

Chapter **9**

Background Data:
*Lincoln Regional Airport
and Environs*

Background Data: Lincoln Regional Airport and Environs

INTRODUCTION

Lincoln Regional Airport/Karl Harder Field is a former military training airfield built during World War II on a mile-square section of open rangeland some three miles west of central Lincoln. After the war, title to the property was turned over to the City of Lincoln. For a period of time, the airport was operated by the Lincoln Airport Authority under a joint powers agreement between the City and Placer County. Today, Lincoln Regional Airport is under the sole control of the City.

AIRPORT MASTER PLAN AND AIRPORT LAYOUT PLAN STATUS

The Lincoln City Council adopted a master plan for Lincoln Regional Airport in May 2007. Since publication of the master plan, minor amendments have been made to the Airport Layout Plan (ALP). The current Airport Layout Plan (ALP) was approved by the Federal Aviation Administration (FAA) in May 2008. The information contained on the 2008 ALP, together with supplemental information provided in the 2007 master plan and by airport personnel, forms the foundation for this *Lincoln Regional Airport Land Use Compatibility Plan* (ALUCP).

Airfield Configuration

As originally constructed, Lincoln Regional Airport consisted of four runways – three in triangular arrangement and a fourth running through the center – each some 4,000 feet long by 300 feet wide. By the early 1970s, all but the center runway were closed. In the early 1980s, additional property was acquired and the one runway was extended northward to its present length of 6,000 feet.

Current plans call for another northerly runway extension of 1,000 feet and the eventual construction of a shorter, parallel runway east of the existing runway. Additional improvements include a full-length parallel taxiway on the west side of the existing runway to serve future aviation development. Relocation of the heliport to an area west of Runway 33 is also proposed. Lastly, fee title and aviation easement acquisitions are proposed for the areas underlying the existing and future runway protection zones (RPZs).

Aircraft Activity and Forecasts

Lincoln Regional Airport is home to some 231 based aircraft and serves a major air transportation role not only for the immediate Lincoln area, but also for the northeastern Sacramento metropolitan region.

The 2007 Master Plan contains the most recent detailed information regarding existing and forecast aircraft operations. Input from airport personnel indicate that existing activity levels have remained at about 74,400 annual operations since publication of the master plan. The master plan forecast of 138,000 annual operations is used as the basis of this ALUCP. Exhibit 6C contains additional detailed information about existing and forecast airport operations.

Aircraft Traffic Patterns

For fixed-wing aircraft, Runways 15 and 33 both have a standard left-hand pattern, thus creating traffic patterns both east and west of the runway. The predominant direction of operations is landing and taking off to the south on Runway 15. Therefore, the primary traffic pattern is located east of the airport.

Once the shorter parallel runway is constructed and the heliport is relocated, it is anticipated that Runway 15R and Runway 33R would utilize right traffic patterns. This would in effect separate air traffic between the two runways. Aircraft using the longest runway (Runway 15R/33L) would operate west of the airport and aircraft using Runway 15L/33R would operate east of the airport.

SURROUNDING LAND USES

Lincoln Regional Airport is situated in the northwestern limits of the City of Lincoln. The city's sphere of influence encompasses nearly all of the land within the airport influence area. At present, though, the majority of the airport environs fall within unincorporated Placer County jurisdiction.

Lands in the airport environs are mostly dedicated to dryland farming and livestock grazing with residences widely scattered. The Lincoln Air Center, located within the city limits, occupies the adjoining square mile to the east. The Center consists of an industrial park on the western half of the property and residential uses in the eastern portion about a mile lateral of the airport runway. The only other concentration of residential development is within county jurisdiction immediately south of the runway where several dozen homes are situated in a long-established subdivision comprised of five-acre lots.

With the recent construction of the Highway 65 Bypass west of the airport, urbanization is anticipated to move westward and surround the airport. The city's general plan reflects Village and Special Use Districts within the city's sphere of influence. These planned land use designations allow mixed-use residential and commercial projects. General plan policies require specific plans for these areas and limit future development to be consistent with the 2000 ALUCP.

EXHIBITS

The following exhibits illustrate the compatibility factors and background information which serve as the basis for this ALUCP.

Exhibit 9A: Airport Features Summary—Presents information pertaining to the airport configuration, operational characteristics, and applicable planning documents.

Exhibits 9B-1 and 9B-2: 2008 Airport Layout Plan and Data Sheet—The FAA-approved ALP depicting the airport configuration and airport building areas.

Exhibit 9C: Airport Activity Summary—Presents existing and forecast activity levels for the airport as reflected in the 2007 Master Plan and brought forward for ALUCP purposes.

Exhibits 9D and 9E: Compatibility Factors—Depicts the extents of the four compatibility factors upon which the compatibility zones for Lincoln Regional Airport were derived. The four compatibility factors are defined by:

- › *Noise* – Future noise contours reflecting the master plan forecast of 138,000 annual operations.
- › *Overflight* – Primary traffic patterns reflecting where aircraft and helicopters operating at Lincoln Regional Airport currently and will in the future routinely fly.
- › *Safety* – A composite of several sample safety zones provided in the *California Airport Land Use Planning Handbook* (October 2011) applied to the existing and future airfield configurations in the following manner:
 - › Safety zones for a medium general aviation runway were applied to the existing airfield configuration as the majority of the operations are by small- and medium-sized aircraft.
 - › Safety zones for a large general aviation runway were applied to the future airfield configuration.
 - › Safety zones for a short general aviation runway were applied to the future parallel runway.
- › *Airspace Protection* – FAA notification and obstruction surfaces as defined by Federal Aviation Regulation (FAR) Part 77, *Safe, Efficient Use and Preservation of the Navigable Airspace*.
- › *Compatibility Zones* – Policy zones developed for this *ALUCP* are based on the above four factors. Airport-specific considerations used to develop these zones are summarized in Chapter 6.

Exhibit 9F: Airport Environs Information—Summarizes information about current and planned land uses in the environs of the Lincoln Regional Airport. Airport land use compatibility policies contained in the County's and City's general plans are also summarized.

Exhibits 9G and 9H: General Plan Land Use Designations—Shows planned land use designations as reflected in the 2013 and 2008 general plan land use diagrams for Placer County and the City of Lincoln, respectively.

Exhibit 9I: Aerial—An aerial photo of the airport environs.

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GENERAL INFORMATION

- Airport Ownership: City of Lincoln
- Property Size
 - › Fee title: 775 acres
 - › Avigation easement: None existing, 100 acres future
- Airport Classification: General Aviation Reliever
- Airport Elevation: 121 ft. MSL (surveyed)

BUILDING AREA

- Location
 - › East side of runway
- Aircraft Parking Capacity
 - › 207 tiedown spaces on apron
 - › 141 hangar spaces
- Services
 - › Self-serve general aviation and jet fuel available 24 hours per day or by truck
 - › Aircraft repairs; avionics sales and services; interior refurbishing
 - › Aircraft rental; hangar leasing and sales; flight instruction; pilot supplies
 - › Helicopter repair
 - › Skydiving; rental cars

RUNWAY/TAXIWAY DESIGN

Runway 15/33

- Airport Reference Code: C-III
- Critical Aircraft: Citation VII
- Dimensions: 6,001 ft. long, 100 ft. wide
- Runway OFA Width: 800 ft.
- Pavement Strength (main landing gear configuration)
 - › 30,000 lbs. (single wheel)
 - › 120,000 lbs. (dual wheel)
- Effective Gradient: 0%
- Runway Lighting:
 - › Medium-intensity runway edge lights and runway edge lights (REILS) (pilot controlled)
 - › Medium-intensity approach lighting system (MALSR) on Runway 15
- Runway Markings
 - › Runway 15: Precision
 - › Runway 33: Nonprecision
- Primary Taxiways: Full-length parallel east of runway

Heliport

- Location: Helipad and helicopter parking located east of runway near aircraft parking apron
- Dimensions: 60 ft. long, 60 ft. wide
- Lighting: helipad perimeter lights (pilot controlled)

APPROACH PROTECTION

- Runway Protection Zones (RPZs)
 - › Runway 15: 1,000 ft. inner width, 1,750 outer width, 2,500 ft. long (50:1 approach slope); majority on airport property
 - › Runway 33: 500 ft. inner width, 1,010 outer width, 1,700 ft. long (34:1 approach slope); two-thirds on airport property
- Approach Obstruction
 - › Runway 15: 25-ft. tree, 1,000 ft. from runway end, 32:1 slope to clear
 - › Runway 33: 40-ft. trees, 1,600 ft. from runway end, 35:1 slope to clear
- Heliport Protection Zones (HPZs): 1,000 ft. inner width, 1,750 outer width, 2,500 ft. long (8:1 approach slope); all on airport and clear of obstructions

