airport management indicate that operations can vary greatly from day to day and depend heavily on the season. On clear days with low winds, over 100 operations (landings and takeoffs) may take place. Throughout the fire season (typically between May and November), Cal Fire attack aircraft will use the airport to assist in battling wild and forest fires in the region. During the winter months, visibility can drop below minimums and operations are curtailed for days at a time. After analysis, it was determined that approximately 30,000 annual operations (an average of 82 operations daily) occurred at the airport in 2010. **Exhibit 3-4** summarizes base year (2010) aircraft activity data at the airport.

Cal Fire maintains three fire attack aircraft (2 Grumman S-2 Trackers and 1 OV-10 Bronco) at the base during fire season. These aircraft, along with a Bell Super Huey helicopter will stage fire attack operations at the airport and refill with retardant, water, or fuel. When regional fires are large enough, additional fire attack aircraft will operate from the airport.

Operations by fire attack aircraft are dependent on the size and frequency of fires in a season. Historical data was acquired from which details operations by fire attack aircraft over the last 5 years. An average of 1,575 annual operations (landings and takeoffs) has taken place over the past five years (2006-2010), with a high of 2,000 annual operations occurring in 2007.

During visual conditions, the direction of landings and takeoffs by small aircraft are usually dictated by the prevailing winds, which are from the west. Operations will occur on Runway 25 about 90% of the time. This creates a traffic flow from east to west, with aircraft departing towards Grass Valley and overflying portions of the City.

An unusual characteristic of the airport that affects aircraft operations is the severity of the runway gradient. The slope of the runway rises steeply by 1.9% to the east. When winds are out of the east, aircraft may still depart to the west on Runway 25 and head downslope, even with a moderate tailwind. For departures on Runway 7, winds from the east need to be fairly strong to overcome the effect of the uphill slope.

Notices are in place discouraging nighttime takeoffs on Runway 7 and landings on Runway 25 for all aircraft. This is due to the runway slope, rising terrain to the east of the Airport, and residential lots just to the east of the Airport. Larger and heavier aircraft, such as fire attack aircraft, will always land on Runway 7 and takeoff on Runway 25. The slope of the runway is utilized by larger aircraft to aid in slowing down the aircraft on arrival and improving lift on departures.

Forecast for this Compatibility Plan

General aviation airports throughout the country have seen a decline in aircraft activity in the past few years in response to the downturn in the economy, rising fuel prices, and airport-specific circumstances. Although operations have decreased, the FAA continues to forecast long term aviation growth despite global economic conditions. As noted above, a conservative approach in operations is generally favored for compatibility planning purposes.

The forecast presented in the 1992 Master Plan (116,000 annual operations) is based on an activity level that is more than twice the activity level currently estimated for 2010 (30,000 annual operations). The new data suggests that the forecast presented in the Master Plan is overly aggressive given current aircraft activity levels and is no longer suitable as the basis for policy in this *Compatibility Plan*.

Using current operational data described above, a forecast of 60,000 annual operations was developed for the purposes of this *Compatibility Plan*. This forecast is double the current (2010) activity level of 30,000 annual operations and is more representative of the airport's current condition and potential growth, yet is less than the activity level historically achieved.

The forecast is derived by applying the average annual growth rate of 2.2% from the 1992 Master Plan to current (2010) operations of 30,000 annual operations and extending it out to cover a 30-year timeframe. This methodology yields 60,000 annual operations by 2040. This forecast level is also achieved if the airport reaches its basing capacity for aircraft, as reflected in the 2009 ALP. The 2009 ALP indicates that the future parking capacity is 270 spaces (hangars and tiedowns). According to management, the existing based aircraft count is 135 and the total operations per based aircraft is 222 (30,000 divided by 135). If the total basing capacity of the airport is reached and operations per based aircraft remains constant, aircraft activity would total about 60,000 annual operations (270 spaces times 222 operations per based aircraft).

The 2009 ALP also identifies lands north and southwest of the airfield slated for future airport acquisition. Although not specified on the ALP, the airport's basing capacity could be higher if additional aircraft storage facilities or a Cal Fire base able to accommodate more aircraft were developed on these lands. Note that no official planning or design work has been done for these areas. As such, the forecast for this *Compatibility Plan* is 60,000 annual operations. The anticipated share of the forecast activity by specific types of aircraft is also summarized in Exhibit 3-4. The future fleet mix for the airport is expected to match national trends. The FAA anticipates that the growth in business and corporate general aviation aircraft will outpace growth of aircraft used for sport or personal use. Business/corporate aircraft typically include turboprops and business jets, while personal/sport aircraft include single- and multi-engine piston powered aircraft.

OTHER COMPATIBILITY FACTORS FOR THIS COMPATIBILITY PLAN

Noise Contours and Overflight Areas

The future noise contours for the airport are shown in **Exhibit 3-5**. The mapped noise contours represent a forecast of 60,000 annual operations on the future runway configuration as presented in the 2009 ALP. Also depicted are the flight tracks that were modeled to create the noise contours. These flight tracks reflect the common traffic patterns at the airport. The estimated distribution of aircraft activity on each track is detailed in Exhibit 3-4. The extended arrival tracks to Runway 7 are used by the large fire attack aircraft when landing.

Safety Zones

Generic safety zones based upon runway length and operation patterns are depicted in Exhibit 3-6, using the generic safety zones from the California Airport Land Use Planning Handbook published

by the Caltrans Division of Aeronautics in January 2002. These safety zones translate nationwide aircraft accident distribution pattern data into a set of distinct zones with regular geometric shapes and sizes. The generic safety zones shown are for medium general aviation runways (4,000 to 5,999 feet). On the east side of the airport, two set of safety zones are shown reflecting the existing and future ends of Runway 25. The safety zones reflecting the proposed runway extension are shown as dashed lines. The general risk factors prevalent in each zone are noted below.

- ▶ Zone 1: Runway Protection Zone encompasses lands immediately beyond the runways. This area is exposed to the highest degree of risk.
- ▶ Zone 2: Inner Approach/Departure Zone encompasses areas overflowed at low altitudes typically only 200 to 400 feet above runway elevation.
- ▶ Zone 3: Inner Turning Zone encompasses locations where aircraft are typically turning from the base to final approach legs of the standard traffic pattern and are descending from traffic pattern altitude.
- ▶ Zone 4: Outer Approach/Departure Zone is situated along the extended runway centerline beyond Zone 2 and is especially significant at airports that have straight-in instrument approach procedures or a high volume of operations that result in an extended traffic pattern.
- ▶ Zone 5: Sideline Zone encompasses close-in areas lateral to runways and, for most airports, lies on airport property.
- ▶ Zone 6: Traffic Pattern Zone contains the aircraft traffic pattern. Risk concern primarily is with uses for which potential consequences are severe (e.g., children's schools, hospitals, power plants).

AIRPORT ENVIRONS

The airport lies in the Sierra Nevada Foothills at an elevation of 3,154 feet above mean sea level (MSL). The topography around the airport is very hilly. Terrain falls to the west and rises to the east. Lands within unincorporated Nevada County and the cities of Grass Valley and Nevada City are all affected by airport activity and located within the airport's influence area.

Of particular interest is the Loma Rica Ranch Specific Plan, located immediately west of the approach end for Runway 7. Although currently unincorporated, this is a proposed Special Development Area within the Planning Area of Grass Valley. The plan proposes: 314 acres of Open Space, 27 acres of Business and Light Industrial uses (Special District), 10 acres of mixed residential/commercial/retail uses (Neighborhood Center), 78 acres of Neighborhood General (6-20 dwelling units/acre), and 19 acres of Neighborhood Edge (1-8 dwelling units/acre).

Specific land uses within the airport environs are listed in **Exhibit 3-7**, which identifies existing and planned land uses and summarizes the status of local plans and policies for the jurisdictions of Nevada County, Grass Valley, and Nevada City. **Exhibit 3-8** displays land uses as designated in the Nevada County's General Plan (1995), **Exhibit 3-9** shows assigned land uses in the Grass Valley 2020 General Plan, and **Exhibit 3-10** shows the specific plan land uses for the City of Grass Valley. Note that land use data is not available in GIS format for Nevada City. An aerial photo of the airport environs along with the compatibility zones is provided in **Exhibit 3-11**.

