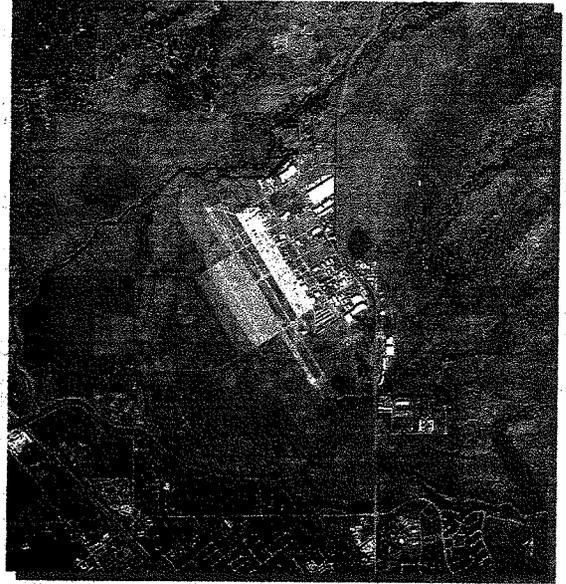
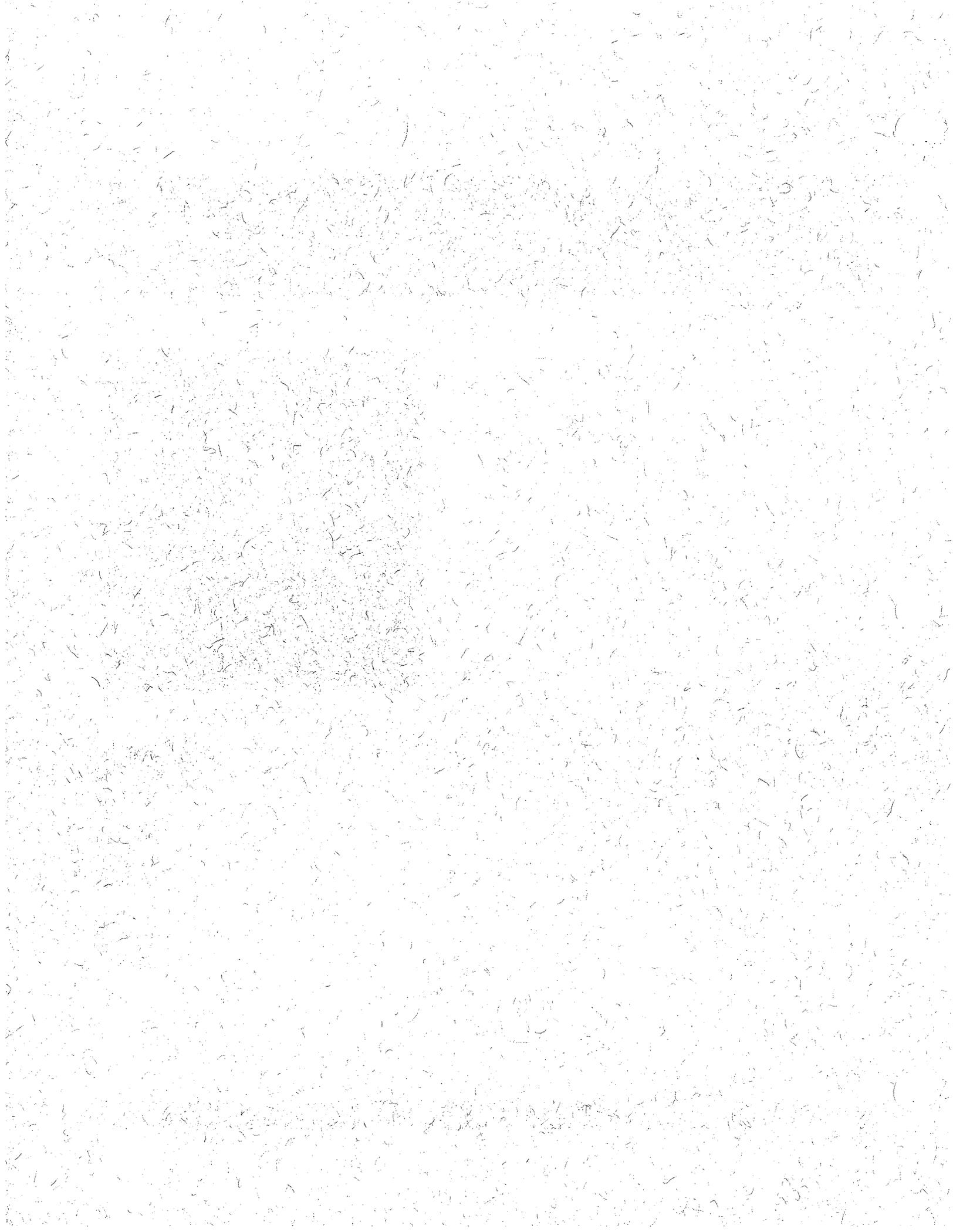


Background Data: Chico Municipal Airport

4





4

Background Data: Chico Municipal Airport

INTRODUCTION

Chico Municipal Airport is the largest and busiest airport in Butte County. Occupying some 2.3 square miles on the northern edge of the City of Chico, the airport currently handles nearly 70,000 aircraft takeoffs and landings annually and is home to more than 130 based aircraft. The airport's 6,724-foot long primary runway is equipped with a precision instrument landing system and is capable of accommodating a full range of business jet aircraft. The airport has an airport traffic control tower and limited scheduled commuter airline service. A major fire attack aircraft base is located there as well.

Land use compatibility has long been a concern at Chico Municipal Airport. When originally developed by the military during World War II, the facility was situated several miles from the edge of the city. Over the years, though, urban expansion has gradually crept closer. Current community land use plans call for expansive new development west of the airport.

Two actions taken in the late 1970s have provided some protection from incompatible nearby development. Perhaps most significant was the city's acquisition of all property within a ½-by-1-mile area beyond each end of the main runway. Secondly, the city and county jointly sponsored preparation of a *Chico Municipal Airport Environs Plan*. This plan was used to set modest limitations on development — primarily residential development — on the basis of noise impacts. Safety was deemed as not being a concern beyond the 1-mile acquisition area boundary. Prior to preparation of the present *Compatibility Plan*, the *Environs Plan* also served as the basis for the Butte County Airport Land Use Commission compatibility policies for the airport.

Another, more recent, action also potentially will have an effect on land use compatibility near the airport. Concurrently with preparation of this *Compatibility Plan*, the City of Chico is preparing a new Chico Municipal Airport master plan. The new plan is expected to include proposed extensions of both runways: a 1,000-foot northward addition to the primary runway and a doubling of the parallel runway to 6,000 feet in length. New noise contours reflecting the runway extensions have been developed as a joint product of both studies (see Exhibits 4E, 4F, and 4G in this chapter).

GENERAL INFORMATION

- *Airport Ownership* — City of Chico
- *Property Size*
 - Fee title: 1,475 acres
 - Avigation easements: Data unavailable
- *Airport Classification* — Commercial service, non-hub
- *Airport Elevation* — 238 feet MSL
- *Access*
 - Via Cohasset Road east of airport, 3 miles north of State Route 99 and 5 miles north of central Chico

BUILDING AREA

- *Location* — Northeast side of airport
- *Aircraft Parking Capacity*
 - Hangar spaces (various types) for 65± aircraft
 - Tiedowns for 200± aircraft (based and transient)
- *Other Major Facilities*
 - Airport traffic control tower
 - Fire attack base
- *Services*
 - Commuter airline service
 - Aviation gasoline & jet fuel (daytime; from trucks)
 - Aircraft rental, charter; flight instruction
 - Aircraft maintenance; major repairs; avionics shop

RUNWAY/TAXIWAY DESIGN

Runway 13L-31R

- *Critical Aircraft* — DC-9
- *Classification* — Airport Reference Code C-III (max. approach speed 141 kts; max. wingspan 118 ft.)
- *Dimensions* — 6,724 ft. long, 150 ft. wide
- *Pavement Strength* — 63,000 lbs. for aircraft with single-wheel main landing gear; 100,000 lbs. dual-wheel; 170,000 lbs. dual-tandem-wheel
- *Average Gradient* — 0.5% (rising to northwest)
- *Lighting* — High-intensity edge lights
- *Primary Taxiways* — Full-length parallel on northeast