TRAFFIC PATTERNS AND APPROACH PROCEDURES

- Airplane Traffic Patterns
 - › Runway 15/33: Left traffic
 - › Pattern Altitude: 1,000 ft. AGL
- FAR Part 77 Category
 - › Runway 15: Precision [PIR]
 - › Runway 33: Nonprecision [C]
- Instrument Approaches

Type	Visibility (miles)	Min. Descent Height (ft. AGL)
› Runway 15 ILS:		
Precision	1/2	200
Circling	1	479
› Runway 15 RNAV(GPS):		
Precision	1/2	200
Circling	1	379
› Runway 33 RNAV(GPS):		
Nonprecision	1	319
Circling	1	379
- Visual Navigational Aids
 - › Airport: Rotating beacon
 - › Runway 7: 4-light PAPI on left, MALSR
 - › Runway 25: 4-light PAPI on left
- Helicopter Traffic Patterns: Left traffic and 1,000 ft. AGL pattern altitude
- Operational Restrictions: None

AIRPORT PLANNING DOCUMENTS

- Airport Master Plan
 - › Adopted by Lincoln City Council May 2007
- Airport Layout Plan
 - › Approved by FAA May 2008
 - › Accepted by Caltrans Division of Aeronautics for basis of this ALUCP (approval pending)

(continued on next page)

Exhibit 9A

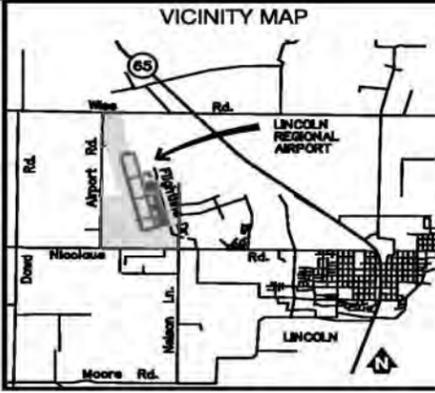
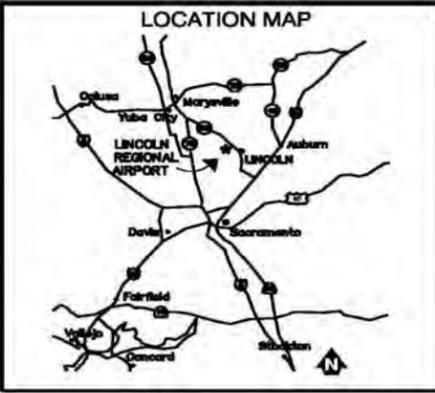
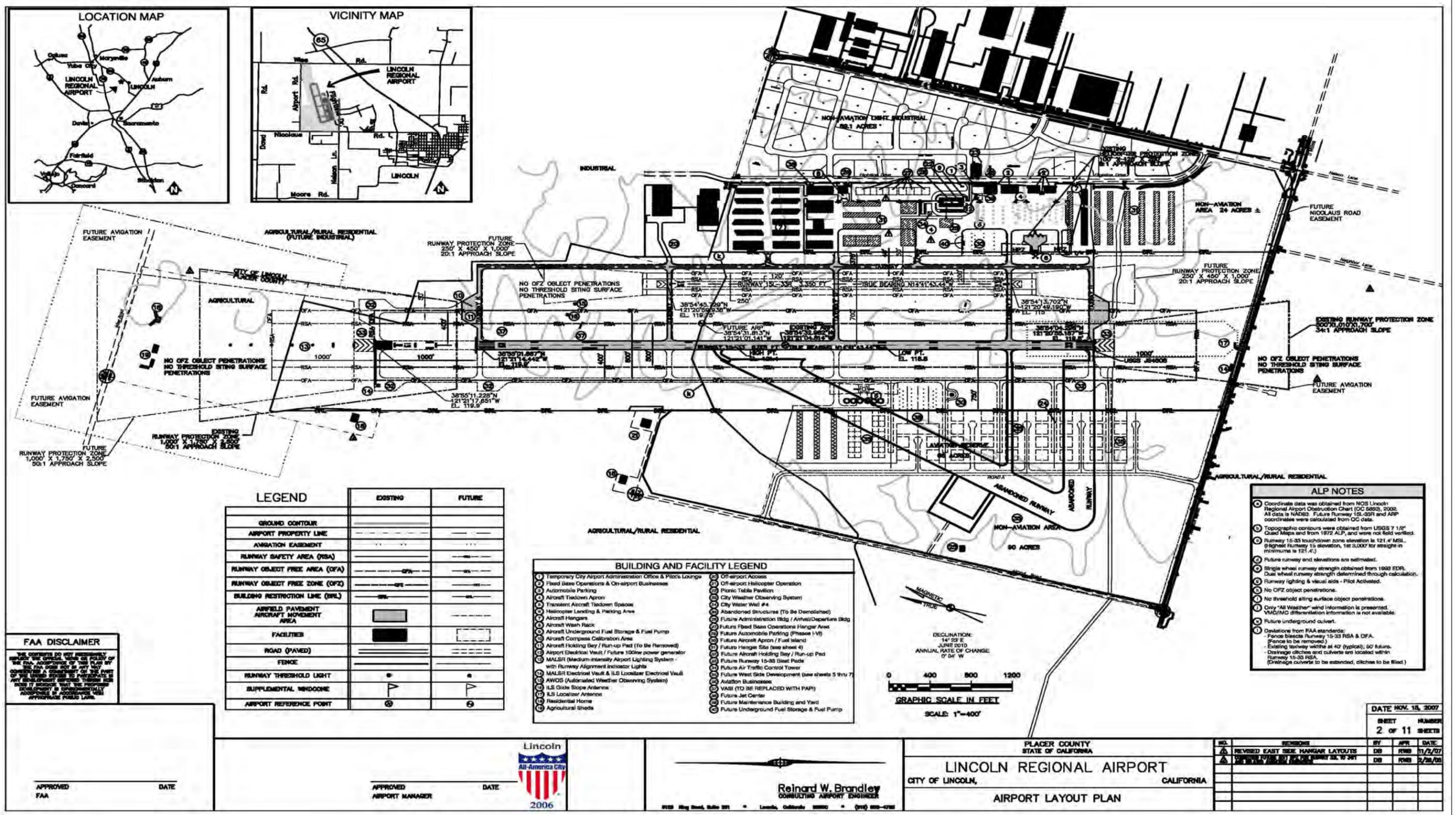
Airport Features Summary
Lincoln Regional Airport

PROPOSED FACILITY IMPROVEMENTS

- *Airfield*
 - › Extend runway 1,000 ft. north for future runway length of 7,001 ft.
 - › Construct lighted, 3,350-ft. parallel runway 700 ft. east of existing primary runway; FAA runway design code (RDC) B-I
 - › Construct full-length parallel taxiway on west side of runway to serve future aviation development
 - › Upgrade marking for Runway 33
 - › Relocate helipad and parking spaces from southeast position to new site southwest of runway
- *Approach Protection*
 - › Land acquisition for future Runway 15 RPZ
 - › Acquire avigation easement for buffer area surrounding future Runway 15 RPZ
 - › Acquire avigation easements for remaining Runway 33 RPZ
- *Building Area*
 - › Additional hangar and tiedown spaces in southeast building area
 - › New building area southwest of runway including sites for new FBO facilities, hangars and a large parking apron

Source: Data Compiled by Mead & Hunt November 2012

Exhibit 9A, continued



LEGEND

	EXISTING	FUTURE
GROUND CONTOUR	---	---
AIRPORT PROPERTY LINE	---	---
AVIGATION EASEMENT	---	---
RUNWAY SAFETY AREA (RSA)	---	---
RUNWAY OBJECT FREE AREA (OFA)	---	---
RUNWAY OBJECT FREE ZONE (OFZ)	---	---
BUILDING RESTRICTION LINE (BRL)	---	---
AIRFIELD PAVEMENT AIRCRAFT MOVEMENT AREA	---	---
FACILITIES	---	---
ROAD (PAVED)	---	---
FENCE	---	---
RUNWAY THRESHOLD LIGHT	---	---
SUPPLEMENTAL WINDCOONE	---	---
AIRPORT REFERENCE POINT	---	---