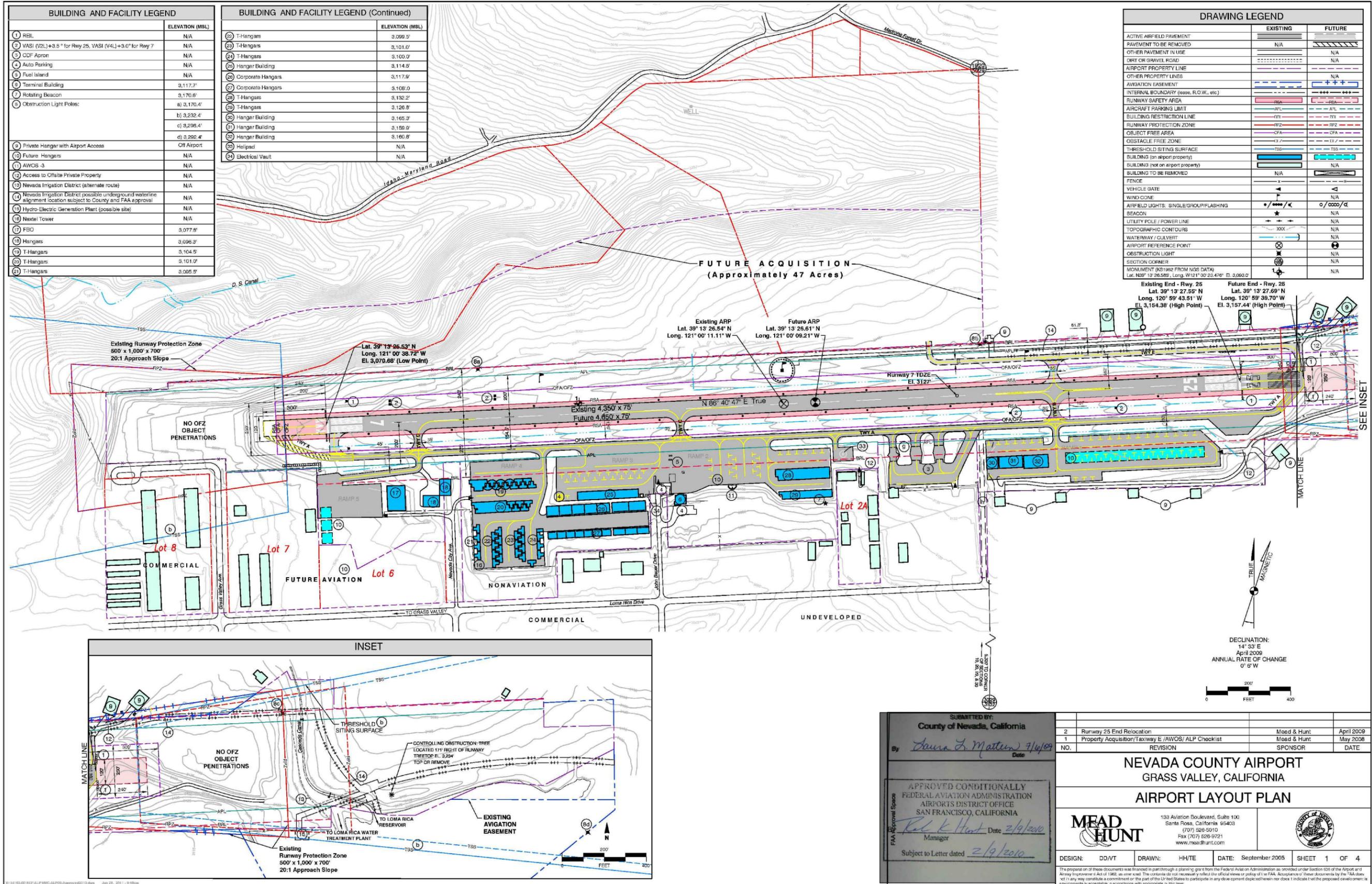
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<p>GENERAL INFORMATION</p> <ul style="list-style-type: none"> ▶ <i>Airport Ownership:</i> <ul style="list-style-type: none"> › County of Nevada › Operated by Department of Facilities Management and Maintenance ▶ <i>Airport Location:</i> <ul style="list-style-type: none"> › Lies in west-central Nevada County ▶ <i>Property Size:</i> 120 acres ^a ▶ <i>Airport Classification:</i> General Aviation (GA) Airport ▶ <i>Airport Elevation:</i> 3,154 ft. MSL (surveyed) ^a <hr/> <p>RUNWAY/TAXIWAY DESIGN ^a</p> <p>Runway 7-25</p> <ul style="list-style-type: none"> ▶ <i>Airport Reference Code:</i> B-I (Small) ▶ <i>Critical Aircraft:</i> Cessna 421 ▶ <i>Dimensions:</i> 4,350 ft. long, 75 ft. wide ▶ <i>Pavement Strength (main landing gear configuration)</i> <ul style="list-style-type: none"> › 30,000 lbs. (single wheel) ▶ <i>Average Gradient:</i> 1.9% (rising to east) ▶ <i>Runway Lighting:</i> Medium Intensity Runway Lights (MIRL), Runway End Identifier Lights (REILs) ▶ <i>Primary Taxiways:</i> Taxiway A: full-length on south <hr/> <p>APPROACH PROTECTION</p> <ul style="list-style-type: none"> ▶ <i>Airspace Category:</i> Utility runway (≤12,500 lbs); non-precision instrument runway; [A (NP)] ▶ <i>Existing Runway Protection Zones (RPZ) ^a</i> <ul style="list-style-type: none"> › Runway 7: 54% on airport; proposed fee simple acquisition for remaining 46% › Runway 25: 93% on airport; 1% off-airport on existing avigation easement, 6% off-airport on proposed avigation easement ▶ <i>Approach Obstacles ^b</i> <ul style="list-style-type: none"> › Runway 7: 20 ft. tall trees, 612 ft. from runway, 190 ft. left of centerline, clear 20:1 slope › Runway 25: 100 ft. tall pole (marked and lighted), 2,600 ft. from runway, 235 ft. right of centerline, clear 24:1 slope <hr/> <p>BUILDING AREA</p> <ul style="list-style-type: none"> ▶ <i>Aircraft Parking Location</i> <ul style="list-style-type: none"> › Building area south side of airfield ▶ <i>Aircraft Parking Capacity ^a</i> <ul style="list-style-type: none"> › Hangar spaces: 106 › Tie-downs: 173 ▶ <i>Other Facilities and Services ^b</i> <ul style="list-style-type: none"> › CalFire air attack base › Fuel: 100LL, Jet A › Airframe and powerplant service <p>Sources: ^a Airport Layout Plan (2009) ^b FAA Master Record Form 5010 (2011)</p>	<p>AIRPORT PLANNING DOCUMENTS</p> <ul style="list-style-type: none"> ▶ <i>Airport Layout Plan Drawing</i> <ul style="list-style-type: none"> › Dated April 2009; approved by FAA February 2010; accepted by Caltrans Division of Aeronautics as basis of this <i>Compatibility Plan</i> on April 27, 2011 ▶ <i>Airport Master Plan:</i> <ul style="list-style-type: none"> › Adopted by Board of Supervisors, January 28, 1992 <hr/> <p>TRAFFIC PATTERNS AND APPROACH PROCEDURES ^{a,b}</p> <ul style="list-style-type: none"> ▶ <i>Airplane Traffic Patterns</i> <ul style="list-style-type: none"> › Runway 7-25: Left traffic › Pattern Altitude: 1,000 ft. AGL, departing aircraft advised to climb to 3,800 ft. MSL before turning ▶ <i>Instrument Approach Procedures</i> <ul style="list-style-type: none"> › Runway 7 GPS › Straight-in: 1 statute mile visibility, decision height 412 ft. above touch down zone (3,540 ft. MSL) › VOR/GPS-A › Circle to Land: 1¼ statute miles visibility, decision height 1,128 ft. above airport elevation (4,280 ft. MSL) ▶ <i>Approach Aids</i> <ul style="list-style-type: none"> › Airport: Beacon, wind indicator, and segmented circle › Runway 7: VASI (4 box), on left, 3.00° glide path › Runway 25: VASI (2 box), on left, 3.50° glide path ▶ <i>Traffic Advisories</i> <ul style="list-style-type: none"> › Runway slopes downhill to west, recommended takeoffs on Runway 25 › Night takeoffs on Runway 7 and landings on Runway 25 not recommended › Fire attack aircraft operate in summer and fall months; land on Runway 7 and depart on 25 <hr/> <p>PLANNED FACILITY IMPROVEMENTS ^a</p> <ul style="list-style-type: none"> ▶ <i>Runway 7-25</i> <ul style="list-style-type: none"> › Increase length to 4,650 feet by relocating Runway 25 threshold 300 feet east to existing end of pavement ▶ <i>Land Acquisition</i> <ul style="list-style-type: none"> › Property acquisition of 50 acres north, west, and southwest of existing airport for RPZ control (to west) and aviation related expansion ▶ <i>Runway 25 RPZ</i> <ul style="list-style-type: none"> › Shifts 300 feet east; 94% will be located on airport; 3% on existing avigation easement, 2% on future avigation easement, 1% located off-airport ▶ <i>Building Area Development</i> <ul style="list-style-type: none"> › Hangars to replace 29 tiedowns on southeast apron
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Exhibit 3-1

Airport Features Summary

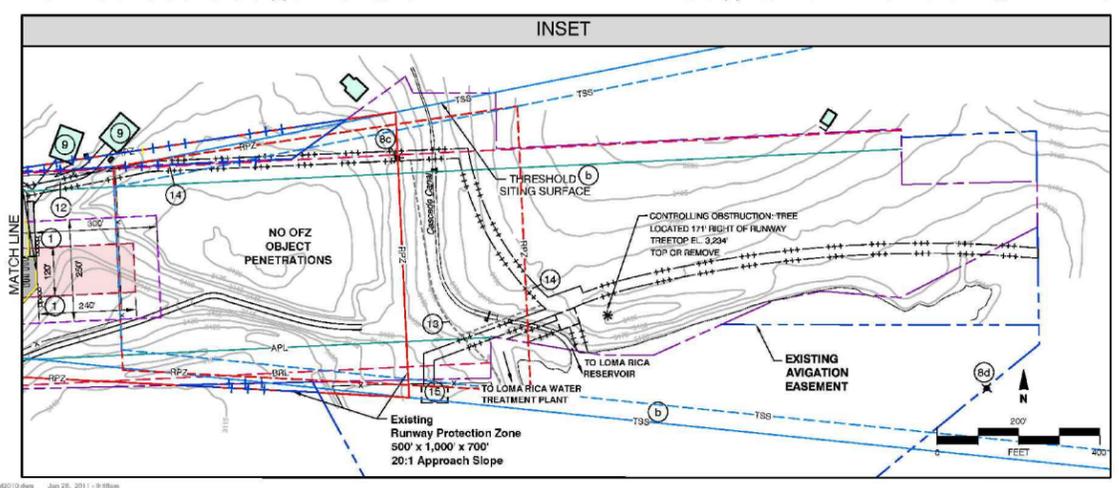
Nevada County Airport



BUILDING AND FACILITY LEGEND	
Symbol	ELEVATION (MSL)
1	RBL
2	VASI (V2L)+3.5' for Rwy 25, VASI (V4L)+3.0' for Rwy 7
3	ODF Apron
4	Auto Parking
5	Fuel Island
6	Terminal Building
7	Rotating Beacon
8	Obstruction Light Poles:
a)	3,170.4'
b)	3,232.4'
c)	3,296.4'
d)	3,292.4'
9	Private Hangar with Airport Access
10	Future Hangars
11	AWOS-3
12	Access to Offsite Private Property
13	Nevada Irrigation District (alternate route)
14	Nevada Irrigation District possible underground waterline alignment location subject to County and FAA approval
15	Hydro-Electric Generation Plant (possible site)
16	Nextel Tower
17	FBO
18	Hangars
19	T-Hangars
20	T-Hangars
21	T-Hangars
22	T-Hangars

BUILDING AND FACILITY LEGEND (Continued)	
Symbol	ELEVATION (MSL)
23	T-Hangars
24	T-Hangars
25	Hanger Building
26	Corporate Hangars
27	Corporate Hangars
28	T-Hangars
29	T-Hangars
30	Hanger Building
31	Hanger Building
32	Hanger Building
33	Hangar
34	Electrical Vault

DRAWING LEGEND		
	EXISTING	FUTURE
ACTIVE AIRFIELD PAVEMENT	---	---
PAVEMENT TO BE REMOVED	N/A	---
OTHER PAVEMENT IN USE	---	N/A
DIRT OR GRAVEL ROAD	---	N/A
AIRPORT PROPERTY LINE	---	---
OTHER PROPERTY LINES	---	N/A
AVIATION EASEMENT	---	---
INTERNAL BOUNDARY (lease, R.O.W., etc.)	---	---
RUNWAY SAFETY AREA	---	---
AIRCRAFT PARKING LIMIT	---	---
BUILDING RESTRICTION LINE	---	---
RUNWAY PROTECTION ZONE	---	---
OBJECT FREE AREA	---	---
OBSTACLE FREE ZONE	---	---
THRESHOLD SITING SURFACE	---	---
BUILDING (on airport property)	---	---
BUILDING (not on airport property)	---	---
BUILDING TO BE REMOVED	---	---
FENCE	---	---
VEHICLE GATE	---	---
WIND CONE	---	---
AIRFIELD LIGHTS: SINGLE/GROUP/FLASHING	---	---
BEACON	---	---
UTILITY POLE / POWER LINE	---	---
TOPOGRAPHIC CONTOURS	---	---
WATERWAY / CULVERT	---	---
AIRCRAFT REFERENCE POINT	---	---
OBSTRUCTION LIGHT	---	---
SECTION CORNER	---	---
MONUMENT (B31982 FROM NGS DATA)	---	---



SUBMITTED BY:
County of Nevada, California
By: *Jaura L. Martin* 7/14/09 Date

APPROVED CONDITIONALLY
FEDERAL AVIATION ADMINISTRATION
AIRPORTS DISTRICT OFFICE
SAN FRANCISCO, CALIFORNIA
By: *Paul K. Hunt* Date 2/19/2010
Manager
Subject to Letter dated 2/19/2010

2	Runway 25 End Relocation	Mead & Hunt	April 2009
1	Property Acquisition/Taxway E /AWOS/ ALP Checklist	Mead & Hunt	May 2008
NO.	REVISION	SPONSOR	DATE

NEVADA COUNTY AIRPORT
GRASS VALLEY, CALIFORNIA
AIRPORT LAYOUT PLAN

MEAD HUNT
133 Aviation Boulevard, Suite 100
Santa Rosa, California 95403
(707) 526-5010
Fax (707) 526-9721
www.meadhunt.com

DESIGN: DD/VT DRAWN: HH/TE DATE: September 2005 SHEET 1 OF 4

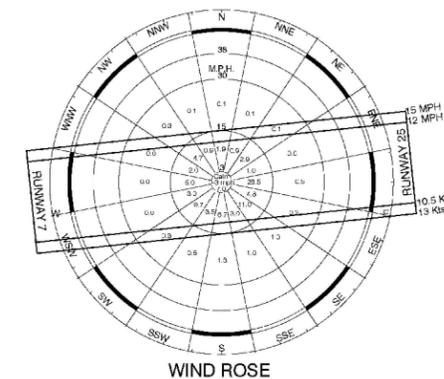
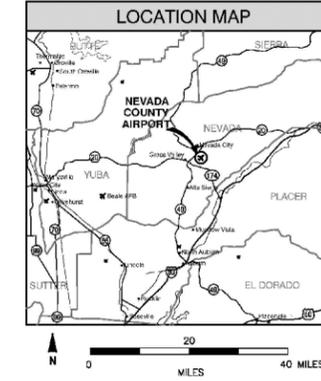
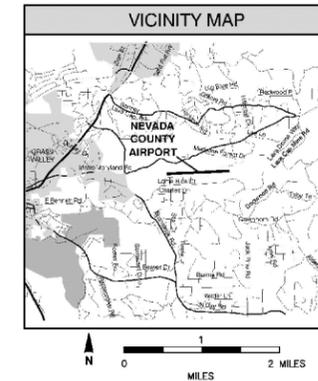
The preparation of these documents was financed in part through a planning grant from the Federal Aviation Administration as provided under Section 635 of the Airport and Airway Improvement Act of 1982, as amended. The contents do not necessarily reflect the official views or policy of the FAA. Acceptance of these documents by the FAA does not in any way constitute a commitment or the part of the United States to participate in any development depicted herein nor does it indicate that the proposed development is environmentally acceptable in accordance with applicable law.