Runway 13R-31L

- *Critical Aircraft* — Medium twin-engine, propeller
- *Classification* — Airport Reference Code B-II (max. approach speed 121 kts; max. wingspan 79 ft.)
- *Dimensions* — 3,005 ft. long, 60 ft. wide
- *Pavement Strength* — 30,000 lbs. single-wheel
- *Average Gradient* — 0.4% (rising to northwest)
- *Lighting* — None
- *Primary Taxiways* — Exits only; no parallel

AIRPORT PLANNING DOCUMENTS

- *Airport Master Plan*
 - Last version adopted in 1977
 - Update in preparation as of January 2000
- *Airport Layout Plan*
 - Last updated November 1994
- *Other Documents*
 - FAR 150 Noise Compatibility Plan completed 1995

PROPOSED FACILITY IMPROVEMENTS

- *Airfield*
 - Extend Rwy 13L-31R north to 8,600 feet
 - Extend Rwy 13R-31L north and south to 6,000 feet

APPROACH PROTECTION

- *Runway Protection Zones*
 - Runways 13L & 31R: 2,500 ft. long; all on airport
 - Runways 13R & 31L: 1,000 ft. long; all on airport
- *Approach Obstacles*
 - Runway 13L & 13R: None
 - Runway 31L & 31R: None

TRAFFIC PATTERNS AND APPROACH PROCEDURES

- *Airplane Traffic Pattern*
 - Right traffic Rwy 13L; right traffic Rwy 31R for jets and heavy aircraft, left traffic for all other aircraft
 - Right traffic Rwy 13R; left traffic Rwy 31L
 - Pattern altitude 1,000 ft. AGL for light aircraft; 1,500 ft. for jets and large aircraft
- *Instrument Approaches*
 - Rwy 13L ILS (precision):
 - straight-in (½-mi. visibility, 200-ft. min. descent ht.)
 - missed approach continues straight
 - circling (1-mi. visibility 402-ft. min. descent ht.)
 - Rwy 13L VOR DME (nonprecision):
 - appr. 9° right of straight-in (½-mi. vis., 402-ft. MDH)
 - missed approach continues straight
 - Rwy 31R GPS (nonprecision):
 - straight-in (1-mi. vis., 336-ft. min. descent ht.)
 - missed approach turns west
 - Rwy 31R VOR DME (nonprecision):
 - appr. 16° left of straight-in (1-mi. vis., 396-ft. MDH)
 - missed approach turns west
 - Also other approaches with higher minimums
- *Visual Navigational Aids*
 - Airport: Beacon
 - Runway 13L: PAPI, (3.0°)
 - Runway 31R: REILS, VASI (3.0°)
 - Runways 13R, 31L: None
- *Noise Abatement Procedures*
 - Avoid overflight of city on Rwy 13L/R departures
 - Heavy aircraft departing Rwy 13L requested to turn left 50° until 3,000 ft. MSL, safety permitting
- *Operational Restrictions*
 - None

Source: Data Compiled by Shutt Moen Associates (December 2000)

Exhibit 4A

**Airport Features Information
Chico Municipal Airport**

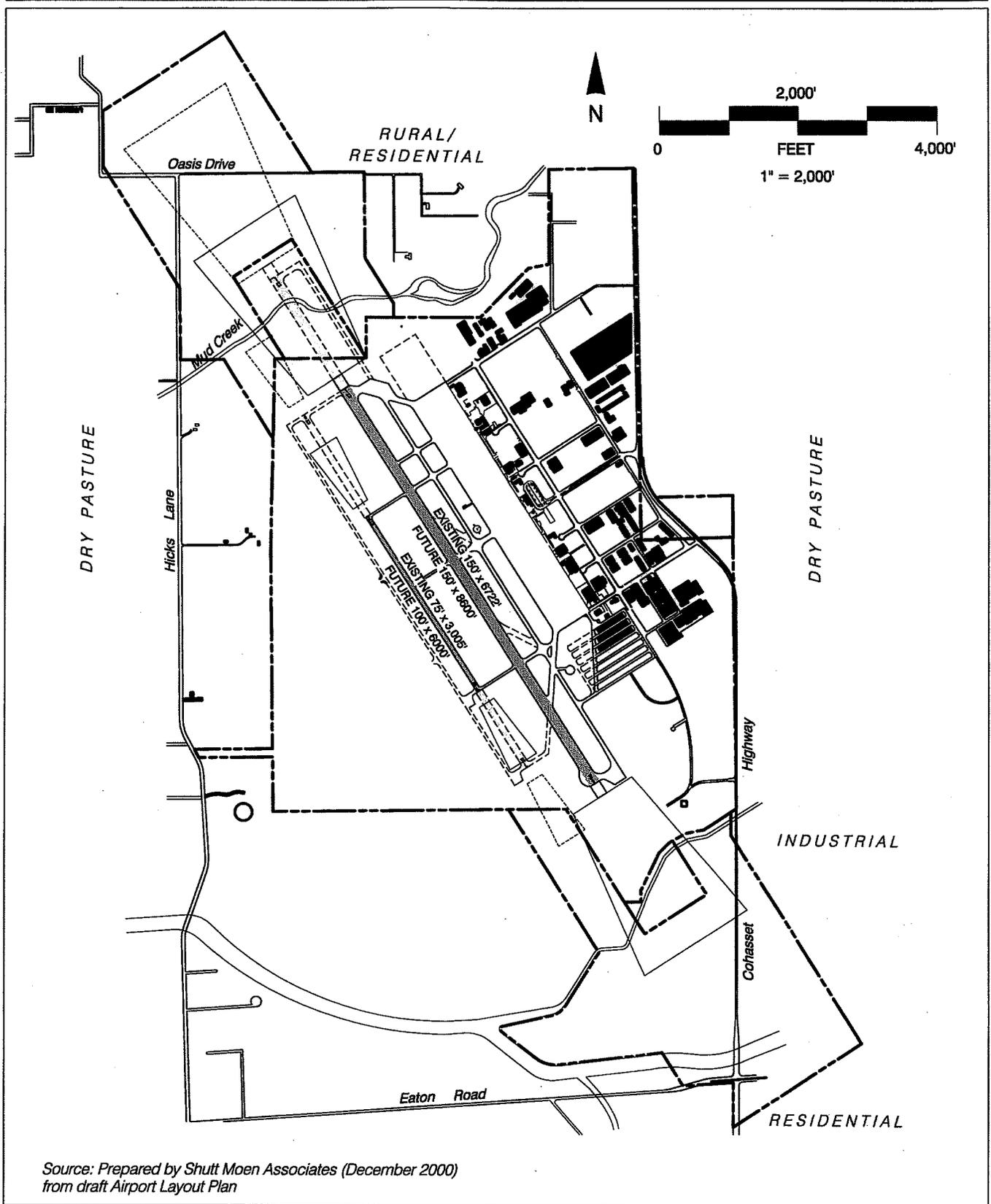
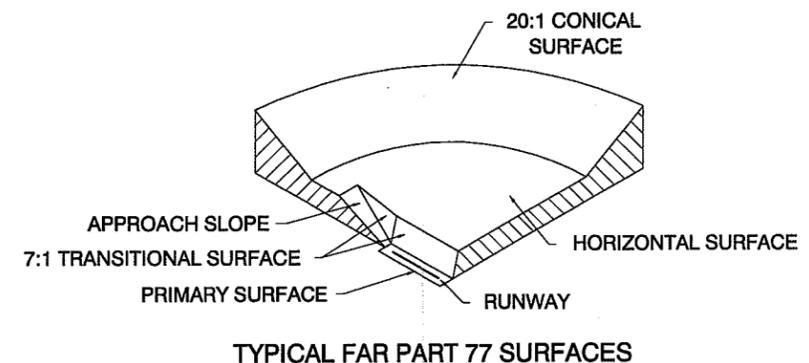


Exhibit 4B

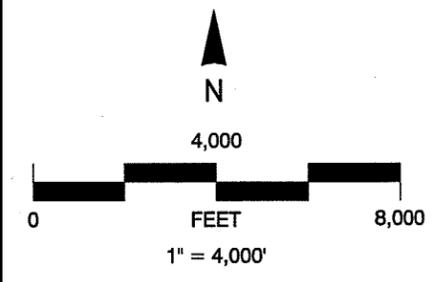
Airport Layout Diagram
Chico Municipal Airport

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TERRAIN PENETRATION

Note: Transitional Surfaces not Shown



Source: Shutt Moen Associates (December 2000)

Exhibit 4C

Airspace Plan
Chico Municipal Airport

BASED AIRCRAFT

<i>Aircraft Type</i>	Current ^a	Future ^b
Single-Engine	97	104
Twin-Engine & Turboprop	35	36
Turbojet	0	data not available
Helicopters	2	available
Total	134	140