BUILDING AND FACILITY LEGEND

1 Temporary City Airport Administration Office & Pilot's Lounge	11 Off-airport Access
2 Fixed Base Operations & On-airport Businesses	12 Off-airport Helicopter Operation
3 Automobile Parking	13 Picnic Table Pavilion
4 Aircraft Tie-down Apron	14 City Weather Observing System
5 Transient Aircraft Tie-down Spaces	15 City Water Well #4
6 Helicopter Landing & Parking Area	16 Abandoned Structures (To Be Demolished)
7 Aircraft Hangars	17 Future Administration Bldg / Arrivals/Departure Bldg
8 Aircraft Wash Rack	18 Future Fixed Base Operations Hangar Area
9 Aircraft Underground Fuel Storage & Fuel Pump	19 Future Automobile Parking (Phase I-VI)
10 Aircraft Compress Calibration Area	20 Future Aircraft Apron / Fuel Island
11 Aircraft Holding Bay / Run-up Pad (To Be Removed)	21 Future Hangar Site (see sheet 4)
12 Airport Electrical Vault / Future 100kw power generator	22 Future Aircraft Holding Bay / Run-up Pad
13 MALSR (Medium-Intensity Airport Lighting System) - With Runway Alignment Indicator Lights	23 Future Runway 15-33 Blast Pads
14 MALSR Electrical Vault & ILS Localizer Electrical Vault	24 Future Air Traffic Control Tower
15 AWOS (Automated Weather Observing System)	25 Future West Side Development (see sheets 5 thru 7)
16 ILS Glide Slope Antenna	26 Aviation Businesses
17 ILS Localizer Antenna	27 VASI (TO BE REPLACED WITH PAPI)
18 Residential Homes	28 Future Jet Center
19 Agricultural Sheds	29 Future Maintenance Building and Yard
	30 Future Underground Fuel Storage & Fuel Pump

ALP NOTES

- Coordinate data was obtained from NOS Lincoln Regional Airport Obstruction Chart (OC 5480), 2002. All data is NAD83. Future Runway 15L-33R and ARP coordinates were calculated from OC data.
- Topographic contours were obtained from USGS 7 1/2" Quad Maps and from 1972 ALP, and were not field verified.
- Runway 15-33 touchdown zone elevation is 121.4' MSL. (Highest Runway 15 elevation, 1st 3,000' for straight-in minimums is 121.4'.)
- Future runway end elevations are estimated.
- Single wheel runway strength obtained from 1993 EDR. Dual wheel runway strength determined through calculation.
- Runway lighting & visual aids - Pilot Activated.
- No OFZ object penetrations.
- No threehold siting surface object penetrations.
- Only "All Weather" wind information is presented. VAD/MD differentiation information is not available.
- Future underground culvert.
- Deviations from FAA standards:
 - Fence bisects Runway 15-33 RSA & OFA. (Fence to be removed.)
 - Existing roadway width at 40' (typical); 60' future.
 - Drainage ditches and culverts are located within Runway 15-33 RSA. (Drainage culverts to be extended, ditches to be filled.)

FAA DISCLAIMER
 THE CONTENTS DO NOT REPRESENT THE OFFICIAL POLICY OR POSITION OF THE FAA. ACCEPTANCE OF THIS PLAN BY THE FAA DOES NOT CONSTITUTE A GUARANTEE OF THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT BEYOND THOSE FOR WHICH IT IS ISSUED. THE PROPOSED DEVELOPMENT IS CONSIDERED APPROPRIATE AND IS APPROVED AS SHOWN APPROXIMATE PUBLIC LINES.

APPROVED _____ DATE _____
 FAA

APPROVED _____ DATE _____
 AIRPORT MANAGER



Reinard W. Brandley
 CONSULTING AIRPORT ENGINEER
 9125 Ring Street, Suite 201 • Lincoln, California 95820 • (916) 932-0782

PLACER COUNTY
 STATE OF CALIFORNIA
LINCOLN REGIONAL AIRPORT
 CITY OF LINCOLN, CALIFORNIA
AIRPORT LAYOUT PLAN

REV.	REVISIONS	BY	APP.	DATE
1	REVISED EAST SIDE HANGAR LAYOUTS	DB	RWB	11/2/07
2	REVISED EAST SIDE HANGAR LAYOUTS	DB	RWB	2/28/08

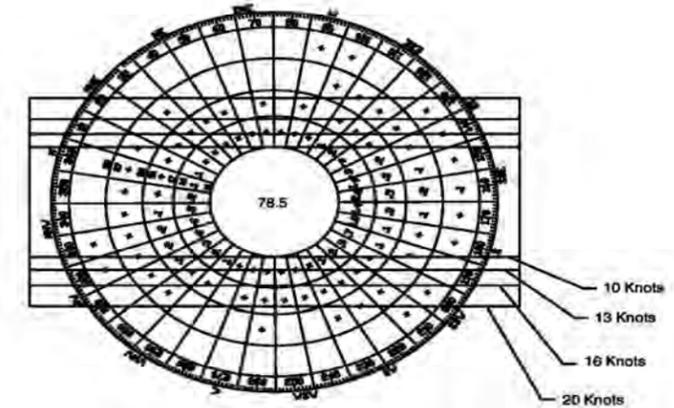
DATE NOV. 15, 2007
 SHEET NUMBER 2 OF 11 SHEETS

Source: Lincoln Regional Airport Layout Plan, May 2008. Map not to scale.

Exhibit 9B-1

RUNWAY DATA TABLE

	RUNWAY 15R - 33L				RUNWAY 15L - 33R	
	EXISTING (15-33)		FUTURE (15R-33L)		FUTURE	
	LINCOLN REGIONAL AIRPORT	FAA STANDARD	LINCOLN REGIONAL AIRPORT	FAA STANDARD	LINCOLN REGIONAL AIRPORT	FAA STANDARD
APPROACH CATEGORY AND DESIGN GROUP	C-II	C-II	C-II	C-II	B-I	B-I
DESIGN AIRCRAFT	CITATION VII		GULFSTREAM V		BOEING KING AIR B100	
WINGSPAN OF CRITICAL DESIGN AIRCRAFT (FT)	53.05	--	68.08	--	45.8	--
UNDERCARRIAGE WIDTH OF CRITICAL AIRCRAFT (FT)	9.05	--	13.08	--	13.0	--
APPROACH SPEED OF CRITICAL DESIGN AIRCRAFT (KNOTS)	137	--	140	--	111	--
MAXIMUM CERTIFIED TAKEOFF WEIGHT OF CRITICAL DESIGN AIRCRAFT (LBS)	22,450	--	89,000	--	11,800	--
RUNWAY WIDTH (FT)	100	100	100	100	75	80
RUNWAY LENGTH (FT)	9001	--	7001	--	3300	--
LINE OF SIGHT REQUIREMENT MET	FULL	--	FULL	--	FULL	--
PERCENTAGE EFFECTIVE GRADIENT (S)	0.0017	2% MAX	0.0017	2% MAX	.0014	2% MAX
PERCENTAGE MAXIMUM GRADIENT (S)	0.275	--	0.275	--	.0014	--
ELEVATION RUNWAY HIGH POINT (NAVD 88)	121.4	--	121.4	--	119.75	--
ELEVATION RUNWAY LOW POINT (NAVD 88)	118.9	--	118.9	--	115.0	--
RUNWAY BLAST PAD LENGTH (FT)	N/A	200	N/A	200	100	100
RUNWAY BLAST PAD WIDTH (FT)	N/A	140	N/A	140	80	80
RUNWAY PAVEMENT SURFACE	ASPHALT	--	ASPHALT	--	ASPHALT	--
RUNWAY MARKING	PRECISION (R/W 15)	--	PRECISION	--	VISUAL	--
RUNWAY LIGHTING	MIRL	--	MIRL	--	MIRL	--
PAVEMENT DESIGN STRENGTH (LBS)	60,000 S, 120,000 D	--	60,000 S, 120,000 D	--	12,800 S	--
RUNWAY SAFETY AREA WIDTH (FT)	500	500	500	500	150	150
RUNWAY SAFETY AREA - DISTANCE BEYOND RUNWAY END (FT)	1000	1000	1000	1000	240	240
RUNWAY OBJECT FREE AREA WIDTH (FT)	800	800	800	800	400	400
RUNWAY OBJECT FREE AREA - DISTANCE BEYOND RUNWAY END (FT)	1000	1000	1000	1000	240	240
RUNWAY OBSTACLE FREE ZONE WIDTH (FT)	400	400	400	400	250	250
RUNWAY OBSTACLE FREE ZONE - DISTANCE BEYOND RUNWAY END (FT)	200	200	200	200	200	200
HOLD BAR DISTANCE TO RUNWAY CENTERLINE (FT)	250	250	250	250	125	125
RUNWAY CENTERLINE TO TAXIWAY CENTERLINE DISTANCE (FT)	900	400	400 - 900	400	200	225
RUNWAY CENTERLINE TO FIXED OR MOVEABLE OBJECT (FT)	1088	500	1088 EASTSIDE, 500 WESTSIDE	500	200	200
TAXIWAY WIDTH (FT)	40	50	50	50	30	25
TAXIWAY SURFACE TYPE	ASPHALT	--	ASPHALT	--	ASPHALT	--
TAXIWAY SAFETY AREA WIDTH (FT)	118	118	118	118	46	46
TAXIWAY OBJECT FREE AREA WIDTH (FT)	156	156	156	156	56	56
TAXIWAY CENTERLINE TO FIXED OR MOVEABLE OBJECT (FT)	121	63	121	63	44.5	44.5