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AIRPORT DATA		
	EXISTING	FUTURE
AIRPORT SERVICE LEVEL (NPIAS)	General Aviation B-1 (Small)	No Change
AIRPORT REFERENCE POINT	Latitude 39° 13' 26.54" N Longitude 121° 00' 11.11" W	39° 13' 26.61" N 121° 00' 09.21" W
AIRPORT ELEVATION (Above Mean Sea Level)	3,154'	3,157'
MEAN MAX. TEMP. (Hottest Month)	87° F (July)	No Change
AIRPORT AND TERMINAL NAVIGATIONAL AIDS	GPS/VOR/BEACON	No Change
GPS APPROACH ESTABLISHED	Yes	No Change
AIRPORT ACREAGE	Fee Simple 120 Easement 23	190 24
AIRCRAFT PARKING SPACES	Tiedowns 178 Individual Hanger Units 106 Helicopter Spaces 1	126 144 No Change

RUNWAY DATA			
		RUNWAY 7-25	
		EXISTING	FUTURE
AIRPORT REFERENCE CODE	AIRCRAFT	B-1 (Small)	No Change
	WINGSPAN	Cessna 421	No Change
	UNDERCARRIAGE WIDTH	47.1'	No Change
	APPROACH SPEED	12.0"	No Change
	MAX TAKEOFF WT. (lbs.)	96 kts	No Change
		7,420 lbs	No Change
EFFECTIVE GRADIENT (%)		1.93%	No Change
MAXIMUM GRADIENT (%)		2.0%	No Change
PAVEMENT DESIGN STRENGTH (1,000#) - S/D/D/T		30/-/-	No Change
APPROACH VISIBILITY (Minimums)		7 1 SM	7 No Change
RUNWAY SAFETY AREA (Length Beyond Runway End)		25 1 1/4 SM	25 No Change
RUNWAY SAFETY AREA WIDTH		7 240'	7 No Change
		25 240'	25 No Change
OBJECT FREE AREA (Length Beyond Runway End)		7 250'	7 No Change
		25 240'	25 No Change
OBSTACLE FREE ZONE (Length Beyond Runway End)		7 200'	7 No Change
		25 200'	25 No Change
OBSTACLE FREE ZONE WIDTH		7 250'	7 No Change
DISTANCE FROM RWY. ξ TO HOLD BARS		7 125'	7 No Change
		25 125'	25 No Change
RUNWAY MARKING		7 Basic	7 No Change
		25 Basic	25 No Change
APPROACH TYPE (FAR Part 77 Category)		7 [A/V]	7 No Change
		25 [A/V]	25 No Change
DISTANCE FROM RWY. ξ TO PARALLEL TWY. ξ		7 125'	7 No Change
DISTANCE FROM TWY. ξ TO FIXED OR MOVABLE OBJECT		7 45'	7 No Change
TAXIWAY OBJECT FREE AREA WIDTH		7 45'	7 No Change
TAXIWAY SAFETY AREA WIDTH		7 45'	7 No Change
TAXIWAY WINGTIP CLEARANCE		7 45'	7 No Change
RUNWAY END ELEVATIONS (a)		7 3,070.68'	7 No Change
		25 3,154.38'	25 3,157.44'
RUNWAY END COORDINATES (b)	Latitude	7 39° 13' 25.53" N	7 No Change
	Longitude	25 39° 13' 27.69" N	25 39° 13' 27.69" N
		7 121° 00' 38.72" W	7 No Change
		25 120° 59' 43.51" W	25 120° 59' 39.70" W
RUNWAY TOUCHDOWN ZONE ELEVATIONS (TDZ)		7 N/A	7 No Change
		25 N/A	25 No Change
RUNWAY HIGH POINT		7 3,154.38'	7 3,157.44'
RUNWAY LOW POINT		7 3,070.68'	7 No Change
VERTICAL LINE OF SIGHT PROVIDED		7 Yes	7 No Change
RUNWAY LENGTH		7 4,857'	7 No Change
RUNWAY WIDTH		7 75'	7 No Change
RUNWAY SURFACE TYPE		7 Asphalt	7 No Change
TAXIWAY SURFACE TYPE		7 Asphalt	7 No Change
APPROACH SLOPE (Required/Clear)		7 20:1/20:1 (g)	7 No Change
		25 20:1/18:1 (g)	25 No Change
RUNWAY EDGE LIGHTING		7 M/R/L	7 No Change
NAVIGATION AIDS		7 GPS/VOR	7 No Change
		25 GPS/VOR	25 No Change
VISUAL AIDS		7 VASI/RBL	7 No Change
		25 VASI/RBL	25 No Change

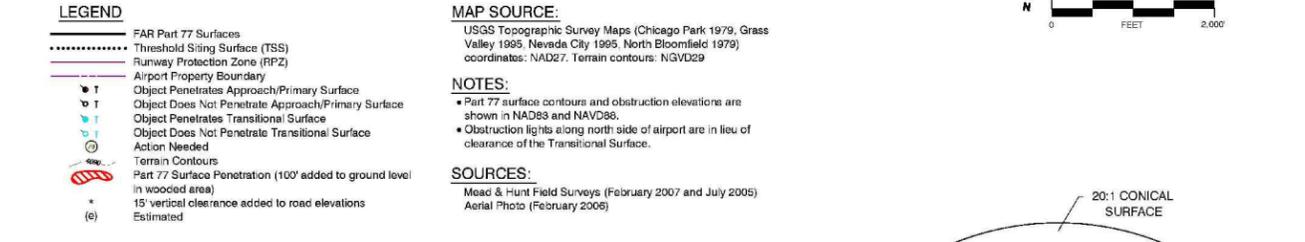
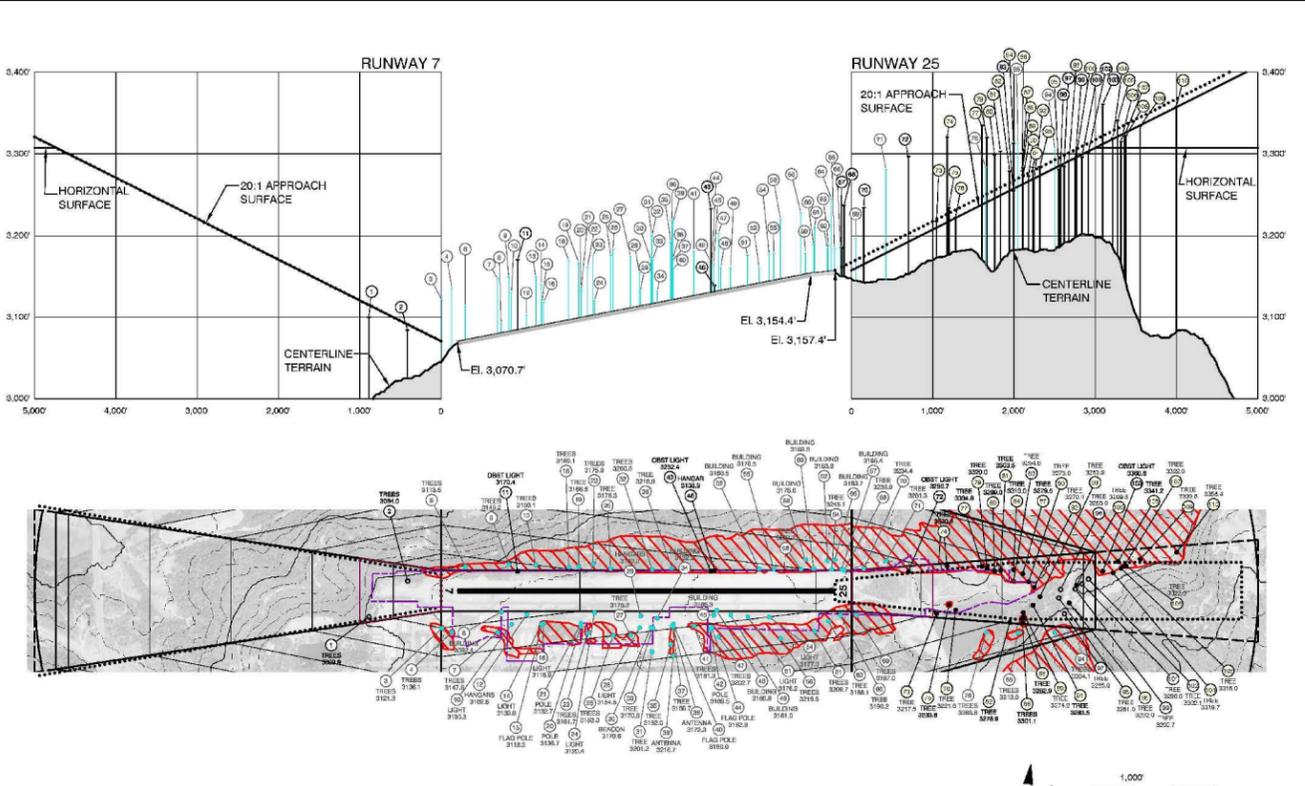
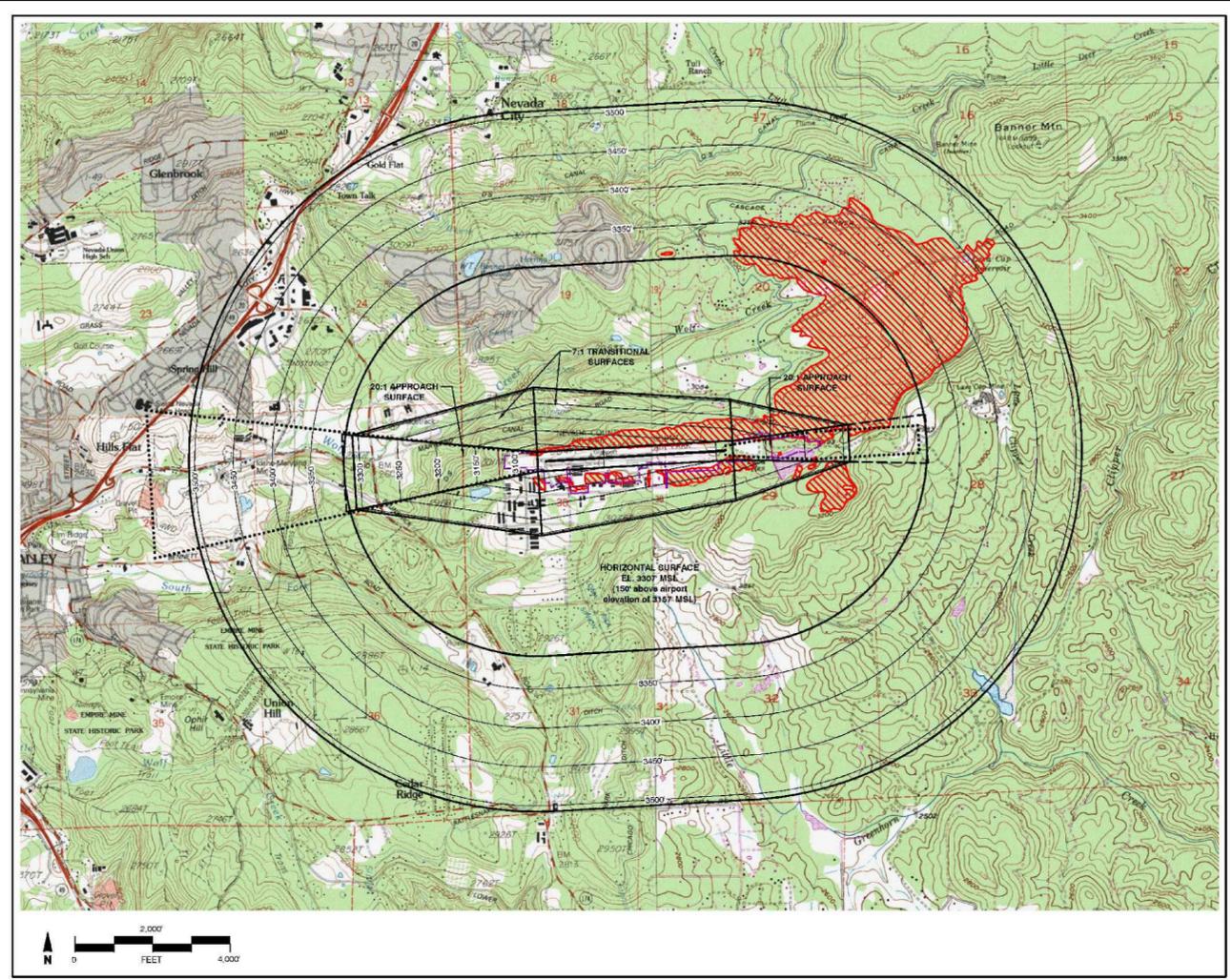
ALP NOTES	
(a)	Elevations source: Mead & Hunt survey 2005 and 2007. Horizontal datum NAD83. Vertical datum NAVD83.
(b)	Threshold Sling Surface (TSS): Runway 25; trees and two lighted obstruction poles penetrate the TSS. Proposed disposition: lighted poles to remain. Trees are maintained on a regular basis to provide 20:1 slope clearance. Trees to be topped/removed as required to provide and maintain clear TSS to future runway end.
(c)	Wind data specific to Nevada County Airport not available. Wind coverage is from Auburn Municipal Airport.
(d)	FAR Part 77 Approach Surface - Runway 25: an obstruction light pole exists 3,588' from existing runway end (outside of ALP view), slope clearance is 16:1. Proposed Disposition: light pole to remain. Trees South of runway centerline to be topped/removed as required to provide and maintain clear transitional surface to future runway end; trees North of centerline are obstruction lighted and will remain.
(e)	Runway end coordinates source: Nevada County, Department of Transportation and Sanitation (John Steger, County Surveyor). Horizontal datum: NAD83.
(f)	Building Restriction Line (BRL) is located based upon the historical pattern of development. Many existing buildings penetrate the transitional airspace surface. Future buildings should obtain airspace review (7460 review) prior to construction.
(g)	Aircraft Parking Line (APL) delineated to provide clearance to better accommodate operations by fire attack aircraft (Grumman S-2); 61' from the eastern-most portion of Taxiway A.
(h)	Title to this parcel to be determined by the County.