AIRCRAFT OPERATIONS

<i>Total</i>	Current ^a	Future ^b
Annual	67,250	
Base Forecast		94,740
Expanded Forecast		141,700 ^c
Average Annual Day (without Fire Attack)	182	
Base Forecast		257
Expanded Forecast		388 ^c
Fire Attack Aircraft		
Avg. Annual Day	1.9	2.5
Avg. Fire Season Day	5.8	5.8
Peak Fire Season Day	200.0	200.0

Average Annual Day Distribution by Aircraft Type

General Aviation		
Single-Engine, Piston	43%	35%
Twin-Engine, Piston	22%	19%
Turboprop	14%	10%
Business Turbojet	2%	4%
Airline		
Turboprop	6%	6%
Regional Airline Jet	0%	4%
Air Cargo		
Single, Twin, Turboprop	6%	17%
Military (all types)	6%	4%
Fire Attack (all types)	1%	1%
Helicopter	<1%	<1%

Distribution by Type of Operation

Local		
(incl. touch-and-goes)		data not available
Itinerant		
		available

RUNWAY USE DISTRIBUTION

	Current ^d	Future ^d
Takeoffs		
General Aviation (all aircraft)		
Runway 13L	60%	45%
Runway 31R	40%	30%
Runway 13R	0%	15%
Runway 31L	0%	10%
Airline, Air Cargo, & Fire Attack		
Runway 13L	60%	60%
Runway 31R	40%	40%
Landings		
Gen'l Aviation, Single-Engine		
Runway 13L	54%	45%
Runway 31R	37%	30%
Runway 13R	6%	15%
Runway 31L	3%	10%
Gen'l Aviation, Twin-Engine & Turboprop		
Runway 13L	59%	45%
Runway 31R	39%	30%
Runway 13R	1%	15%
Runway 31L	1%	10%
Gen'l Aviation, Business Jets		
Runway 13L	60%	45%
Runway 31R	40%	30%
Runway 13R	0%	15%
Runway 31L	0%	10%
Airline, Air Cargo, & Fire Attack		
Runway 13L	60%	60%
Runway 31R	40%	40%
Touch-and-Goes		
Gen'l Aviation, Single-Engine		
Runway 13L	3%	
Runway 31R	2%	no change
Runway 13R	57%	
Runway 31L	38%	
Gen'l Aviation, Twin-Engine & Turboprop		
Runway 13L	58%	
Runway 31R	38%	no change
Runway 13R	2%	
Runway 31L	2%	

* See footnotes on second page.

TIME OF DAY DISTRIBUTION

Day Evening Night

Takeoffs

General Aviation			
Single-Engine, Piston	87%	10%	3%
Twin-Engine, Piston	72%	19%	9%
Turboprop	74%	10%	16%
Business Turbojet	76%	10%	14%
Airline			
All Types	81%	10%	14%
Air Cargo			
All Types ^e	73%	14%	13%
Military			
All Types	76%	10%	14%
Fire Attack			
All Types	49%	36%	15%
Helicopter	data not available		

Landings

General Aviation			
Single-Engine, Piston	87%	10%	3%
Twin-Engine, Piston	72%	19%	9%
Turboprop	78%	9%	13%
Business Turbojet	82%	11%	7%
Airline			
All Types	81%	10%	14%
Air Cargo			
All Types ^e	75%	14%	11%
Military			
All Types	50%	37%	13%
Fire Attack			
All Types	50%	37%	13%
Helicopter	data not available		

Touch-and-Goes

General Aviation			
Single-Engine, Piston	90%	10%	0%
Twin-Engine, Piston	90%	10%	0%
Turboprop	90%	10%	0%
Business Turbojet	100%	0%	0%
Military			
All Types	50%	37%	13%

FLIGHT TRACK INFORMATION

Fire Attack Aircraft

Departures, Runway 13L (to south):	
Straight out	50%
Traffic pattern departure	30%
50° left turn	20%
Departures, Runway 31R (to north):	
Straight out	70%
Traffic pattern departure	15%
To east	15%
Arrivals, Runway 13L (from north):	
Straight in	75%
From east	25%
Arrivals, Runway 31R (from south):	
Straight in	65%
From east	25%
From southeast	10%

Other Aircraft

- ▶ Widely distributed departure tracks; percentages vary by aircraft type
- ▶ Varied arrival tracks, but predominantly straight-in except for touch-and-goes; percentages vary by aircraft type

Notes

- ^a Source: Brandley Engineering, *Chico Municipal Airport Master Plan* (Preliminary Draft, August 1998); 1998 data
- ^b Source: Brandley Engineering, *Chico Municipal Airport Master Plan* (Preliminary Draft, August 1998); 2018 forecast
- ^c Shutt Moen Associates assumptions for compatibility planning purposes; forecast assumes 1.5 times the Master Plan 2018 forecast operations will be reached at an undefined future date
- ^d Source: Brown-Buntin Associates, *Chico Municipal Airport Noise Analysis* (June 1999); prepared as part of Airport Master Plan study
- ^e Data shown is average distribution; actual percentages vary by aircraft type

Source: Data Compiled by Shutt Moen Associates (January 2000)