ALL WEATHER WIND ROSE

SOURCE: U.S. WEATHER BUREAU STATION
BEALE AIR FORCE BASE

PERIOD: 1993-2002, ALL MONTHS, ALL HOURS

WIND COVERAGE: 12 MPH (10.5 KNOTS) - 99.08%
15 MPH (13 KNOTS) - 99.00%
18.5 MPH (16 KNOTS) - 99.01%
25 MPH (20 KNOTS) - 99.88%

RUNWAY END DATA

	RUNWAY 15R-33L				RUNWAY 15L-33R	
	EXISTING	33	FUTURE	33L	15L	33R
RUNWAY THRESHOLD COORDINATES (NAD 83)	38°01'56.7"N 121°21'14.445"W	38°54'4.296"N 121°20'55.187"W	38°55'11.228"N 121°21'17.651"W	38°54'4.296"N 121°20'55.187"W	38°54'45.722"N 121°20'58.935"W	38°54'13.702"N 121°20'49.187"W
RUNWAY END COORDINATES (NAD 83)	38°01'56.7"N 121°21'14.445"W	38°54'4.296"N 121°20'55.187"W	38°55'11.228"N 121°21'17.651"W	38°54'4.296"N 121°20'55.187"W	38°54'45.722"N 121°20'58.935"W	38°54'13.702"N 121°20'49.187"W
APPROACH VISIBILITY MINIMUMS	<3/4 MILE	1 MILE	<3/4 MILE	<3/4 MILE	VISUAL	VISUAL
FAR PART 77 CATEGORY RUNWAY	PRECISION	NON-PRECISION	PRECISION	PRECISION	VISUAL	VISUAL
ELEVATION RUNWAY END OF PAVEMENT (NAVD 88)	119.9	119.8	119.8	119.8	119.75	115.0
ELEVATION RUNWAY THRESHOLD (NAVD 88)	119.9	119.8	119.8	119.8	119.75	115.0
ELEVATION RUNWAY TOUCHDOWN ZONE (NAVD 88)	121.4	120.8	121.4	120.8	119.75	117.35
APPROACH SURFACE SLOPE	50:1	34:1	50:1	34:1	20:1	20:1
NAVIGATIONAL AIDS	ILS, GPS, VOR	GPS	ILS, GPS, VOR	ILS, GPS	NONE	NONE
VISUAL AIDS	PAPI, MALSR	PAPI	PAPI, MALSR	PAPI	PAPI	PAPI
CPZ PENETRATIONS	NONE	NONE	NONE	NONE	NONE	NONE
THRESHOLD BITING SURFACE OBJECT PENETRATIONS	NONE	NONE	NONE	NONE	NONE	NONE

AIRPORT DATA TABLE

	EXISTING	FUTURE
AIRPORT ELEVATION (NAVD 88)	121	121
AIRPORT REFERENCE POINT (ARP)	38°54'33.853"N 121°21'04.814"W	38°54'31.812"N 121°21'01.141"W
NAVIGATIONAL AIDS	BEACON, ILS, GPS	BEACON, ILS, GPS
MEAN MAX. TEMP. (HOTTEST MONTH)	88° F (JULY)	85° F (JULY)
AIRPORT REFERENCE CODE (ARC)	C-II	C-II

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<p>APPROVED _____ DATE _____</p> <p>FAA</p>	<p>APPROVED _____ DATE _____</p> <p>AIRPORT MANAGER</p>		<p>Xref G:\TITLE\Rwbeed8.dwg</p> <p>Reinard W. Brandley CONSULTING AIRPORT ENGINEER</p>	<p>PLACER COUNTY STATE OF CALIFORNIA</p> <p>LINCOLN REGIONAL AIRPORT CITY OF LINCOLN, CALIFORNIA</p> <p>DATA TABLES</p>	<table border="1" style="font-size: 8px;"> <tr> <td>NO.</td> <td>REVISIONS</td> <td>BY</td> <td>DATE</td> </tr> <tr> <td>1</td> <td>CORRECTED FUTURE 30:1 RPT FOR RUNWAY 33L TO 34:1</td> <td>DB</td> <td>FWB 2/28/08</td> </tr> </table>	NO.	REVISIONS	BY	DATE	1	CORRECTED FUTURE 30:1 RPT FOR RUNWAY 33L TO 34:1	DB	FWB 2/28/08	<table border="1" style="font-size: 8px;"> <tr> <td>DATE</td> <td>NOV. 16, 2007</td> </tr> <tr> <td>SHEET NUMBER</td> <td>3 of 11</td> </tr> <tr> <td>SHEETS</td> <td></td> </tr> </table>	DATE	NOV. 16, 2007	SHEET NUMBER	3 of 11	SHEETS	
NO.	REVISIONS	BY	DATE																	
1	CORRECTED FUTURE 30:1 RPT FOR RUNWAY 33L TO 34:1	DB	FWB 2/28/08																	
DATE	NOV. 16, 2007																			
SHEET NUMBER	3 of 11																			
SHEETS																				

Source: Lincoln Regional Airport Layout Plan, May 2008. Map not to scale.

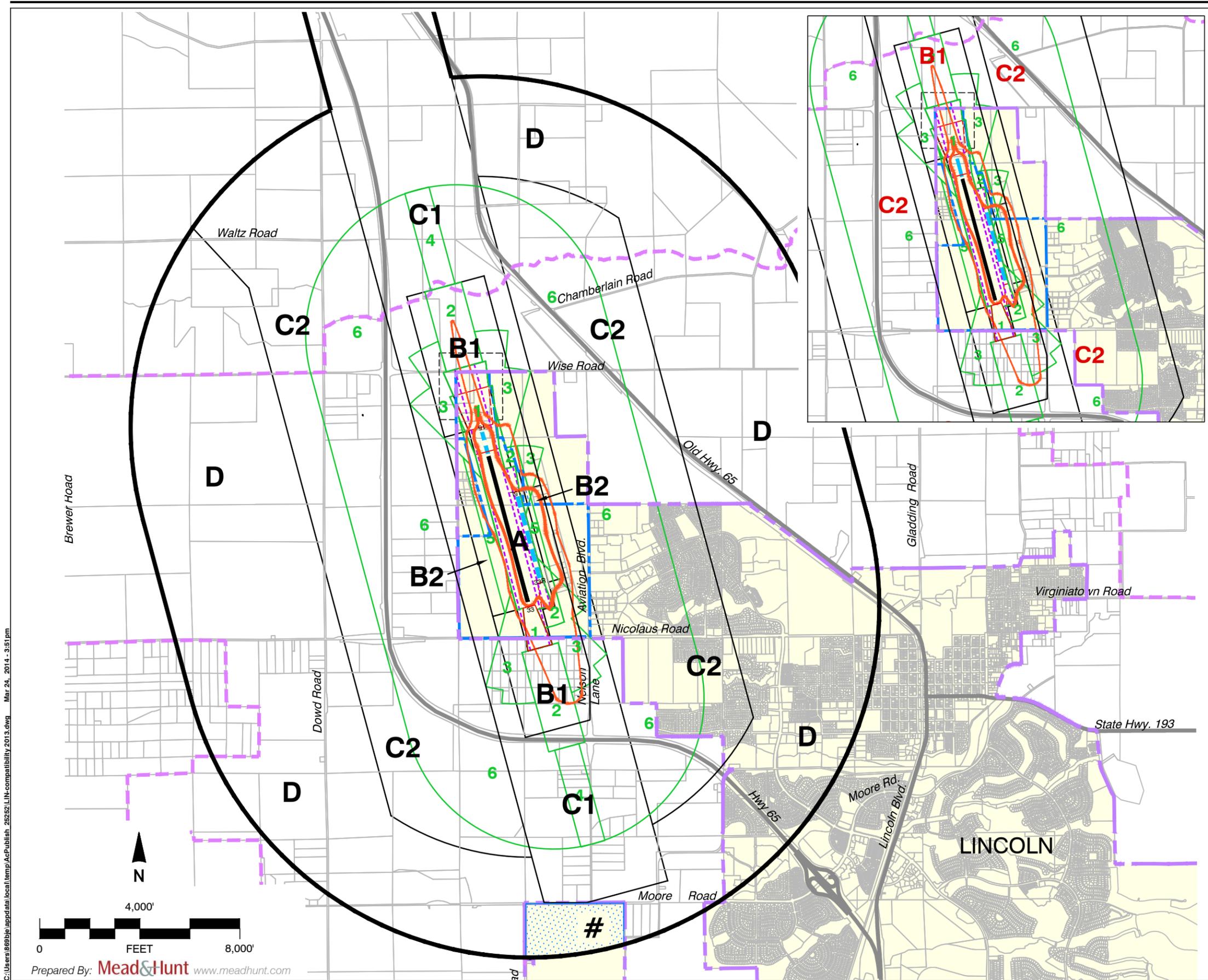
BASED AIRCRAFT ^a			RUNWAY USE DISTRIBUTION ^a		
	Current	Future		Current	Future
<i>Aircraft Type</i>			<i>Single-Engine Aircraft</i>		
Single-Engine	200	303	Takeoffs		
Multi-Engine	17	60	Runway 15(R)	85%	0%
Business Jet	12	31	Runway 33(L)	15%	0%
Helicopters	2	4	Runway 15L	—	85%
Total	231	398	Runway 33R	—	15%
<hr/>			<i>Landings</i>		
AIRCRAFT OPERATIONS ^a			Runway 15(R)		
	Current	Future	Runway 33(L)	85%	0%
<i>Total</i>			Runway 15L	15%	0%
Annual	74,400	138,000	Runway 33R	—	85%
Average Day	203	378	Runway 15L	—	15%
<i>Distribution by Aircraft Type</i>			<i>Twin-Engine Reciprocating</i>		
Single-Engine Fixed Prop	47%	50%	Takeoffs		
Single-Engine Variable Prop	36%	26%	Runway 15(R)	85%	42.5%
Twin-Engine Reciprocating	4%	7%	Runway 33(L)	15%	7.5%
Twin-Engine Turboprop	4%	8%	Runway 15L	—	42.5%
Business Jet	3%	8%	Runway 33R	—	7.5%
Helicopter	<1%	1%	<i>Landings</i>		
<i>Distribution by Type of Operation</i>			Runway 15(R)	85%	42.5%
Local (incl. touch-and-goes)	50%	no change	Runway 33(L)	15%	7.5%
Itinerant	50%	change	Runway 15L	—	42.5%
<hr/>			Runway 33R	—	7.5%
TIME OF DAY DISTRIBUTION ^a			<i>Turboprops</i>		
	Current	Future	Takeoffs		
<i>All Aircraft</i>			Runway 15(R)	85%	68%
Day (7 am to 7pm)	88%	no change	Runway 33(L)	15%	12%
Evening (7 pm to 10 pm)	8%	change	Runway 15L	—	17%
Night (10 pm to 7 am)	4%		Runway 33R	—	3%
<hr/>			<i>Landings</i>		
			Runway 15(R)	85%	68%
			Runway 33(L)	15%	12%
			Runway 15L	—	17%
			Runway 33R	—	3%
			<i>Jets</i>		
			Takeoffs		
			Runway 15(R)	85%	85%
			Runway 33(L)	15%	15%
			Runway 15L	—	0%
			Runway 33R	—	0%
			<i>Landings</i>		
			Runway 15(R)	85%	85%
			Runway 33(L)	15%	15%
			Runway 15L	—	0%
			Runway 33R	—	0%
			<i>Helicopters</i>		
			Takeoffs and Landings		
			Runway 15(R)	85%	0%
			Runway 33(L)	15%	0%
			Runway 15L	—	85%
			Runway 33R	—	15%