WIND COVERAGE		
Runway	12 M.P.H. (10.5 Knots)	15 M.P.H. (13 Knots)
7-25	92.0%	96.7%

Source: U.S. WEATHER BUREAU RECORDED AT AUBURN MUNICIPAL AIRPORT
Period: SURFACE WIND VELOCITY OVER A PERIOD OF FIVE YEARS (c)

2	Runway 25 End Relocation	Mead & Hunt	April 2009
1	Property Acquisition/Taxiway E (AWOS)/ALP Checklist	Mead & Hunt	May 2008
NO	REVISION	SPONSOR	DATE
NEVADA COUNTY AIRPORT GRASS VALLEY, CALIFORNIA			
DATA SHEET			
MEAD HUNT		193 Aviation Boulevard, Suite 100 Santa Rosa, California 95403 (707) 526-5010 Fax (707) 526-6721 www.meadhunt.com	
DESIGN:	DD/VT	DRAWN:	HH/TE
DATE:	September 2005	SHEET:	2 OF 4
<small>The preparation of these documents was financed in part through a planning grant from the Federal Aviation Administration under Section 105 of the Airport and Airway Improvement Act of 1982, as amended. The contents do not necessarily reflect the official views or policy of the FAA. Acceptance of these documents by the FAA does not in any way constitute a commitment, on the part of the United States to participate in any development depicted herein, nor does it indicate that the processes, development or construction are necessarily acceptable in accordance with applicable laws.</small>			



LEGEND

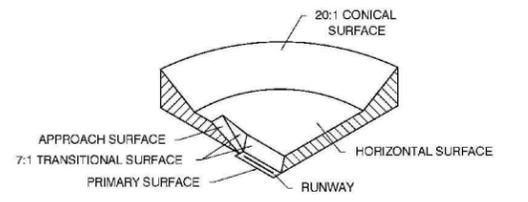
- FAR Part 77 Surfaces
- Threshold Siting Surface (TSS)
- Runway Protection Zone (RPZ)
- Airport Property Boundary
- Object Penetrates Approach/Primary Surface
- Object Does Not Penetrate Approach/Primary Surface
- Object Penetrates Transitional Surface
- Object Does Not Penetrate Transitional Surface
- Action Needed
- Terrain Contours
- Part 77 Surface Penetration (100' added to ground level in wooded area)
- 15' vertical clearance added to road elevations
- Estimated

MAP SOURCE:
USGS Topographic Survey Maps (Chicago Park 1979, Grass Valley 1995, Nevada City 1995, North Bloomfield 1979) coordinates: NAD83. Terrain contours: NGVD29

NOTES:

- Part 77 surface contours and obstruction elevations are shown in NAD83 and NAVD83.
- Obstruction lights along north side of airport are in lieu of clearance of the Transitional Surface.

SOURCES:
Mead & Hunt Field Surveys (February 2007 and July 2005)
Aerial Photo (February 2006)



POINT #	DESCRIPTION	TOP ELEVATION IN FEET (MSL)	AFFECTED PART 77 SURFACE	PART 77 SURFACE ELEVATION	PART 77 SURFACE PENETRATION	THRESHOLD SITING SURFACE ELEVATION	THRESHOLD SITING SURFACE PENETRATION	DISPOSITION
1	TREES	3098.9	APPROACH	3115.1	-15.2	3115.1	-15.2	MONITOR
2	TREES	3094.0	APPROACH	3091.3	-7.3	3091.3	-7.3	MONITOR
3	TREES	3121.9	TRANSITIONAL	3100.7	20.6	N/A	N/A	TO REMAIN
4	TREES	3106.1	TRANSITIONAL	3109.9	26.1	N/A	N/A	TO REMAIN
5	PREVIOUSLY REMOVED							
6	TREES	3113.5	TRANSITIONAL	3082.4	31.1	N/A	N/A	TO REMAIN
7	TREES	3147.6	TRANSITIONAL	3119.9	27.7	N/A	N/A	TO REMAIN
8	BUILDING	3052.4	TRANSITIONAL	3084.3	7.6	N/A	N/A	TO REMAIN
9	TREES	3148.2	TRANSITIONAL	3095.3	52.9	N/A	N/A	TO REMAIN
10	FLOOD LIGHT	3130.3	TRANSITIONAL	3108.4	21.9	N/A	N/A	TO REMAIN
11	HANGARS	3170.4	PRIMARY	3095.6	83.6	N/A	N/A	TO REMAIN
12	HANGARS	3102.8	TRANSITIONAL	3094.5	8.2	N/A	N/A	TO REMAIN
13	TREES	3150.1	TRANSITIONAL	3100.3	49.9	N/A	N/A	TO REMAIN
14	FLOOD LIGHT	3130.9	TRANSITIONAL	3114.7	25.0	N/A	N/A	TO REMAIN
15	FLAG POLE	3118.3	TRANSITIONAL	3114.5	3.8	N/A	N/A	TO REMAIN
16	FLOOD LIGHT	3118.9	TRANSITIONAL	3113.7	5.1	N/A	N/A	TO REMAIN
17	PREVIOUSLY REMOVED							
18	TREES	3169.1	TRANSITIONAL	3103.4	65.8	N/A	N/A	TO REMAIN
19	TREE	3166.6	TRANSITIONAL	3106.5	60.0	N/A	N/A	TO REMAIN
20	POWER POLE	3136.7	TRANSITIONAL	3127.2	9.5	N/A	N/A	TO REMAIN
21	TREES	3132.7	TRANSITIONAL	3121.4	11.3	N/A	N/A	TO REMAIN
22	TREES	3181.7	TRANSITIONAL	3140.1	21.6	N/A	N/A	TO REMAIN
23	TREES	3175.9	TRANSITIONAL	3113.9	82.0	N/A	N/A	TO REMAIN
24	FLOOD LIGHT	3120.4	TRANSITIONAL	3106.1	14.2	N/A	N/A	TO REMAIN
25	TREE	3176.3	TRANSITIONAL	3109.9	66.5	N/A	N/A	TO REMAIN
26	TREES	3183.0	TRANSITIONAL	3149.8	33.5	N/A	N/A	TO REMAIN
27	TREE	3175.2	TRANSITIONAL	3152.6	22.6	N/A	N/A	TO REMAIN
28	FLOOD LIGHT	3154.5	TRANSITIONAL	3141.4	13.1	N/A	N/A	TO REMAIN
29	FLOOD LIGHT	3152.2	TRANSITIONAL	3121.3	10.9	N/A	N/A	TO REMAIN
30	BEACON	3170.8	TRANSITIONAL	3143.4	27.2	N/A	N/A	TO REMAIN
31	TREE	3201.2	TRANSITIONAL	3199.5	14.7	N/A	N/A	TO REMAIN
32	TREES	3200.0	TRANSITIONAL	3116.5	83.4	N/A	N/A	TO REMAIN
33	TREE	3170.6	TRANSITIONAL	3144.9	25.7	N/A	N/A	TO REMAIN
34	BUILDING	3132.2	TRANSITIONAL	3128.7	3.5	N/A	N/A	TO REMAIN
35	TREE	3192.0	TRANSITIONAL	3177.9	15.1	N/A	N/A	TO REMAIN
38	TREE	3218.9	TRANSITIONAL	3123.7	95.2	N/A	N/A	TO REMAIN
37	TREE	3168.7	TRANSITIONAL	3145.4	23.3	N/A	N/A	TO REMAIN