Table 4D, Continued

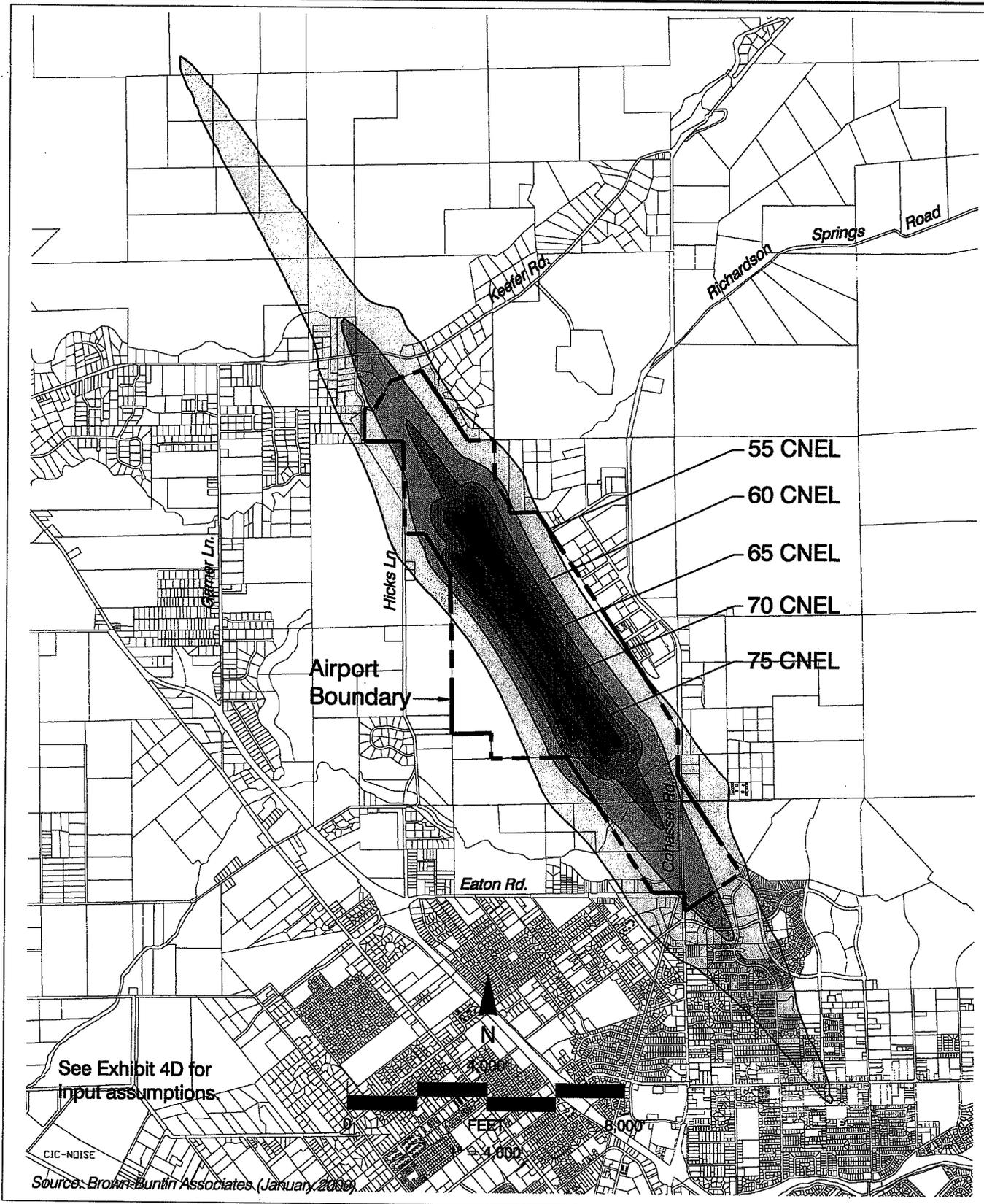


Exhibit 4E

Noise Impacts — Future Average Fire Season Day Chico Municipal Airport

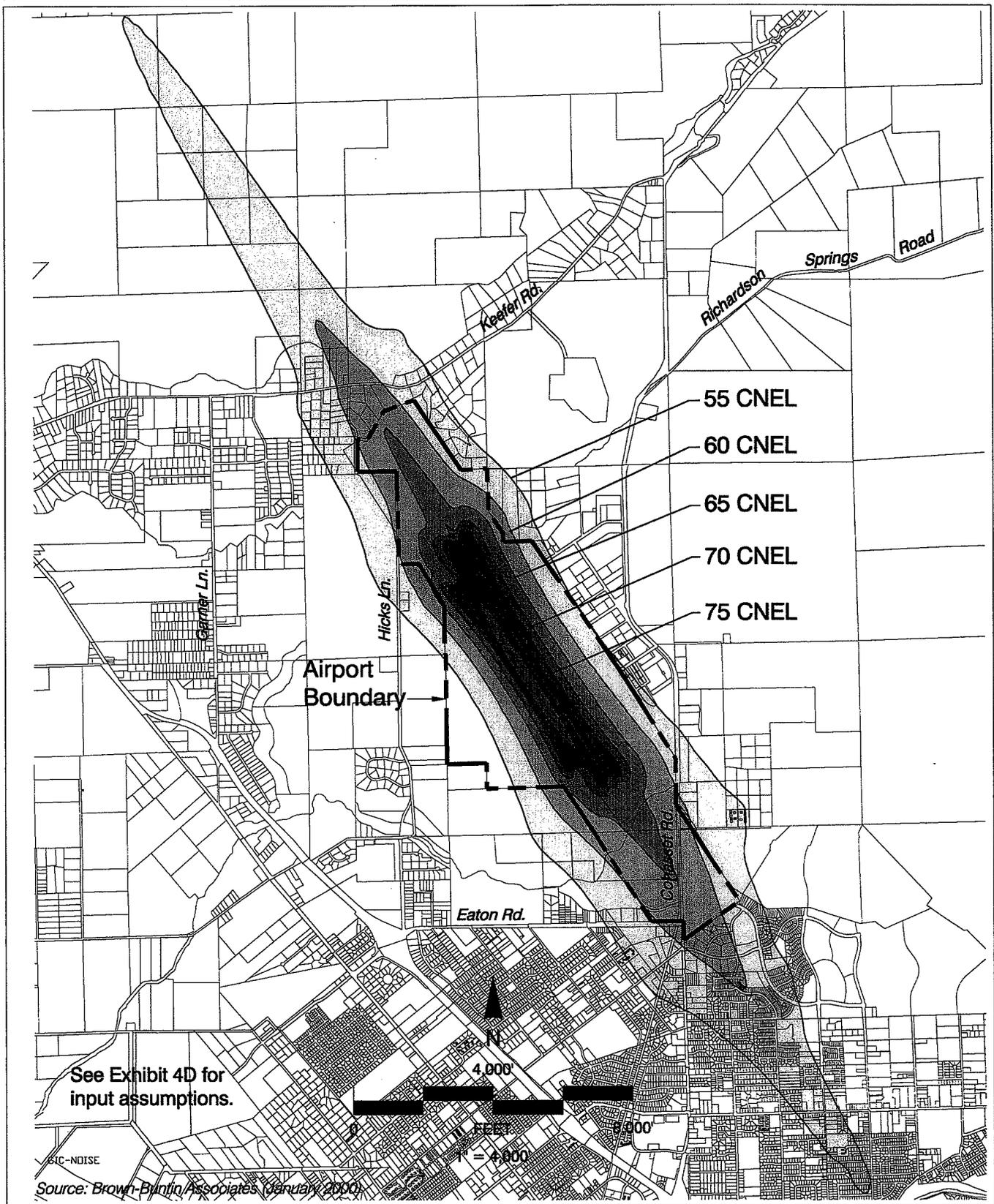
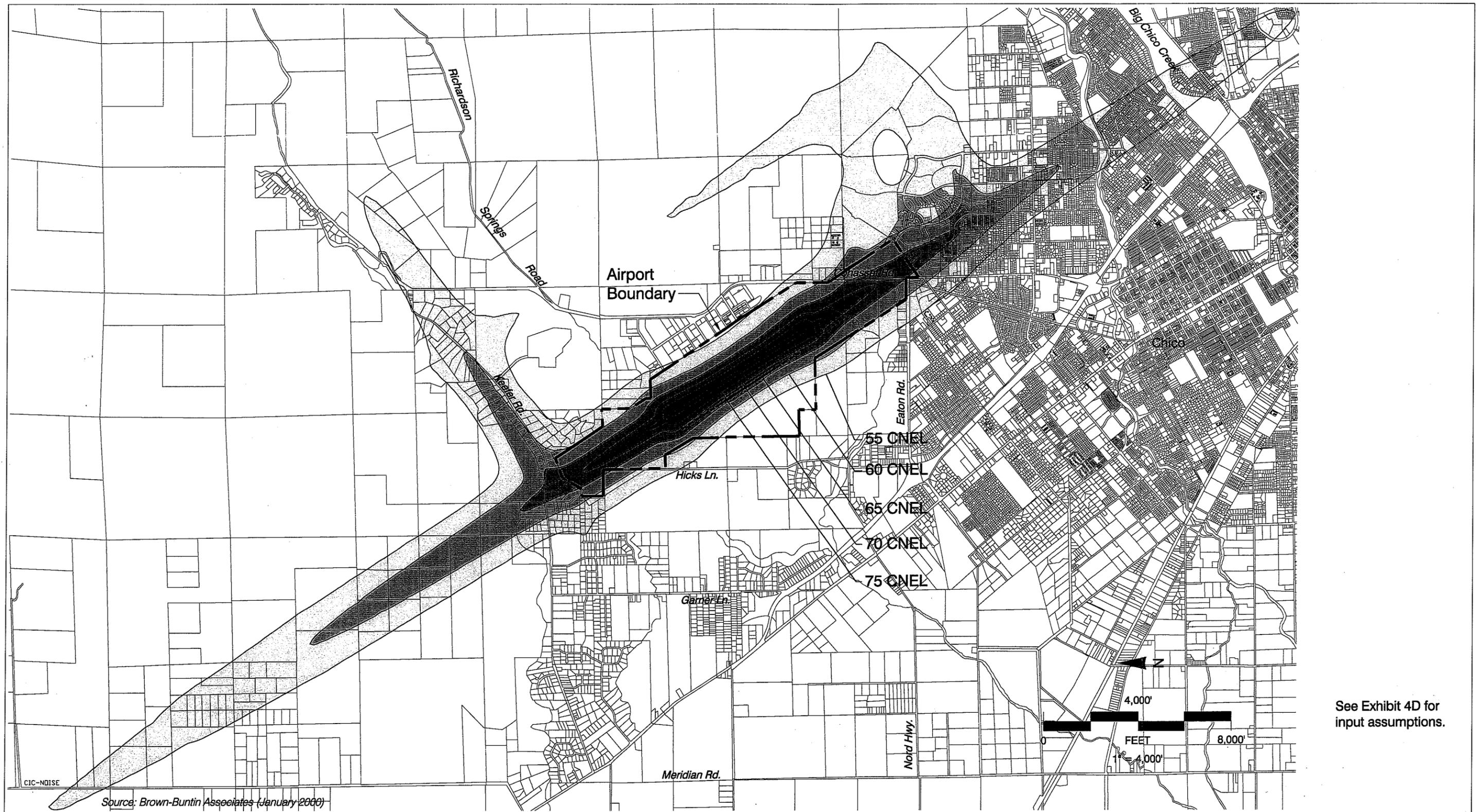


Exhibit 4F

Noise Impacts — Expanded Forecast Chico Municipal Airport



See Exhibit 4D for input assumptions.