NOTES:

^a Source: Current (2012) and future (2033) aircraft activity data brought forward from the Lincoln Regional Airport Master Plan (2007) and Aircraft Noise Assessment Study (2007) and verified by airport management for use in this ALUCP. Numbers may not equal 100% due to rounding.

Airport Activity Data Summary
Lincoln Regional Airport

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Legend

Boundary Lines

- Placer County Limits (outside map view)
- Lincoln City Limits
- Lincoln Sphere of Influence
- Existing Airport Property Line
- Future Airport Property Line
- Future Aviation Easement
- Existing Runway 15-33 (6,000 ft.)
- Future Runway 15R-33L (7,000 ft.)
- Future Runway 15L-33R (3,350 ft.)
- Airport Influence Area (Adopted 2014)
- Compatibility Policy Zones (Adopted 2014)
- # See Special Conditions Policy 6.2.3.

Runway Factors¹

- Runway Protection Zone (RPZ)
- Runway Object Free Area (ROFA)

Noise Factors

- 65 dB CNEL
- 60 dB CNEL

} 138,000 Annual Operations²

Safety Factors

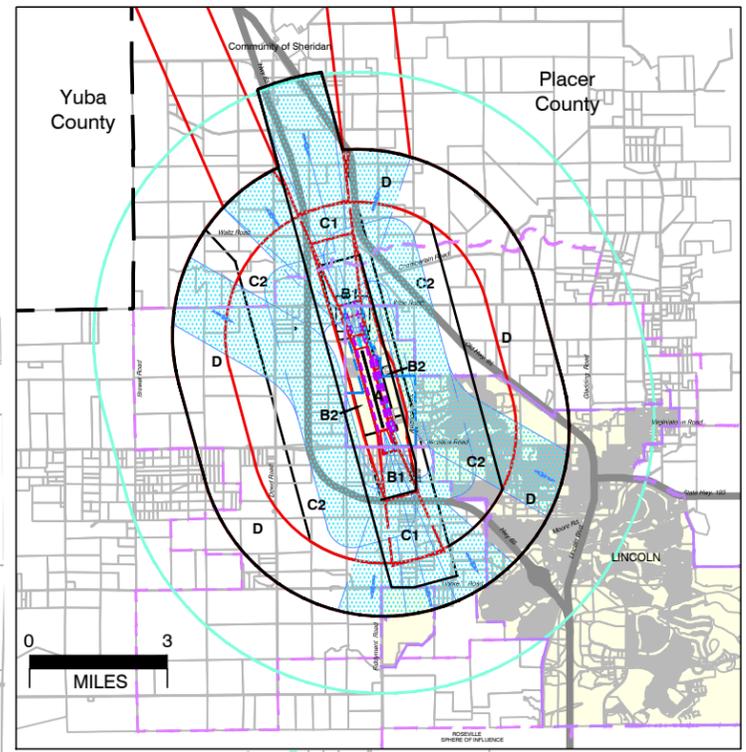
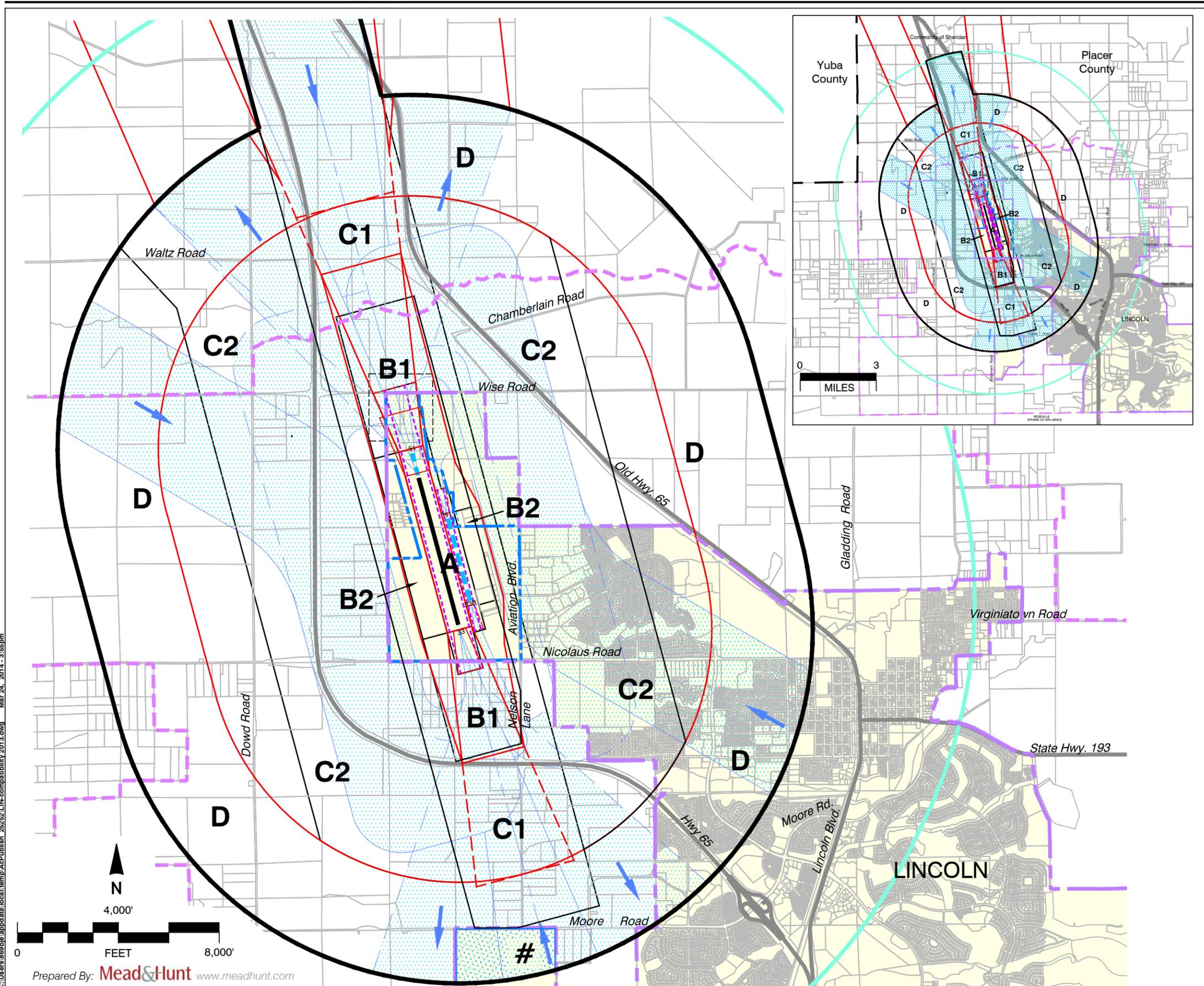
- Generic Safety Zones (Composite)³
- Zone 1, Runway Protection Zone
- Zone 2, Inner Approach/Departure Zone
- Zone 3, Inner Turning Zone
- Zone 4, Outer Approach/Departure Zone
- Zone 5, Sideline Zone
- Zone 6, Traffic Pattern Zone