POINT #	DESCRIPTION	TOP ELEVATION IN FEET (MSL)	AFFECTED PART 77 SURFACE	PART 77 SURFACE ELEVATION	PART 77 SURFACE PENETRATION	THRESHOLD SITING SURFACE ELEVATION	THRESHOLD SITING SURFACE PENETRATION	DISPOSITION
38	ANTENNA	3172.3	TRANSITIONAL	3147.2	25.1	N/A	N/A	TO REMAIN
39	ANTENNA	3216.7	TRANSITIONAL	3197.8	18.9	N/A	N/A	TO REMAIN
40	FLAG POLE	3160.0	TRANSITIONAL	3142.7	17.3	N/A	N/A	TO REMAIN
41	TREES	3181.3	TRANSITIONAL	3149.7	31.7	N/A	N/A	TO REMAIN
42	POWER POLE	3189.5	TRANSITIONAL	3159.7	9.8	N/A	N/A	TO REMAIN
43	OBST LIGHT	3232.4	PRIMARY	3127.7	104.7	N/A	N/A	TO REMAIN
44	FLAG POLE	3182.9	TRANSITIONAL	3155.9	7.0	N/A	N/A	TO REMAIN
45	BUILDING	3185.3	TRANSITIONAL	3155.5	30.0	N/A	N/A	TO REMAIN
46	HANGAR	3159.9	PRIMARY	3125.5	10.4	N/A	N/A	TO REMAIN
47	TREES	3232.7	TRANSITIONAL	3173.8	28.9	N/A	N/A	TO REMAIN
48	BUILDING	3145.8	TRANSITIONAL	3136.5	24.0	N/A	N/A	TO REMAIN
49	BUILDING	3181.0	TRANSITIONAL	3138.8	22.2	N/A	N/A	TO REMAIN
50	PREVIOUSLY REMOVED							
51	FLOOD LIGHT	3176.2	TRANSITIONAL	3145.7	30.5	N/A	N/A	TO REMAIN
52	BUILDING	3160.5	TRANSITIONAL	3140.8	19.7	N/A	N/A	TO REMAIN
53	PREVIOUSLY REMOVED							
54	FLOOD LIGHT	3177.3	TRANSITIONAL	3150.2	27.1	N/A	N/A	TO REMAIN
55	BUILDING	3178.5	TRANSITIONAL	3143.8	34.6	N/A	N/A	TO REMAIN
56	TREES	3219.5	TRANSITIONAL	3190.4	29.1	N/A	N/A	TO REMAIN
57	PREVIOUSLY REMOVED							
58	TREE	3227.7	TRANSITIONAL	3148.8	78.9	N/A	N/A	TO REMAIN
59	BUILDING	3178.8	TRANSITIONAL	3187.0	11.6	N/A	N/A	TO REMAIN
60	BUILDING	3189.8	TRANSITIONAL	3152.9	36.9	N/A	N/A	TO REMAIN
61	TREES	3209.7	TRANSITIONAL	3184.8	24.9	N/A	N/A	TO REMAIN
62	BUILDING	3183.0	TRANSITIONAL	3169.3	14.0	N/A	N/A	TO REMAIN
63	TREE	3168.1	TRANSITIONAL	3170.4	17.7	N/A	N/A	TO REMAIN
64	TREE	3245.1	TRANSITIONAL	3154.8	90.2	N/A	N/A	TO REMAIN
65	BUILDING	3183.7	TRANSITIONAL	3172.3	11.5	N/A	N/A	TO REMAIN
66	TREE	3190.2	TRANSITIONAL	3162.3	27.9	N/A	N/A	TO REMAIN
67	BUILDING	3185.4	TRANSITIONAL	3156.7	28.7	N/A	N/A	TO REMAIN
68	TREE	3236.9	TRANSITIONAL	3155.9	81.0	N/A	N/A	TO REMAIN
69	TREES	3197.0	TRANSITIONAL	3168.7	31.3	N/A	N/A	TO REMAIN
70	TREE	3234.4	TRANSITIONAL	3166.2	68.2	N/A	N/A	TO REMAIN
71	TREE	3291.2	TRANSITIONAL	3190.7	90.6	N/A	N/A	TO REMAIN
72	OBST LIGHT	3298.7	APPROACH	3192.4	104.3	N/A	N/A	TO REMAIN
73	TREE	3217.5	APPROACH	3209.7	7.8	N/A	N/A	TO REMAIN
74	TREE	3202.8	APPROACH	3216.2	104.8	N/A	N/A	TO REMAIN

POINT #	DESCRIPTION	TOP ELEVATION IN FEET (MSL)	AFFECTED PART 77 SURFACE	PART 77 SURFACE ELEVATION	PART 77 SURFACE PENETRATION	THRESHOLD SITING SURFACE ELEVATION	THRESHOLD SITING SURFACE PENETRATION	DISPOSITION
75	TREE	3235.6	APPROACH	3217.8	19.3	3227.3	6.5	TOP OR REMOVE
76	TREE	3221.6	APPROACH	3221.5	0.2	3231.5	-9.8	TOP OR REMOVE
77	TREE	3304.6	APPROACH	3237.7	67.2	3247.7	57.2	TOP OR REMOVE
78	TREES	3263.7	TRANSITIONAL	3239.5	24.3	N/A	N/A	TO REMAIN
79	TREE	3320.0	APPROACH	3240.7	79.3	3250.7	69.3	TOP OR REMOVE
80	TREE	3299.0	APPROACH	3245.5	53.5	3250.5	43.5	TOP OR REMOVE
81	TREE	3303.5	APPROACH	3249.1	54.4	3259.1	44.4	TOP OR REMOVE
82	TREE	3276.5	APPROACH	3254.7	24.2	N/A	N/A	TOP OR REMOVE
83	TREE	3254.2	APPROACH	3257.0	-2.4	3267.0	-12.4	MONITOR
84	TREE	3310.0	APPROACH	3257.1	52.9	3267.1	42.9	TOP OR REMOVE
85	TREES	3315.0	TRANSITIONAL	3275.0	37.0	N/A	N/A	TO REMAIN
86	TREES	3301.1	APPROACH	3262.6	38.5	N/A	N/A	TOP OR REMOVE
87	TREE	3276.5	APPROACH	3262.6	18.7	3272.6	6.7	TOP OR REMOVE
88	TREE	3282.6	APPROACH	3262.6	20.1	3272.6	10.1	TOP OR REMOVE
89	TREE	3274.2	APPROACH	3263.1	11.1	3273.1	1.1	TOP OR REMOVE
90	TREE	3273.0	APPROACH	3266.3	6.7	3276.3	-3.3	TOP OR REMOVE
91	TREE	3283.4	APPROACH	3269.0	14.4	3279.0	4.4	TOP OR REMOVE
92	TREE	3270.4	APPROACH	3269.7	0.6	3279.7	-9.4	TOP OR REMOVE
93	TREE	3263.9	APPROACH	3273.3	10.0	3283.3	0.6	TOP OR REMOVE
94	TREE	3304.1	TRANSITIONAL	3282.7	11.4	N/A	N/A	TOP OR REMOVE
95	TREE	3231.0	APPROACH	3284.0	-3.0	3294.0	-13.0	MONITOR
96	TREE	3285.0	APPROACH	3286.0	-1.0	3296.0	-11.0	MONITOR
97	TREE	3285.0	APPROACH	3288.3	-3.3	3298.3	-13.3	MONITOR
98	TREE	3292.0	APPROACH	3291.2	0.8	3301.2	-9.2	TOP OR REMOVE
99	TREE	3292.7	APPROACH	3295.0	-2.3	3305.0	-12.3	MONITOR
100	TREE	3295.5	APPROACH	3296.8	-1.3	3306.8	-11.3	TOP OR REMOVE
101	TREE	3295.1	APPROACH	3299.2	-4.1	3309.2	-14.1	MONITOR
102	TREE	3302.1	APPROACH	3300.1	-2.0	3310.1	-12.0	MONITOR
103	OBST LIGHT	3300.8	HORIZONTAL	3307.4	63.9	3322.0	88.6	TO REMAIN
104	TREE	3319.7	HORIZONTAL	3307.4	12.3	3328.2	-6.5	TOP OR REMOVE
105	TREE	3341.2	HORIZONTAL	3307.4	33.8	N/A	N/A	TOP OR REMOVE
106	TREE	3311.0	HORIZONTAL	3307.4	7.6	3335.2	-18.2	TOP OR REMOVE
107	TREE	3322.0	HORIZONTAL	3307.4	14.6	3335.5	-13.5	TOP OR REMOVE
108	TREE	3322.3	HORIZONTAL	3307.4	14.9	3336.3	-14.0	TOP OR REMOVE
109	TREE	3333.8	HORIZONTAL	3307.4	26.4	N/A	N/A	TOP OR REMOVE
110	TREE	3338.4	HORIZONTAL	3307.4	31.0	N/A	N/A	TOP OR REMOVE

Note: A Negative Penetration Number Indicates Distance Object is Below Indicated Surface.

2	Runway 25 End Relocation	Mead & Hunt	April 2009
1	Property Acquisition/Taxway E /AWOS/ ALP Checklist	Mead & Hunt	May 2008
NO.	REVISION	SPONSOR	DATE
NEVADA COUNTY AIRPORT NEVADA COUNTY, CALIFORNIA AIRSPACE PLAN			
133 Aviation Boulevard, Suite 100 Santa Rosa, California 95403 (707) 526-5010 Fax (707) 526-6721 www.meadandhunt.com			
DESIGN:	DD	DRAWN:	QJ
DATE:	September 2005	SHEET	3 OF 4

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Based Aircraft			TIME OF DAY DISTRIBUTION ^a		
	Base Year ^a 2010	Forecast ^b 2030		Base Year 2010	Forecast 2030
<i>Aircraft Type</i>			<i>Propeller Aircraft ^e</i>		
Single-Engine Piston	128	230	Day (7am to 7pm)	92%	no
Twin-Engine Piston	6	25	Evening (7pm to 10pm)	6%	change
Turboprop	0	5	Night (10pm to 7am)	2%	
Business Jet	0	5	<i>Jets/CalFire</i>		
Helicopter	1	5	Day (7am to 7pm)	94%	no
<i>Total Aircraft</i>	<i>135</i>	<i>270</i>	Evening (7pm to 10pm)	6%	change
			Night (10pm to 7am)	0%	
AIRCRAFT OPERATIONS			FLIGHT TRACK USAGE ^a		
	Base Year ^a 2010	Forecast ^b 2030		Base Year 2010	Forecast 2030
<i>Total</i>			Runway 7:		
Annual	30,000	60,000	<i>All Aircraft – Arrivals (except CalFire)</i>		
Average Day	82	164	Straight-in	50%	no
<i>Distribution by Aircraft Type</i>			45° turn to downwind pattern	40%	change
Single-Engine Piston	72.8%	72.4%	Overfly airport to downwind	10%	
Twin-Engine Piston	18.2%	18.1%	<i>CalFire - Arrivals</i>		
Turboprop	1.7%	1.7%	Straight-in	33.3%	no
Business Jet	0.3%	0.8%	45° turn to downwind pattern	33.3%	change
Helicopter	1.7%	1.7%	Overfly airport to downwind	33.3%	
CalFire	5.3%	5.3%	<i>All Aircraft - Departures (except CalFire)</i>		
<i>Distribution by Type of Operation ^c</i>			Straight-out	10%	no
Local (touch-and goes)	15%	14%	Left turn	45%	change
Itinerant	85%	86%	Right turn	45%	
RUNWAY USE DISTRIBUTION ^a			Runway 25:		
	Base Year 2010	Forecast 2030			
<i>All Aircraft – Daytime Arrivals/Departures (except CalFire)</i>			<i>All Aircraft – Arrivals (except CalFire)</i>		
Runway 7	10%	no	Straight-in	0%	no
Runway 25	90%	change	45° turn to downwind pattern	90%	change
<i>Nighttime and CalFire – Arrivals</i>			Overfly airport to downwind	10%	
Runway 7	100%	no	<i>All Aircraft including CalFire- Departures</i>		
Runway 25	0%	change	Straight-out	25%	no
<i>Nighttime and CalFire – Departures</i>			Left turn	50%	change
Runway 7	0%	no	Right turn	25%	
Runway 25	100%	change			
<i>Touch-and-Go Operations (single-engine piston only)</i>					
Runway 7	10%	no			
Runway 25	90%	change			