Exhibit 4G

Noise Impacts — Peak Fire Attack Day
Chico Municipal Airport

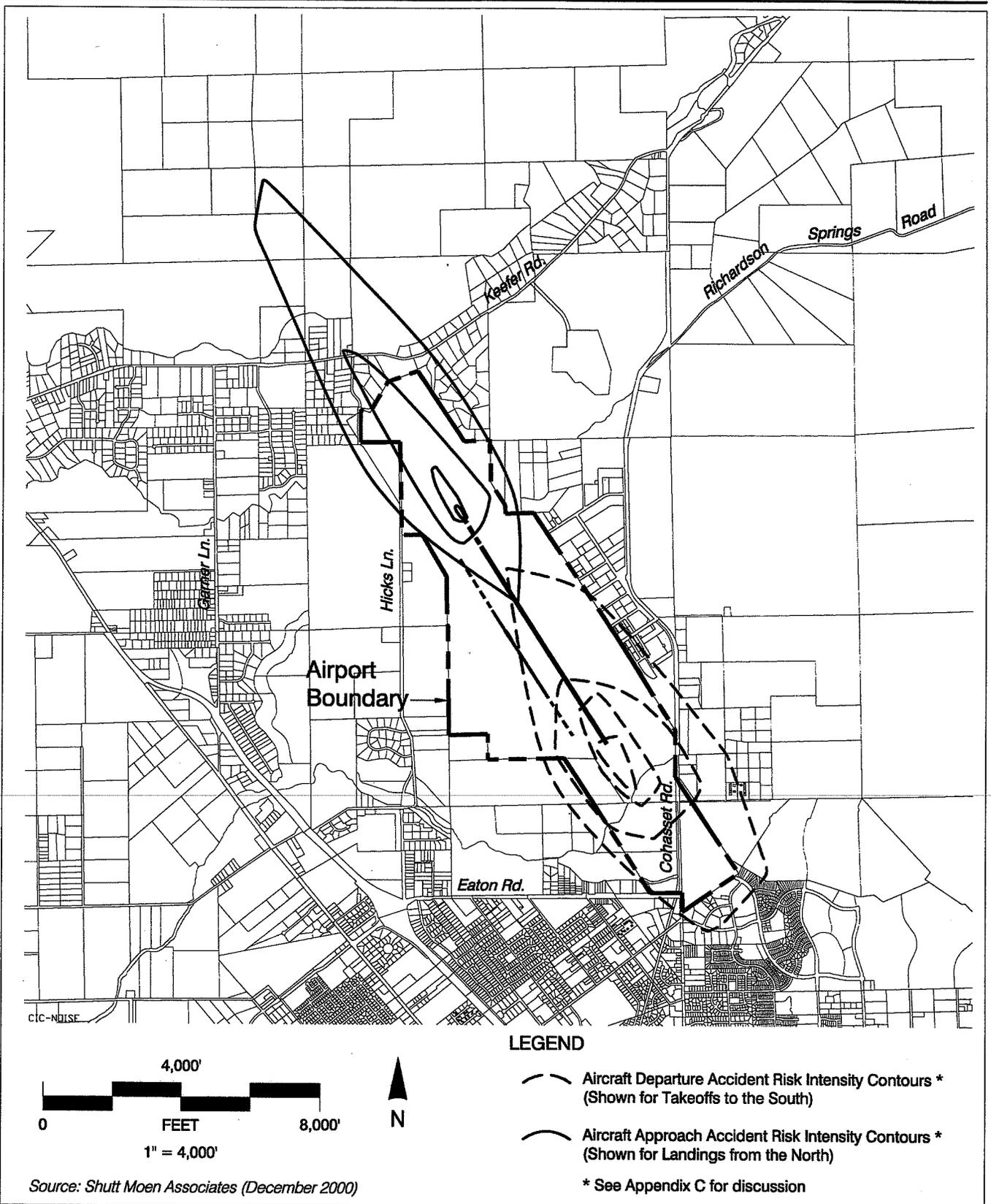


Exhibit 4H

Accident Risk Intensity
Chico Municipal Airport

AIRPORT LOCATION AND NEARBY TOPOGRAPHY

- ▶ *Location*
 - ▶ Northwestern Butte County
 - ▶ 5 miles north of central Chico
- ▶ *Topography*
 - ▶ Situated at 238-foot elevation on western edge of Sacramento Valley
 - ▶ Generally flat terrain in immediate vicinity, gently rising toward east; Sierra foothills begin 5 miles east

AIRPORT ENVIRONS LAND USE JURISDICTIONS

- ▶ *County of Butte*
 - ▶ Areas to the north, east, and west of airport in county jurisdiction
- ▶ *City of Chico*
 - ▶ Airport lies within northern extension of city limits
 - ▶ Sphere of influence mostly follows city limits near airport, but entire environs with city's planning area

EXISTING AIRPORT AREA LAND USES

- ▶ *General Character*
 - ▶ Airport situated on northern edge of expanding Chico urban area
 - ▶ Increasing residential development north and west
 - ▶ Industrial on east edge of airport; open land beyond
- ▶ *Runway Approaches*
 - ▶ North (Rwy 13L): Rural residential 1.0 to 1.5 mile north of runway; agricultural land beyond
 - ▶ South (Rwy 31R): Chico urban area 1.0 mile south
- ▶ *Traffic Patterns*
 - ▶ West (Rwy 13R-31L): Mostly undeveloped within 1.0 mile of runway; rural/suburban residential on edges
 - ▶ East (Rwy 13L-31R): Undeveloped grazing lands

STATUS OF COMMUNITY PLANS

- ▶ *Butte County General Plan*
 - ▶ Land Use element adopted 1979; Noise and Safety elements adopted 1977
 - ▶ "Chico Area Land Use Plan" map updated September 1991
- ▶ *North Chico Specific Plan*
 - ▶ Adopted by County Board of Supervisors, March 1995
 - ▶ Addresses 5.6-square-mile area extending west from Chico Municipal Airport to State Route 99
- ▶ *City of Chico General Plan*
 - ▶ Adopted November 1994

PLANNED AIRPORT AREA LAND USES

- ▶ *County of Butte*
 - ▶ Industrial uses planned adjacent to east and west sides of airport
 - ▶ Extensive agricultural residential development (1-40 acre parcels) inside 2.0 miles east [*General Plan*]
 - ▶ Expansive suburban residential uses (1-acre min. parcels planned inside 2.0 miles west; higher density core area 1.0 mile west [*North Chico Specific Plan*])
- ▶ *City of Chico*
 - ▶ Similar to county planning on west, but with residential density up to 2.0 dwelling units per acre
 - ▶ Industrial uses along east edge of airport with open space lands beyond
 - ▶ Urban residential and office uses on remaining undeveloped land beyond south airport boundary