- Notes:**
1. Source: Lincoln Regional Airport Layout Plan, approved May 2008.
 2. Source: Lincoln Regional Airport Master Plan, adopted May 2007.
 3. Source: California Airport Land Use Planning Handbook published October 2011. Generic safety zones are a composite of safety zones for Short, Medium and Long General Aviation Runways applied to future Runway 15L-33R, Existing Runway 15-33 and Future Runway 15R-33L, respectively. Zone 1 modified to reflect RPZs.

**Lincoln Regional Airport
Land Use Compatibility Plan
(Adopted February 26, 2014)**

**Exhibit 9D
Compatibility Factors Map:
Noise and Safety
Lincoln Regional Airport**

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Legend

Boundary Lines

- Placer County Limits
- Lincoln City Limits
- - - Lincoln Sphere of Influence
- Existing Airport Property Line
- - - Future Airport Property Line
- - - Future Avigation Easement
- Existing Runway 15-33 (6,000 ft.)
- Future Runway 15R-33L (7,000 ft.)
- Future Runway 15L-33R (3,350 ft.)
- Airport Influence Area (Adopted 2014)
- Compatibility Policy Zones (Adopted 2014)
- # See Special Conditions Policy 6.2.3.

Runway Factors¹

- Runway Protection Zone (RPZ)
- - - Runway Object Free Area (ROFA)

Airspace Factors²

- FAA Height Notification Surface (20,00 ft. radius; 100 to 1 slope)
- FAA Obstruction Surfaces

Overflight Factors³

- General Traffic Pattern Envelope/Flight Direction (approximately 80% of aircraft overflights estimated to occur within these limits)

- Notes:**
1. Source: Lincoln Regional Airport Layout Plan, approved May 2008.
 2. Source: Federal Aviation Regulation (FAR) Part 77, Safe, Efficient Use and Preservation of Navigable Airspace (January 2011).
 3. Source: Placer County Airport Land Use Compatibility Plan, adopted October 2000 and airport management.

**Lincoln Regional Airport
Land Use Compatibility Plan**
(Adopted February 26, 2014)

Exhibit 9E
**Compatibility Factors Map:
Airspace and Overflight**
Lincoln Regional Airport

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AIRPORT SITE

- *Location*
 - › Western Placer County
 - › Northwestern corner of Lincoln city limits, 3 miles from city center
- *Topography*
 - › Situated eastern edge of Sacramento Valley
 - › Land in vicinity is relatively flat
 - › Newly completed Highway 65 Bypass 1 mile west of airport

AIRPORT ENVIRONS LAND USE JURISDICTIONS

- *County of Placer*
 - › Lands north, west and south of airport within unincorporated county jurisdiction
- *City of Lincoln*
 - › Airport and some adjacent private property in city limits
 - › Most of area to east inside city
 - › Majority of unincorporated land in vicinity of airport in city sphere of influence

EXISTING AIRPORT AREA LAND USES

- *General Character*
 - › Predominantly agricultural and open pasture lands
 - › Industrial uses inside city to east
- *Runway Approaches*
 - › North (Runway 15): Open rangeland; community of Sheridan located 4.5 miles from airport
 - › South (Runway 33): Rural residential 0.5 mile from runway end; agriculture beyond
- *Traffic Pattern*
 - › Northeast: Open rangeland
 - › East: Light industrial and undeveloped property; residential area 1 mile from runway
 - › West: Agricultural land

PLANNED AIRPORT AREA LAND USES

- *County of Placer*
 - › Continued rural residential (1 to 10 acre lots) south of airport
 - › Continued residential development in community of Sheridan north of airport
 - › New business/industrial park planned
 - › Other areas north, west and south of airport continue to be designated agriculture (20- to 80-acre lots); but newly completed Highway 65 Bypass west of airport anticipated to promote growth in area
- *City of Lincoln*
 - › Industrial development planned to east and west, both on and off airport property
 - › Continued residential development 1 mile east and west of airport
 - › Planned development along the Highway 65 Bypass

STATUS OF COMMUNITY PLANS

- *County of Placer*
 - › General Plan Policy Document and General Plan Land Use Diagram approved May 21, 2013
 - › Sheridan Community Plan adopted in 1976; update in progress; anticipated completion date 2014/2015
- *City of Lincoln*
 - › General Plan and Land Use Diagram adopted March 2008
 - › Village 7 Specific Plan adopted June 8, 2010
 - › Includes land use designations for unincorporated areas in city sphere surrounding airport

ESTABLISHED AIRPORT COMPATIBILITY MEASURES***County of Placer***

- *General Plan*
 - › Requires 2,000- ft. buffer between airports and new residential development (Land Use and Circulation, Section 4.B.1.)
 - › County shall work with ALUC to ensure protection of airports from urban encroachment (Transportation 3.F.2.)
 - › Ensure new development around airports does not create safety hazards (Airport Hazards, 8.D.1); Limit land uses in airport safety zones consistent with ALUC plans (Airport Hazards, 8.D.2)
 - › Ensure development within the airport approach and departure zones complies with FAR Part 77 regulations (Airport Hazards, 8.D.3)
 - › All development projects within airport overflight zone to be reviewed for consistency with ALUC plan (Airport Hazards, 8.8)
 - › Prohibits new residential and other noise-sensitive land uses in areas exposed to more than 60 dB CNEL unless mitigated to reduce impacts to outdoor activities; indoor noise level cannot exceed 45 dB CNEL; acoustical analysis required (Noise, 9.A.8)
- *Sheridan Community Plan*
 - › No compatibility policies pertaining to Lincoln Regional Airport
- *Airport Overflight Combining District (17.52.030)*
 - › Ordinance sets noise, safety, and height compatibility requirements and requires discretionary land use permits applications to be submitted to ALUC for review

City of Lincoln

- *General Plan*
 - › Adopted 2000 Placer County Airport Land Use Compatibility Plan (ALUCP) and any subsequent amendments by reference (Page 4-2)
 - › Adopted airport buffer to protect airport from encroachment of incompatible uses; requires developers to file an avigation easement with City if project is within ALUCP boundary (LU-2.10)
 - › City to encourage Placer County to require new subdivisions of land within 1.0 mile of runway to maintain a maximum density of 1 du/20 acres and provide avigation easements (LU-5.1)