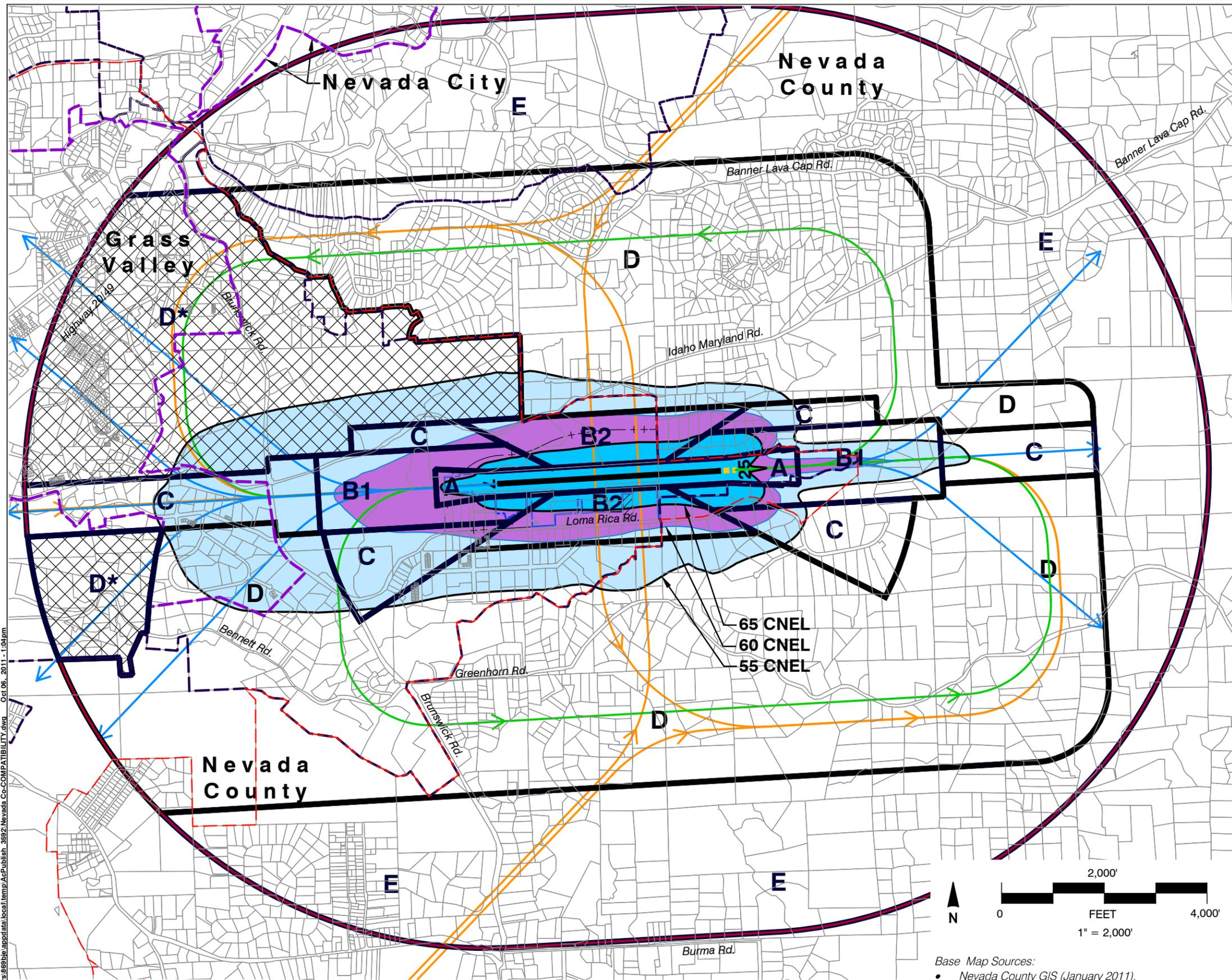
Sources:

- ^a Estimates provided by airport management, January 2011. No changes to time of day, runway use, and flight track percentages are anticipated for the life of this plan.
- ^b Operation and fleet mix forecasts projected by Mead & Hunt, February 2011.
- ^c Local training exercises, known as touch-and-go operations, comprise 15% of total activity (source: Airport management). This percentage is significantly lower than similar general aviation airports in the region, primarily due to a steeper than normal gradient of the runway. A flight school exists on Airport, but will usually perform training activities at other airports in region.

Exhibit 3-4

Airport Activity Data Summary

Nevada County Airport



Legend

- Boundary Lines**
- Airport Property Line
 - Proposed Airport Property Acquisition
 - City Limits
 - Grass Valley Planning Area
 - Grass Valley Sphere of Influence
 - Nevada City Sphere of Influence
 - Existing Runway (4,350')
 - Future Runway (4,650')
 - Airport Influence Area

Compatibility Zones¹

- Zone A - Runway Clear Zone
- Zone B1 - Inner Approach Zone
- Zone B2 - Sideline Zone
- Zone C - Inner Turning Zone & Extended Approach Zone
- Zone D - Traffic Pattern Zone
- Zone D* - Urban Overlay Zone
- Zone E - Other Airport Environs

Calculated Noise Contours

- 55 dB CNEL
 - 60 dB CNEL
 - 65 dB CNEL
- } 60,000 Annual Operations
(164 Average Annual Day)

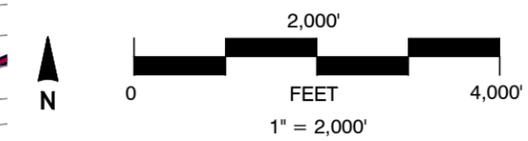
Calculated Flight Tracks³

- Arrival
- Departure
- Touch-n-Go

Notes

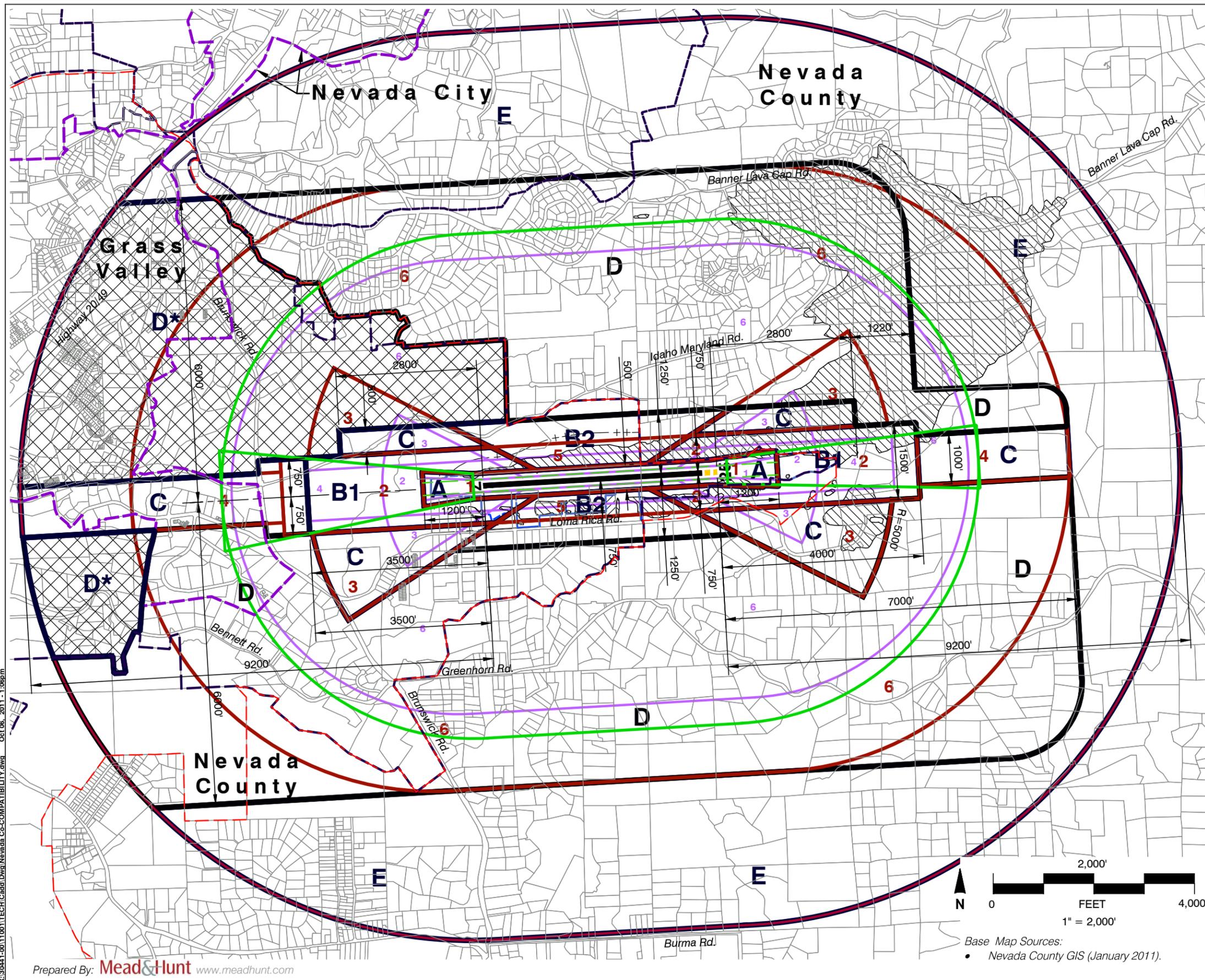
1. See Chapter 2, Table 2B, Compatibility Zone Delineation.
2. Source: Mead & Hunt, Inc., using Integrated Noise Model (INM) 7.0b (April 2011). Contours represent average daily noise exposure for 60,000 annual operations on future runway. Contours modeled using USGS terrain data. Terrain results in shorter contours to west and wider contours near center of airport.
3. Flight tracks represent general arrival and departure routes.
4. Prevailing winds out of the west. Runway 25 is designated calm wind runway.
5. Departures on Runway 7 and arrivals on Runway 25 not recommended at night due to severe runway gradient (rising from west to east). Fire attack aircraft typically land on Runway 7.
6. Aircraft departing Runway 25 advised to climb to 3,800' MSL (648' above airport elevation) before turning (source: Airport management).

Nevada County Airport
Land Use Compatibility Plan
 (Adopted September 2011)



Base Map Sources:
 • Nevada County GIS (January 2011).

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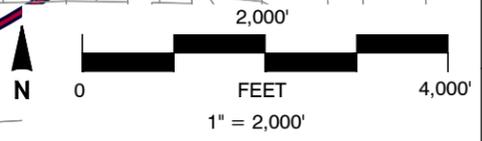
- Boundary Lines**
- Airport Property Line
 - Proposed Airport Property Acquisition
 - City Limits
 - Grass Valley Planning Area
 - Grass Valley Sphere of Influence
 - Nevada City Sphere of Influence
 - Existing Runway (4,350')
 - Future Runway (4,650')
 - Airport Influence Area

- Compatibility Zones¹**
- Zone A - Runway Clear Zone
 - Zone B1 - Inner Approach Zone
 - Zone B2 - Sideline Zone
 - Zone C - Inner Turning Zone & Extended Approach Zone
 - Zone D - Traffic Pattern Zone
 - Zone D* - Urban Overlay Zone
 - Zone E - Other Airport Environs

- Compatibility Factors**
- Safety Zones (short general aviation runway)²
 - Safety Zones (medium general aviation runway)²
 - Part 77 Surface (approach and horizontal)
 - Part 77 Surface Penetration³

- Notes**
1. See Chapter 2, Table 2B, Compatibility Zone Delineation.
 2. Source: California Airport Land Use Planning Handbook (January 2002).
 3. Source: Part 77 Surface penetration (100' added to ground level in wooded area), Nevada County Airport Airspace Plan (April 2009).

**Nevada County Airport
Land Use Compatibility Plan
(Adopted September 2011)**



Base Map Sources:
 • Nevada County GIS (January 2011).

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Prepared By: **Mead & Hunt** www.meadhunt.com

**Compatibility Factors Map:
Safety and Airspace Protection**

AIRPORT SITE

- ▶ *Location*
 - › Located in unincorporated western Nevada County
 - › 3 miles east of central Grass Valley
 - › 3 miles south-southeast of central Nevada City
 - › 51 miles northeast of Sacramento
 - › 67 miles west-southwest of Reno
 - › 2 miles east of State Highway 20 and 49
 - › 10 miles north of Interstate 80
- ▶ *Nearby Terrain*
 - › Airport situated in Sierra Nevada foothills.
 - › Topography is very hilly, terrain gradually rises to the east and gradually falls to the west.
 - › The runway slopes up from west to east.