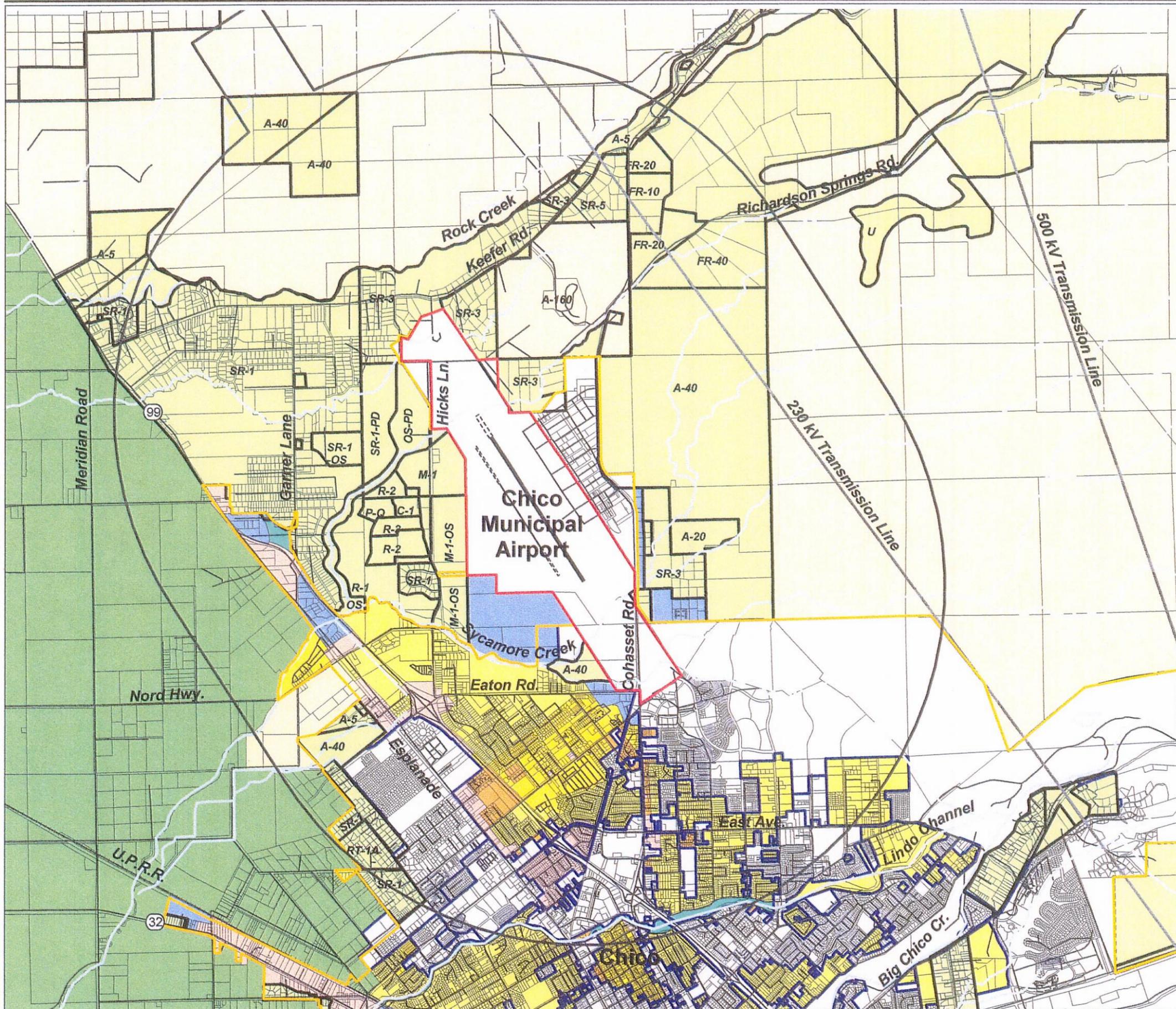
ESTABLISHED COMPATIBILITY MEASURES

- ▶ *Butte County General Plan*
 - ▶ Circulation Element includes policy to "ensure that land uses in the vicinity of public airports are compatible with respective airport land use plans"
 - ▶ Noise Element has policy to "discourage noise-sensitive activities near airports"
- ▶ *North Chico Specific Plan*
 - ▶ Avigation easements "required for all lands" in area
 - ▶ New construction to incorporate noise attenuation
 - ▶ "Enhanced disclosure measures" to be implemented alerting home buyers and renters to proximity of airport
 - ▶ "Overflight zone" signs to be installed in area
- ▶ *City of Chico General Plan*
 - ▶ Policies include to "safeguard ... Airport and its environs from intrusion by uses that could limit expansion of air services to meet future aviation needs"
 - ▶ Also, city policy to "prevent development in the Airport environs that will pose hazards to aviation ..."
 - ▶ FAR Part 150 Program to be adopted/implemented
 - ▶ Airport Environs Overlay Zoning to be adopted consistent with an updated Airport Environs Plan
 - ▶ Notice of aircraft overflight to be recorded as condition for development or subdivision near airport
 - ▶ Single-family residential normally acceptable up to 60 dB CNEL
- ▶ *Other Chico City Policies*
 - ▶ Airport height limit zoning adopted (needs updating)

Source: Data Compiled by Shutt Moen Associates (January 2000)

Exhibit 4I

**Airport Environs Information
Chico Municipal Airport**



LEGEND

General Plan Land Use Designations (Simplified)

- High-Density Residential (> 14.0 d.u./ac.)
- Medium-High-Density Residential (8.1-14.0 d.u./ac.)
- Medium-Density Residential (5.1-8.0 d.u./ac.)
- Low-Density Residential (1.0-5.0 d.u./ac.)
- Mobile Home Park
- High-Intensity Commercial/Office
- Low-Intensity Commercial/Office
- Office/Business Park
- Light Industrial/Warehousing
- Mixed Use
- Airport
- School
- Other Public/Institutional
- Parks & Recreation
- Rural Residential (2.0-10.0 ac. parcels)
- Agriculture/Foothill Residential (1.0-40.0 ac. parcels, depending on zoning as shown)

Minimum Parcel Sizes:

- 160 acres: A-160
 - 40 acres: A-40, FR-40
 - 20 acres: A-20, FR-20
 - 10 acres: FR-10
 - 5 acres: A-5
 - 1-4 acres: RT-1A, SR-1, SR-3, SR-5,
 - 0.15 acre (6500 sq. ft.): R-1, R-2, R-3
- Variable:*
(no minimum lot size)
C-1, M-1, M-1-OS, OS, OS-PD, P-Q, SR-1-OS, SR-1-PD, U, BP, PUD, LI

- Open Space/Woodlands/Grazing
- Water

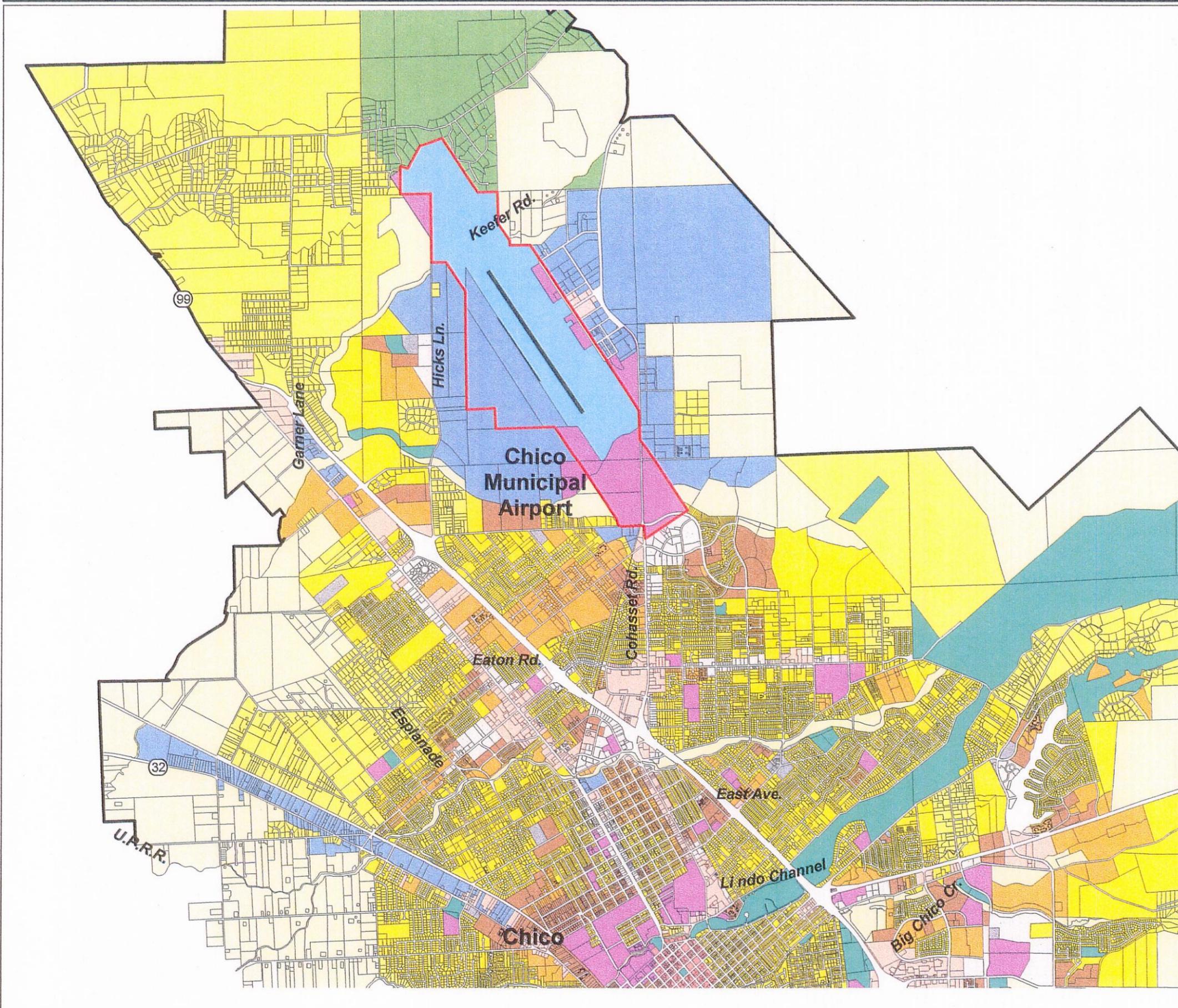
Boundary Lines

- Airport Influence Area
- Airport Property
- Chico City Limits
- Chico Sphere of Influence