Exhibit 9F

Airport Environs Information

Lincoln Regional Airport

ESTABLISHED AIRPORT COMPATIBILITY MEASURES

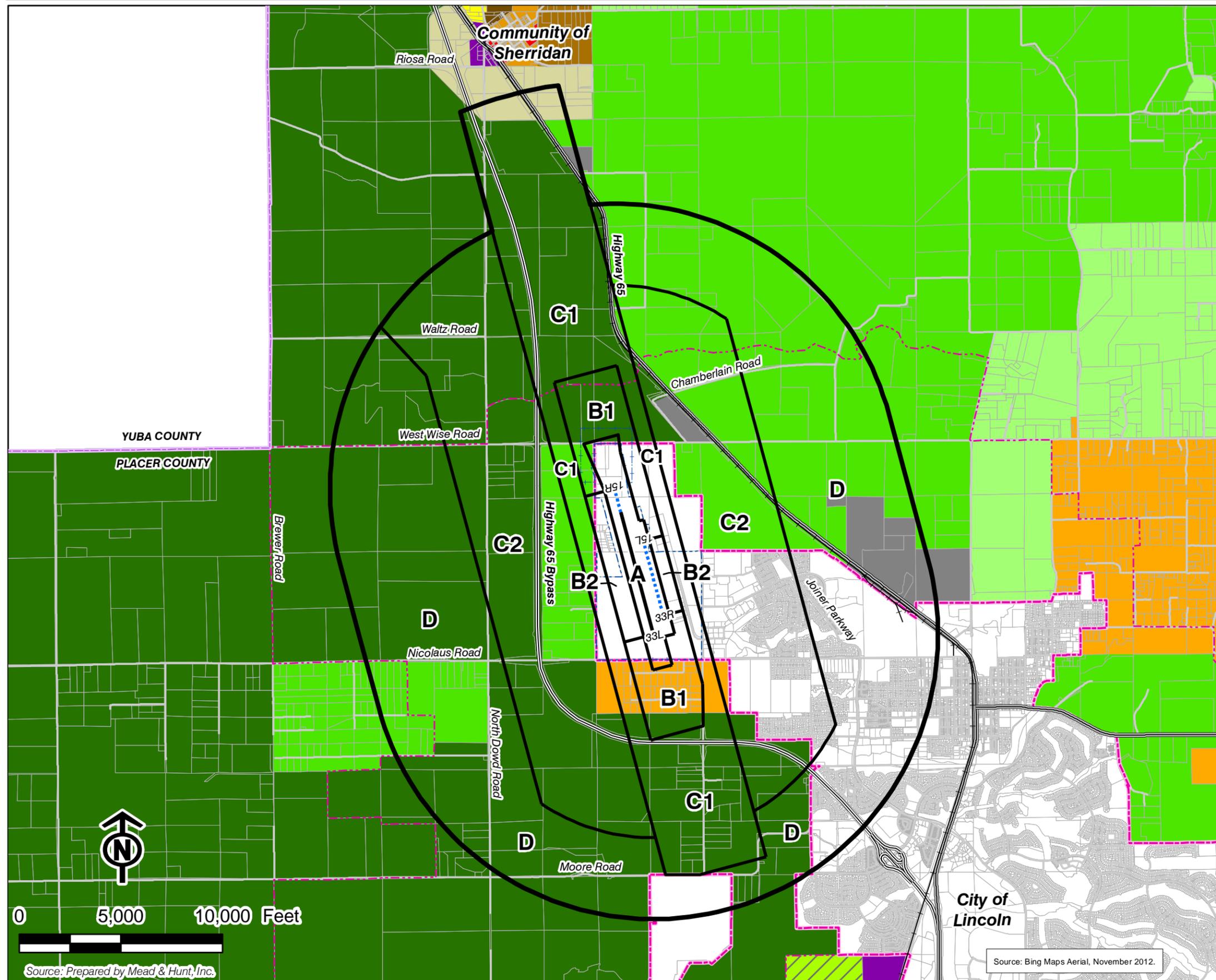
(CONTINUED)

City of Lincoln

- *General Plan*
 - › Requires Specific Plans for lands within airport influence area to be consistent with ALUCP and review by ALUC (Section 4.4, Villages; LU16.1)
 - › City to protect from encroachment the expansion of the main runway by approximately 1.0 mile at the north end (T-6.2)
 - › Requires new drainage facilities near airport influence area to be designed and maintained to avoid attraction and concentration of birds above existing conditions at the project site (PFS-4.14)
 - › Requires new development to be consistent with safety policies and land use compatibility guidelines of ALUCP (HS-4.1)
 - › Ensure that development within airport approach and departure zones comply with FAR Part 77 (HS-4.2)
 - › Requires development to be consistent with ALUCP noise standards and, under certain conditions, requires aviation easement dedication for new development (HS-8.6)
 - › City shall update AMP noise contours through year 2030 consistent with anticipated use of airport by larger aircraft (HS-8.7)
- *Airport Hazard Zone (18.70.010 to 18.70.040)*
 - › Ordinance sets requirements addressing airspace hazards (physical, visual and electronic)

Source: Data Compiled by Mead & Hunt November 2012

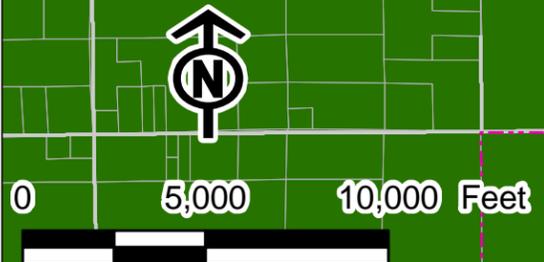
Exhibit 9F, continued



- Legend**
- Placer County Boundary
 - Lincoln City Limits
 - Lincoln Sphere of Influence
 - Existing Airport Property Line
 - Future Airport Property Line
 - Existing Runway 15-33 (6,001 ft.)
 - Future Runway 15R-33L (7,000 ft.)
 - Future Runway 15L-33R (3,350 ft.)
 - Airport Influence Area (Adopted 2014)
 - Compatibility Policy Zones (Adopted 2014)
- Planned Land Use Designations (County)¹**
- Agricultural 20 Ac. Min.
 - Agriculture/Timberland - 10 Ac. Min.
 - Agriculture/Timberland - 20 Ac. Min.
 - Agriculture/Timberland - 80 Ac. Min.
 - Business Park/Industrial 10,000 Sq. Ft. - 5 Ac. Min.
 - General Commercial
 - High Density Residential 4 - 10 DU/Ac.
 - Industrial
 - Low Density Residential 0.4 - 2.3 Ac. Min.
 - Medium Density Residential 2 - 4 DU/Ac.
 - Rural Estate 5 - 20 Ac. Min.
 - Rural Residential 1 - 10 Ac. Min.
 - Rural Residential 2.3 - 5 Ac. Min.

Notes

1. Planned land use designations reflect Placer County General Plan Land Use Diagram (2013). Only designations that appear in map view listed in legend.



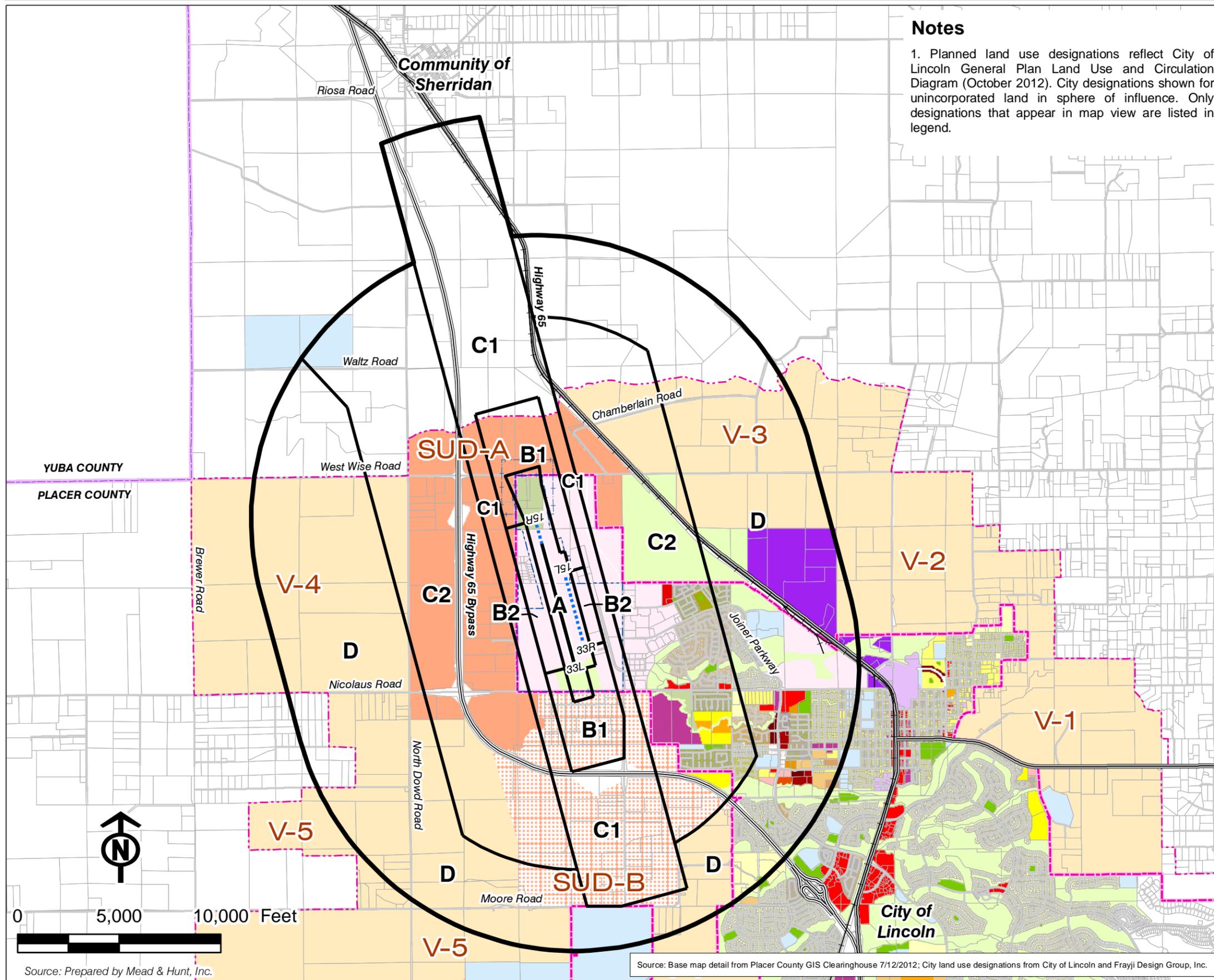
Source: Prepared by Mead & Hunt, Inc.