EXISTING AIRPORT AREA LAND USES

- ▶ *General Character*
 - › Rural and wooded lands with large residential (estate) lots surround Airport.
 - › Light industrial, commercial and airport-support development immediately border the airport to the southwest.
 - › Grass Valley’s downtown area located approximately 2.5 miles west of Airport.
- ▶ *Runway Approaches*
 - › West (Runway 7): Undeveloped rural, wooded land
 - › East (Runway 25): Large residential estate lots in woodland area

AIRPORT ENVIRONS LAND USE JURISDICTIONS

- ▶ *County of Nevada*
 - › Airport and environs within unincorporated County
- ▶ *City of Grass Valley*
 - › City limits 0.8 miles west of Runway 7
 - › Airport and environs within the city’s Sphere of Influence (SOI) and Planning Area
- ▶ *City of Nevada City*
 - › City limits 1.6 miles north-northwest of Runway 7; Sphere of Influence 1 mile north of Runway 7

STATUS OF COMMUNITY PLANS

- ▶ *Nevada County*
 - › Nevada County General Plan (1995), approved by Board of Supervisors in 1996. Safety Element amended in 2008, Circulation and Housing Elements updated in 2010
 - › General Plan (1995) map updated December 2010
- ▶ *Grass Valley*
 - › 2020 General Plan adopted December 1999
 - › 2020 General Plan map updated January 2007
 - › Loma Rica Ranch Specific Plan adopted May 2011
- ▶ *Nevada City*
 - › General Plan (1980-2000) adopted March 1986; Housing Element amended June 1992
 - › General Plan (1980-2000) map updated 2008

PLANNED AIRPORT AREA LAND USES

- ▶ *Nevada County*
 - › North: Estate, Open Space, Industrial
 - › East: Estate, Rural Residential
 - › South: Estate, Industrial
 - › West: Special Development Area (Business Park, Recreation, Open Space)
- ▶ *City of Grass Valley*
 - › North (Planning Area): Manufacturing-Industrial
 - › South (Planning Area): Urban Estate, Manufacturing-Industrial
 - › West (Planning Area, SOI): Loma Rica Specific Plan
 - › West (City Limits): Business Park
- ▶ *Nevada City*
 - › North (within City Limits): Mix of rural residential and commercial
 - › North (SOI): Estate, Residential, Rural Commercial, Open Space ¹

1. Land use data from Nevada County General Plan (1995)

Exhibit 3-7

Airport Environs Information
Nevada County Airport

ESTABLISHED AIRPORT COMPATIBILITY MEASURES

▶ *Nevada County*

- ▶ *Noise:* Protect the safety and general welfare of people in the vicinity of the ... Nevada County Airpark by promoting the overall goals and objectives of the California Airport Noise Standards (California Administrative Code, Title 21, Section 5000 et seq.) and the California Noise Insulation Standards (California Administrative Code, Title 25, Section 28), to prevent the creation of new noise-generated complaints around the airport, and to minimize the public's exposure to excessive aircraft-generated noise. (9.4)
- ▶ *Noise:* Ensure the development of compatible land uses adjacent to the Nevada County Airpark-Airport through the approval of development consistent with the land use maps of the General Plan, recommendations of the Airport Land Use Commission, and the continued enforcement of the Airport Land Use Noise Compatibility Criteria as found in the Nevada County Airpark Master Plan. (9.17)
- ▶ *Noise:* The County shall enforce noise standards consistent with the airport noise policies included in the Comprehensive Land Use Plans for the... Nevada County Airpark, adopted on June 3, 1987, as those standards are in effect and may hereafter be amended. (9.19)
- ▶ *Safety:* Through appropriate zoning regulations, the County shall enforce airport ground and height safety areas, and land use compatibility standards, consistent with the Comprehensive Land Use Plan for the...Nevada County Air Park. Changes in the Comprehensive Land Use Plan shall be reflected in the General Plan and/or Zoning Regulations, where appropriate. (AH-10.4.1.1)

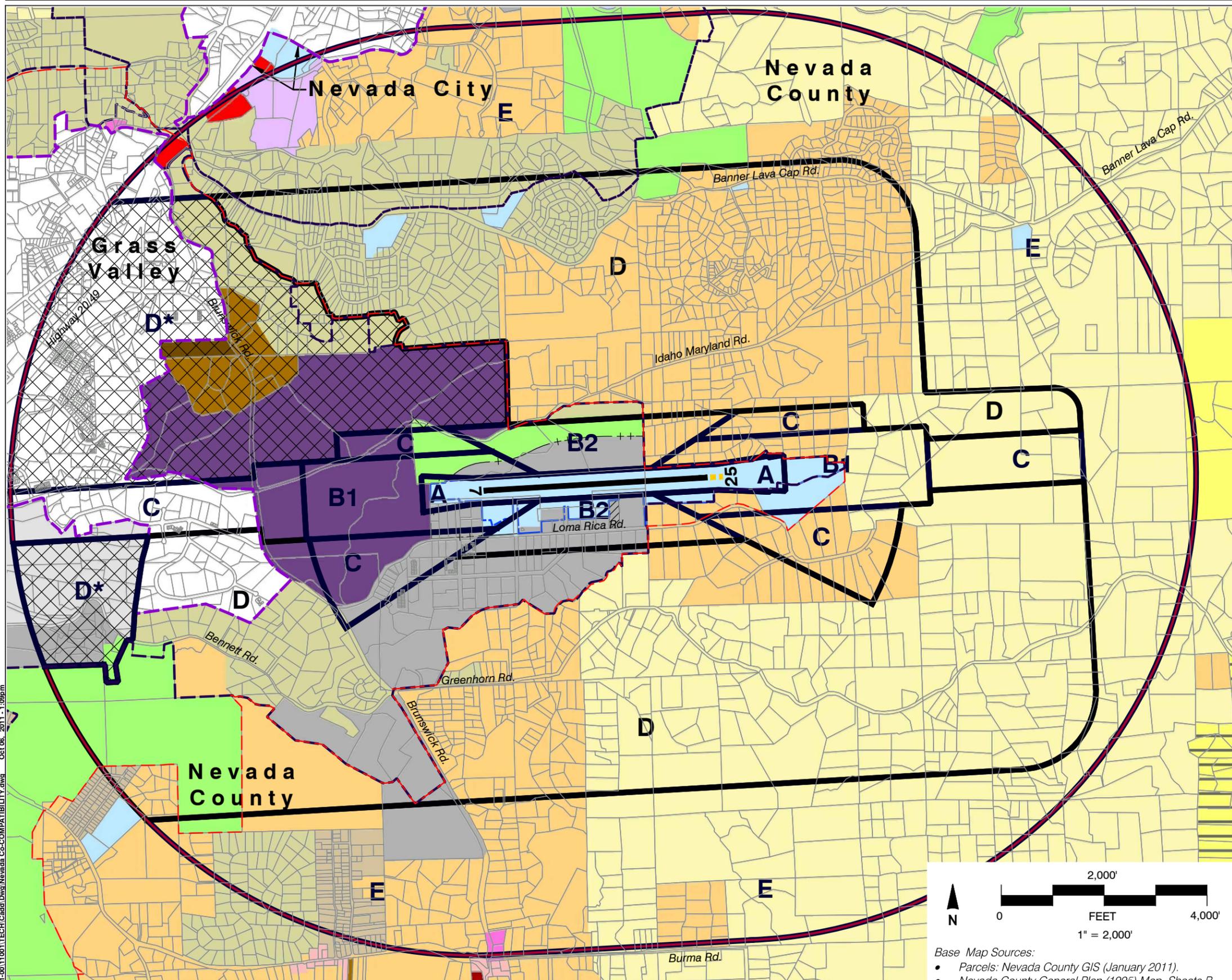
▶ *Grass Valley*

- ▶ *Noise:* 5-NI Prohibit new development of noise-sensitive land uses in areas exposed to existing or projected future levels of noise from transportation noise sources.
- ▶ *Safety:* 13-SP Continue to implement provisions of the Nevada County Airpark Comprehensive Land Use Plan, and to coordinate as appropriate with Nevada County, Airpark management, and the Airport Land Use Commission regarding airport plans and safety considerations.
- ▶ *Safety:* 2-SI Utilize open space/conservation reserves and easements to restrict development in high-risk areas, such as ... airport safety zones.

▶ *Nevada City*

- ▶ *Public Safety:* Maintain noise levels compatible with the rural and small-town setting of Nevada City. Adopt the Land Use Compatibility Chart "normally acceptable" range as a standard to be used in environmental evaluation of proposed uses.

Exhibit 3-7, continued



Legend

- Boundary Lines**
- Airport Property Line
 - Proposed Airport Property Acquisition
 - City Limits
 - Grass Valley Planning Area
 - Grass Valley Sphere of Influence
 - Nevada City Sphere of Influence
 - Existing Runway (4,350')
 - Future Runway (4,650')
 - Airport Influence Area

Compatibility Zones

- Zone A - Runway Clear Zone
- Zone B1 - Inner Approach Zone
- Zone B2 - Sideline Zone
- Zone C - Inner Turning Zone & Extended Approach Zone
- Zone D - Traffic Pattern Zone
- Zone D* - Urban Overlay Zone
- Zone E - Other Airport Environs

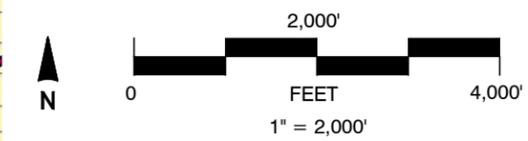
Nevada County General Plan (1995)¹

- Urban High Density Res. (max 15/20 du/ac)
- Urban Med. Density Res. (UMD) (max 6 du/ac)
- Urban Single-Fam. Density Res. (USF) (max 4 du/ac)
- Residential (RES) (max 0.667 du/ac)
- Estate (EST) (max 0.333 du/ac)
- Rural 5 Acre (RUR-5) (max 0.20 du/ac)
- Rural 10 Acre (RUR-10) (max 0.10 du/ac)
- Rural 20 Acre (RUR-20) (max 0.05 du/ac)
- Business Park (BP)
- Neighborhood Commercial (NC)
- Community Commercial (CC)
- Highway Commercial (HC)
- Office Professional (OP)
- Industrial (IND)
- Planned Development (PD)
- Special Development Area (SDA)
- Public (PUB)
- Open Space (OS)

Notes

1. Only county land uses that appear in the map are illustrated in the legend.

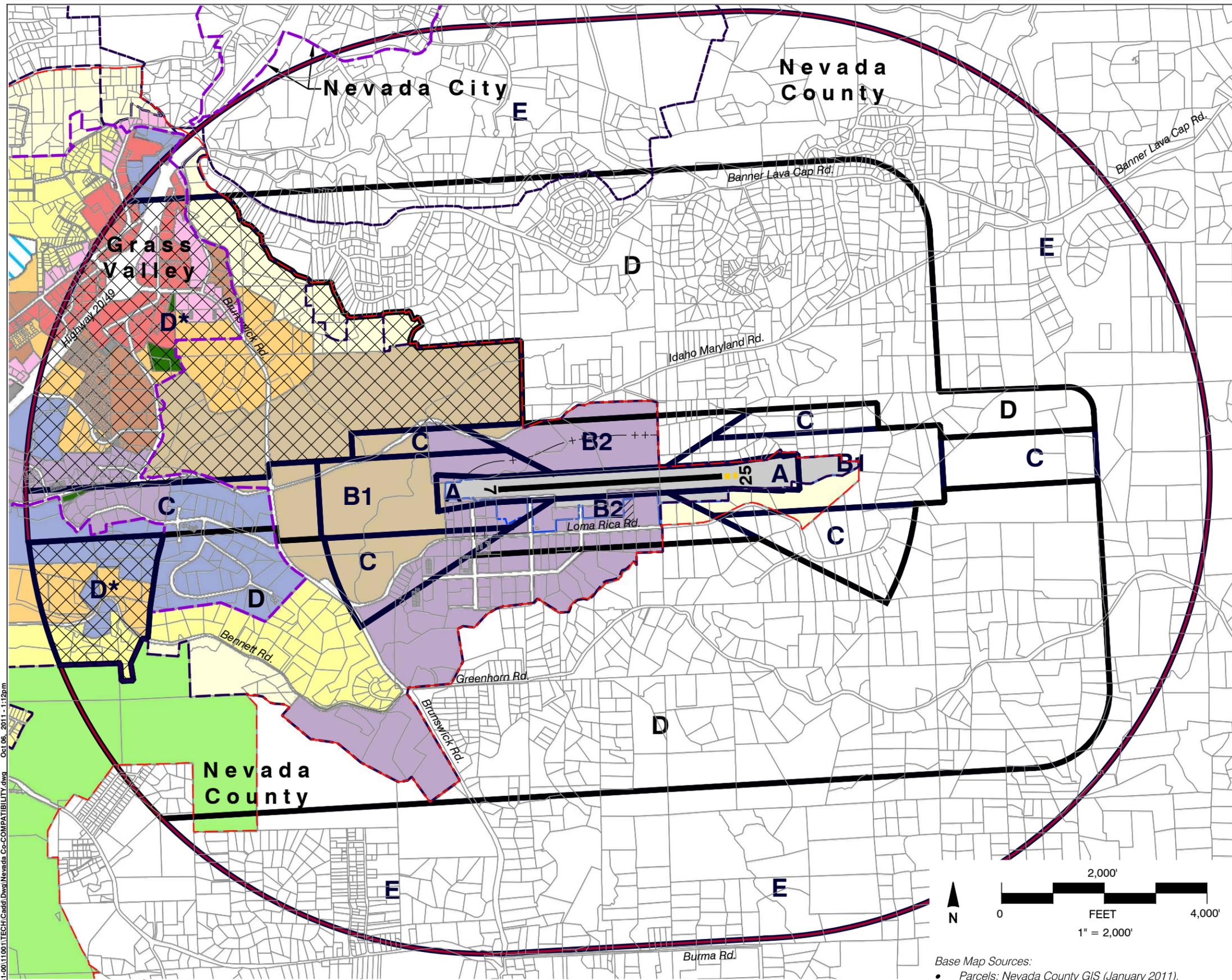
**Nevada County Airport
Land Use Compatibility Plan
(Adopted September 2011)**