4000 0 4000 Feet

Source: Summarized from Butte County General Plan map by Shutt Moen Associates (January 2000)



LEGEND

General Plan Land Use Designations (Simplified)

- High-Density Residential (>14.0 d.u./ac.)
- Medium-High-Density Residential (8.1-14.0 d.u./ac.)
- Medium-Density Residential (5.1-8.0 d.u./ac.)
- Low-Density Residential (1.0-5.0 d.u./ac.)
- Mobile Home Park
- High-Intensity Commercial/Office
- Low-Intensity Commercial/Office
- Office/Business Park
- Light Industrial/Warehousing
- Mixed Use
- Airport
- School
- Other Public/Institutional
- Parks & Recreation
- Rural Residential (2.0-10.0 ac. parcels)
- Agriculture/Foothill Residential
- Open Space/Woodlands/Grazing

Boundary Lines

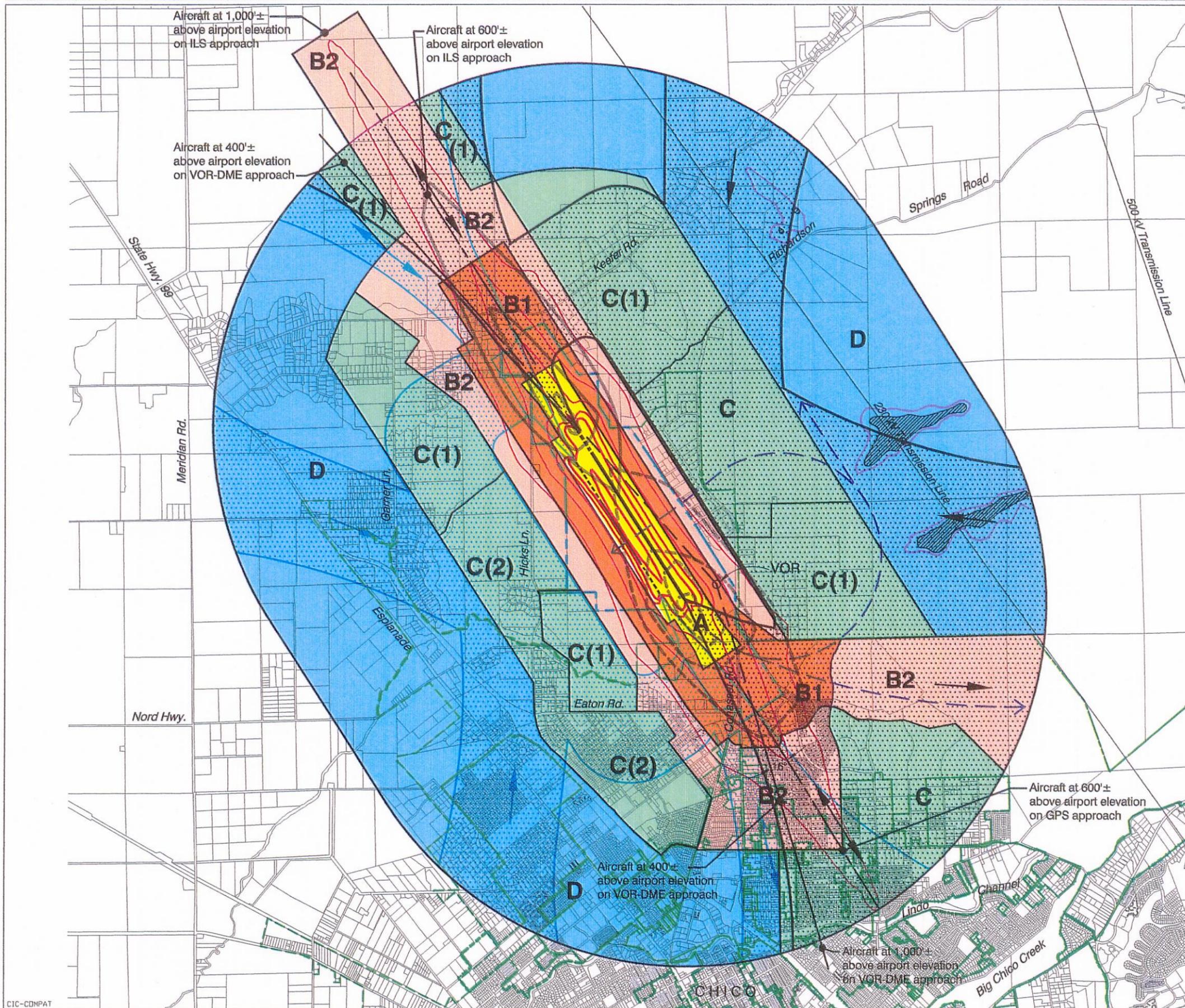
- Airport Property
- Chico Planning Area Boundary



Source: Summarized from City of Chico General Plan map by Shutt Moen Associates (January 2000)

Exhibit 4K

**Planned Airport Vicinity Land Uses
City Jurisdiction
Chico Municipal Airport**



Legend

Compatibility Zones

- Airport Influence Area Boundary
- Zone A
- Zone B1
- Zone B2
- Zone C
- Zone D
- Height Review Overlay Zone

Noise and Overflight Compatibility Factors

- 75 dB CNEL
- 70 dB CNEL
- 65 dB CNEL
- 60 dB CNEL
- 55 dB CNEL

Expanded Forecast

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

Fire Attack Aircraft Departure Routes

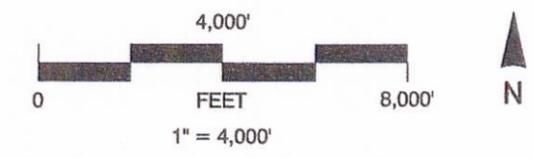
Safety and Airspace Compatibility Factors

- Aircraft Departure Accident Risk Intensity Contours* (Shown for Takeoffs to the South)
- Aircraft Approach Accident Risk Intensity Contours* (Shown for Landings from the North)
- FAR Part 77 Conical Surface Limits (Same as Airport Influence Area except north extension)
- FAR Part 77 Surface Penetrations

Boundary Lines

- Airport Property Line
- Chico City Limits
- Chico Sphere of Influence

* Aircraft accident risk intensity contours are derived from accident location data in Caltrans Aeronautics Program database. The contours represent relative intensities (highest concentrations) of near-airport accidents in 20% increments.



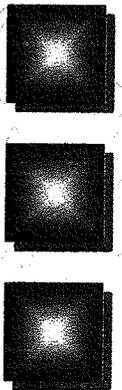
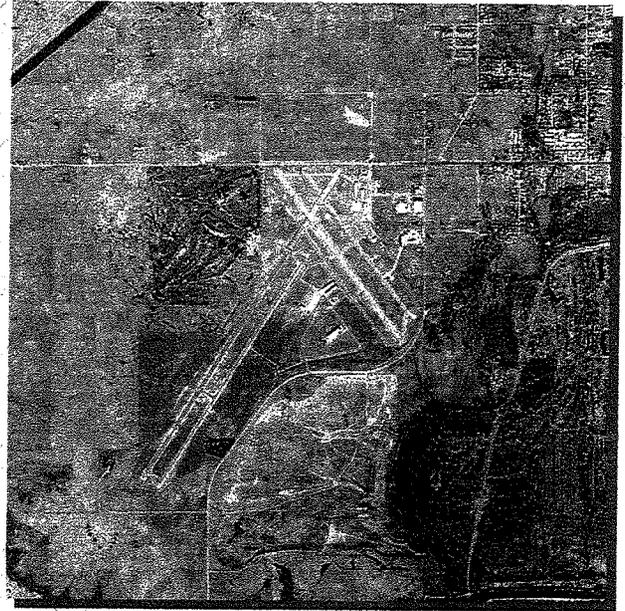
Source: Shutt Moen Associates (December 2000)