Source: Bing Maps Aerial, November 2012.

**Lincoln Regional Airport
Land Use Compatibility Plan
(Adopted February 26, 2014)**

Exhibit 9G

**Planned Land Uses: County
Lincoln Regional Airport**



Notes

1. Planned land use designations reflect City of Lincoln General Plan Land Use and Circulation Diagram (October 2012). City designations shown for unincorporated land in sphere of influence. Only designations that appear in map view are listed in legend.

Legend

- Placer County Boundary
- Lincoln City Limits
- Lincoln Sphere of Influence
- Existing Airport Property Line
- Future Airport Property Line
- Future Avigation Easement Line
- Existing Runway 15-33 (6,001 ft.)
- Future Runway 15R-33L (7,000 ft.)
- Future Runway 15L-33R (3,350 ft.)
- Airport Influence Area (Adopted 2014)
- Compatibility Policy Zones (Adopted 2014)

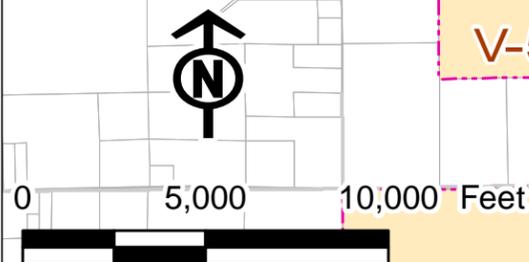
Planned Land Use Designations¹

- Rural Residential (RR) 2 - 5.0 Ac./DU
- Country Estates (CE) 1 - 2.9 DU/Ac.
- Low Density Residential (LDR) 3 - 5.9 DU/Ac.
- Medium Density Residential (MDR) 6 - 12.9 DU/Ac.
- High Density Residential (HDR) 13 - 20.0 DU/Ac.
- Neighborhood Commercial (NC)
- Community Commercial (CC)
- Regional Commercial (RC)
- Business and Professional (BP)
- Light Industrial (LI)
- Industrial (I)
- Open Space (OS)
- Agriculture (AG)
- Parks and Recreation (PR)
- Public Facilities (PF)
- Medical Center (MC)
- Village (V)
- Special Use District (SUD-A)
- Special Use District B (SUD-B)

**Lincoln Regional Airport
Land Use Compatibility Plan**
(Adopted February 26, 2014)

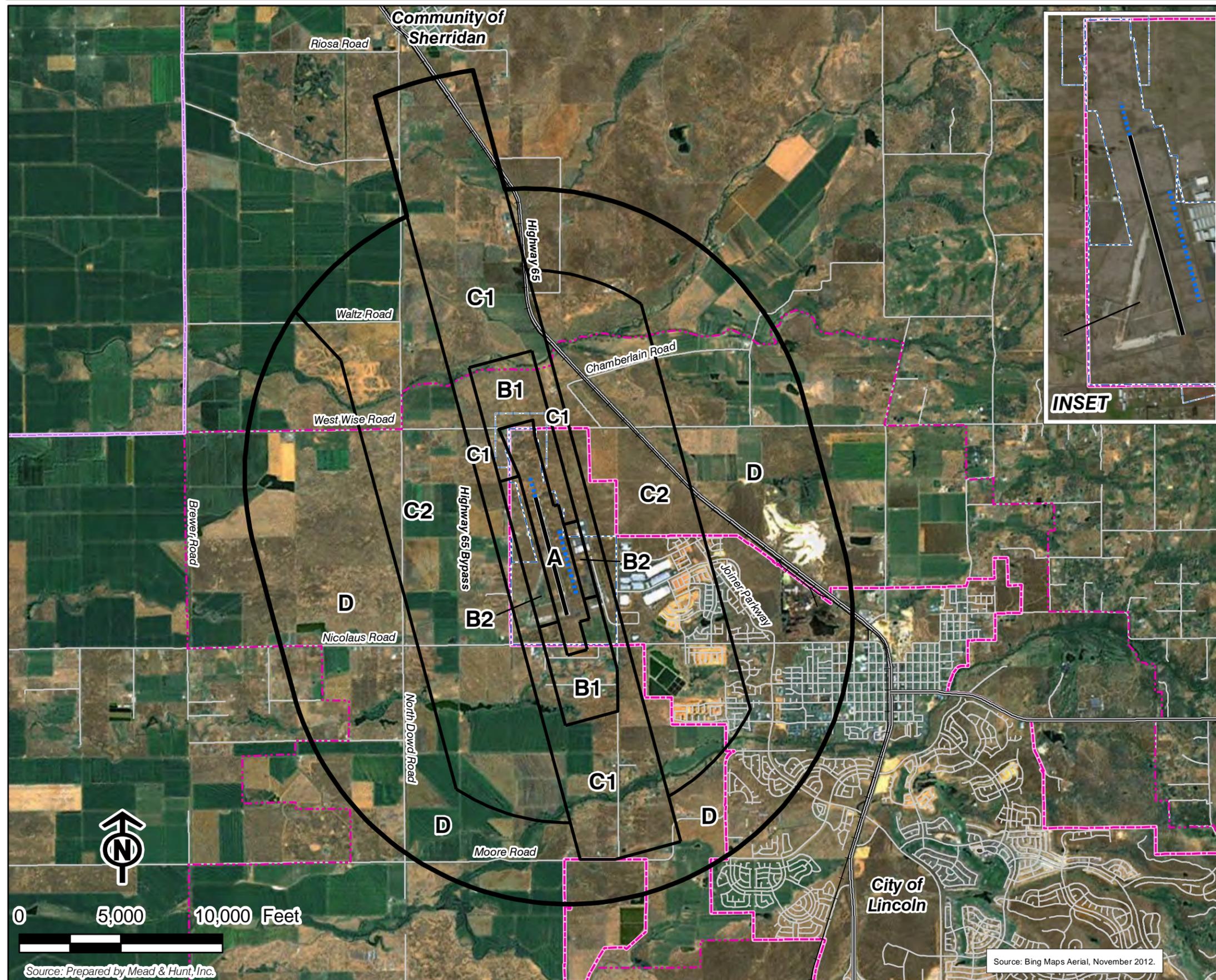
Exhibit 9H

**Planned Land Uses: City
Lincoln Regional Airport**



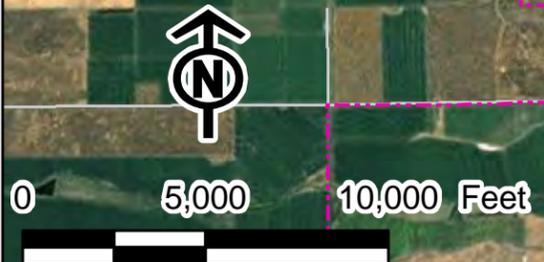
Source: Prepared by Mead & Hunt, Inc.

Source: Base map detail from Placer County GIS Clearinghouse 7/12/2012; City land use designations from City of Lincoln and Frayji Design Group, Inc.



Legend

- Placer County Boundary
- Lincoln City Limits
- Lincoln Sphere of Influence
- Existing Airport Property Line
- Future Airport Property Line
- Future Avigation Easement Line
- Existing Runway 15-33 (6,001 ft.)
- Future Runway 15R-33L (7,000 ft.)
- Future Runway 15L-33R (3,350 ft.)
- Airport Influence Area (Adopted 2014)
- Compatibility Policy Zones (Adopted 2014)



**Lincoln Regional Airport
Land Use Compatibility Plan**
(Adopted February 26, 2014)

Source: Prepared by Mead & Hunt, Inc.

Source: Bing Maps Aerial, November 2012.