Base Map Sources:

- Parcels: Nevada County GIS (January 2011).
- Nevada County General Plan (1995) Map, Sheets B and D, Updated December 2010

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Legend

- Boundary Lines**
- Airport Property Line
 - Proposed Airport Property Acquisition
 - City Limits
 - Grass Valley Planning Area
 - Grass Valley Sphere of Influence
 - Nevada City Sphere of Influence
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- Zone D* - Urban overlay Zone
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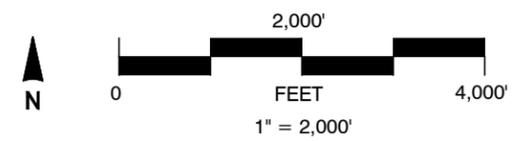
Grass Valley 2020 General Plan¹

- Urban High Density (8.01-20 du/ac)
- Urban Medium Density (4.01-8.0 du/ac)
- Urban Low Density (1.01-4.0 du/ac)
- Urban Estate Density (≤1.0 du/ac)
- Commercial
- Office - Professional
- Manufacturing - Industrial
- Business Park
- Special Development Area
- Open Space
- Public
- Institutional Non-Governmental
- Schools
- Utilities
- Parks and Recreation

Notes

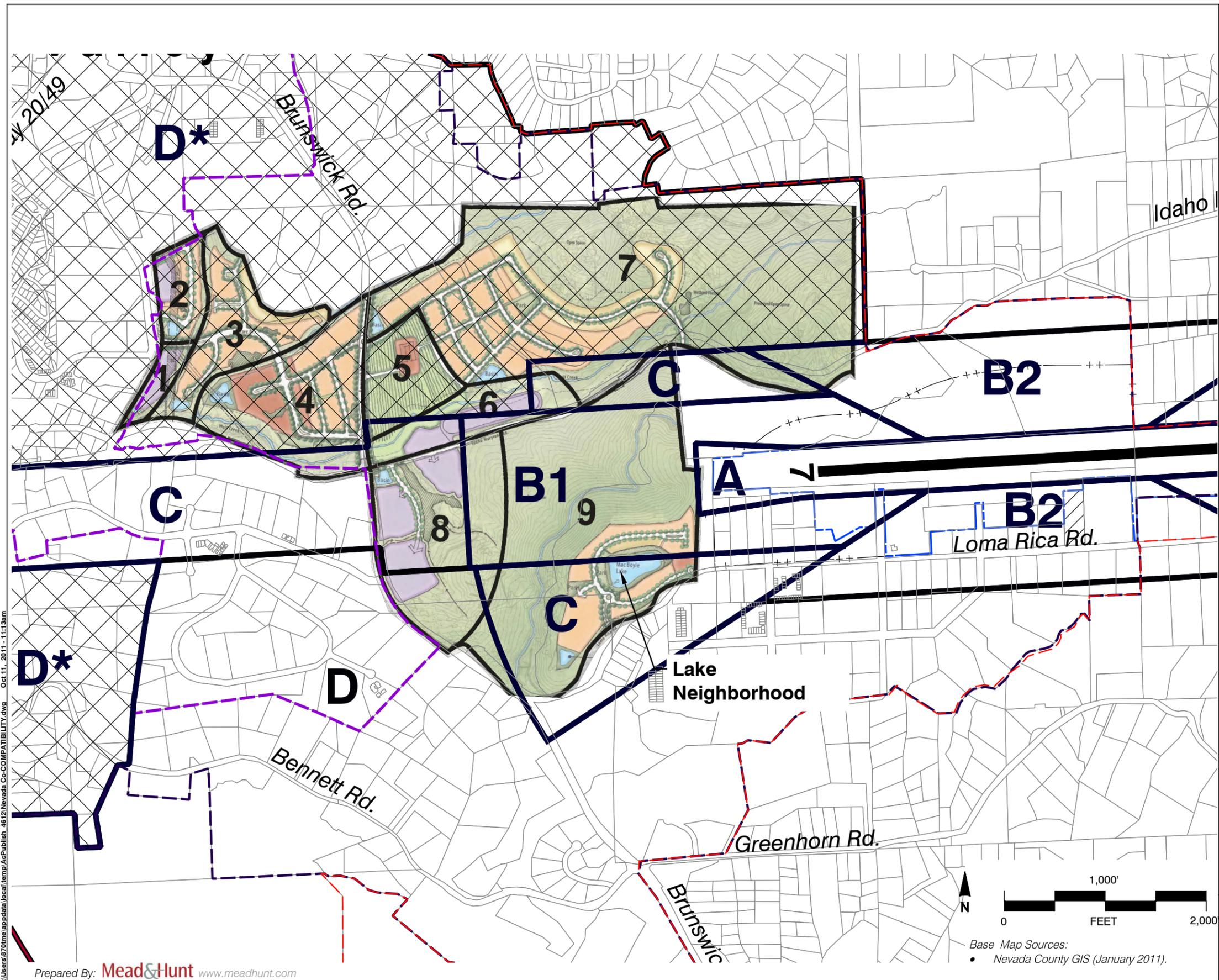
1. Only city land uses that appear in the map are illustrated in the legend.

**Nevada County Airport
Land Use Compatibility Plan**
(Adopted September 2011)



Base Map Sources:
 • Parcels: Nevada County GIS (January 2011).
 • 2020 General Plan Map, updated January 2007

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Legend

Boundary Lines

- Airport Property Line
- Proposed Airport Property Acquisition
- City Limits
- Grass Valley Planning Area
- Grass Valley Sphere of Influence
- Parcel
- Existing Runway (4,350')
- Future Runway (4,650')

Compatibility Zones

- Zone A - Runway Clear Area
- Zone B1 - Inner Approach Zone
- Zone B2 - Sideline Zone
- Zone C - Inner Turning & Extended Approach Zone
- Zone D - Traffic Pattern Zone
- Zone D* - Urban Overlay Zone
- Zone E - Other Airport Environs

Notes

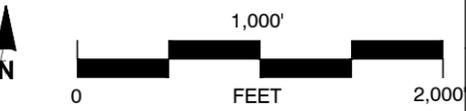
- Basemap source: Loma Rica Ranch Specific Plan (May 2011). Numbers 1-9 refer to specific plan areas and are not part of this Compatibility Plan.

Loma Rica Ranch Specific Plan Legend		Acres
	Neighborhood Center (Mixed Residential/Commercial/Retail)	10.3
	Neighborhood General (6-20 du/ac)	78.2
	Neighborhood Edge (1-8 du/ac)	19.1
	Special District	26.6
	Open Space and Parks	313.9

**Nevada County Airport
Land Use Compatibility Plan**
(Adopted September 2011)

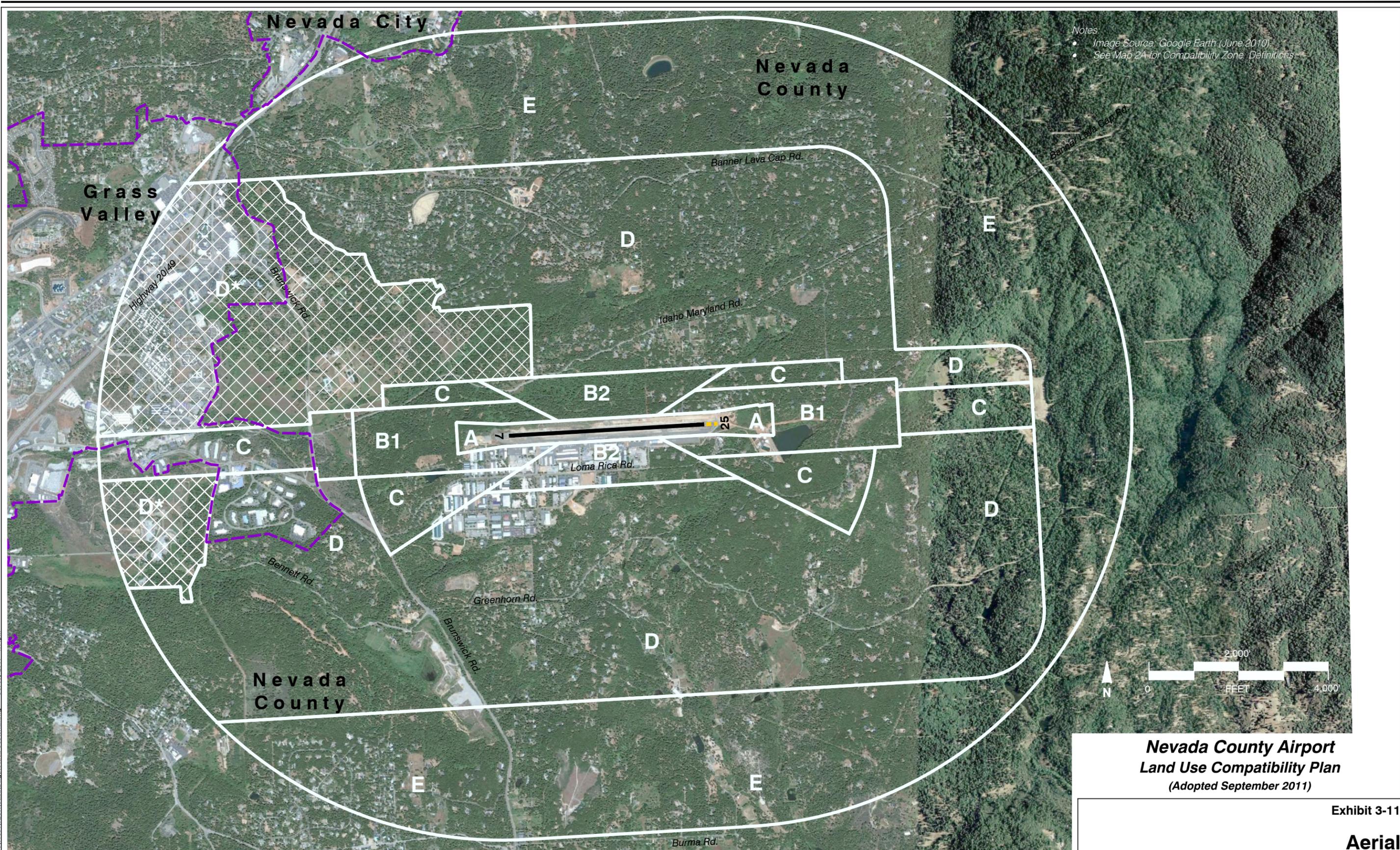
Exhibit 3-10

**Specific Plan Land Uses:
City of Grass Valley**



Base Map Sources:
• Nevada County GIS (January 2011).

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Notes:
 • Image Source: Google Earth (June 2010)
 • See Map 2A for Compatibility Zone Definitions

**Nevada County Airport
 Land Use Compatibility Plan**
 (Adopted September 2011)

Exhibit 3-11

Aerial

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