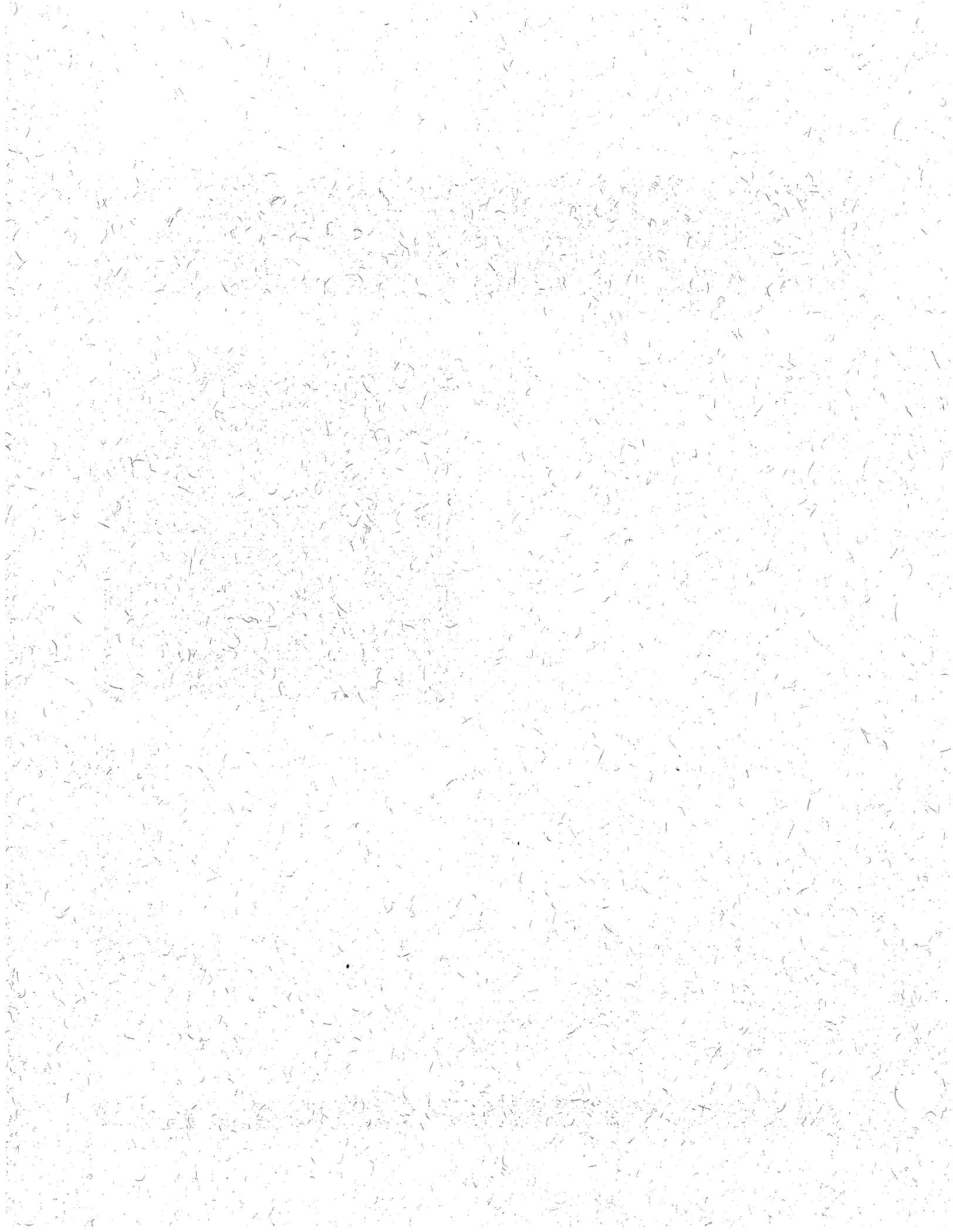
Exhibit 4L

Compatibility Factors Map
Chico Municipal Airport

Background Data:
Oroville Municipal Airport

5





5

Background Data: Oroville Municipal Airport

INTRODUCTION

Oroville Municipal Airport is situated within an extension of the Oroville city limits some 2.5 miles west of the remainder of the city. Although the city's sphere of influence extends a mile west of the airport, only the airport property and some private land to the north and west are currently within the city boundary. The surrounding unincorporated area includes the community of Thermalito situated northeast of the airport. To the southwest and southeast, lie state-owned water project and wildlife refuge lands.

An airport has existed on the present site since 1936 when the City of Oroville acquired the original 188 acres. During World War II, the U.S. Army took temporary control of the airport. The Army made various improvements including establishing the basic runway configuration which remains today. The facility reverted to the city in 1947. In the subsequent half century of owning and operating the airport, the city has acquired additional land and made numerous improvements to the facilities. Among the many changes, the recent project which extended and shifted the primary runway to the southwest has been the most significant from an off-airport land use compatibility perspective. (Historical information from 1990 *Master Plan for Oroville Municipal Airport*.)

The airport's historically moderate activity levels, together with the extensive agricultural and open space lands in the surrounding area, have kept compatibility conflicts to a minimum. The light industrial development planned adjacent to the airport is also potentially suitable from a compatibility standpoint. More intensive residential development within the southwestern area of Thermalito presents the major future compatibility concern, although the recent runway modification somewhat diminishes the potential for conflicts. Anticipated growth in airport activity also must be accounted for in long-range compatibility planning for the airport environs.

GENERAL INFORMATION

- *Airport Ownership* — City of Oroville
- *Property Size*
 - Fee title: 795 acres
 - Avigation easements: Data unavailable
- *Airport Classification* — General aviation, regional use
- *Airport Elevation* — 190 feet MSL
- *Access*
 - Via Oroville Dam Blvd. (State Rte 162), 4 miles west of central Oroville
 - Northeast aviation area access via Chuck Yeager Way

BUILDING AREA

- *Location* — Most facilities northeast of Rwy 12-30; additional based aircraft parking in south quadrant
- *Aircraft Parking Capacity*
 - Hangar spaces for 45± aircraft
 - Tiedowns for 120± aircraft (based & transient)
- *Other Major Facilities*
 - Partially developed industrial park on east and south
 - Table Mountain Golf Course on west side
- *Services* — Airport has one fixed base operator:
 - Aviation gasoline (attendant service, daytime, daily)
 - Aircraft rental; flight instruction; pilot supplies
 - Charter services
 - Aircraft repairs

RUNWAY/TAXIWAY DESIGN

Runway 1-19

- *Critical Aircraft* — Medium business jet
- *Classification* — Airport Reference Code C-III
- *Dimensions* — 6,000 ft. long, 100 feet wide
- *Pavement Strength* — 60,000 lbs. for aircraft with single-wheel main landing gear; 80,000 lbs. dual-wheel
- *Average Gradient* — 0.6% (rising to northeast)
- *Lighting* — Medium-intensity edge lights (pilot controlled)
- *Primary Taxiways* — Full-length parallel on southeast

Runway 12-30

- *Critical Aircraft* — Small, twin-engine propellor
- *Classification* — Airport Reference Code B-II
- *Dimensions* — 3,540 ft. long, 100 feet wide
- *Pavement Strength* — 25,000 lbs. for aircraft with single-wheel main landing gear
- *Average Gradient* — 0.4% (rising to northwest)
- *Lighting* — Nonstandard medium-intensity edge lights (pilot controlled)
- *Primary Taxiways* — Full-length parallel each side of runway

APPROACH PROTECTION

- *Runway Protection Zones*
 - Runway 1: 1,700 ft. long, all on airport property
 - Runway 19: 1,700 ft. long, all on airport property
 - Runway 12: 1,000 ft. long, all on airport property
 - Runway 30: 1,000 ft. long, 650 feet on airport
- *Approach Obstacles*
 - All runways: None

TRAFFIC PATTERNS AND APPROACH PROCEDURES

- *Airplane Traffic Pattern*
 - Left traffic all runways
 - Pattern altitude: 800 feet AGL
- *Instrument Approaches*
 - Rwy 1 GPS (nonprecision):
 - straight-in (1 mi. visibility, 375 ft. min. descent ht.)
 - missed approach turns west
 - circling (408 ft. min. descent height)
 - no circling northeast of Rwy 12-30
 - Rwy 1 VOR/GPS (nonprecision):
 - approach course from south (338°)
 - circling (1 mi. visibility, 428 ft. min. descent ht.)
- *Visual Navigational Aids*
 - Airport: Beacon
 - Runway 1: None
 - Runway 19: PAPI (3.0°)
 - Runway 12: VASI (3.0°)
 - Runway 30: VASI (3.0°)
- *Operational Restrictions* — None

AIRPORT PLANNING DOCUMENTS

- *Airport Master Plan*
 - Completed July 1990
- *Airport Layout Plan*
 - Approved by city, August 1992
 - Updated August 1999

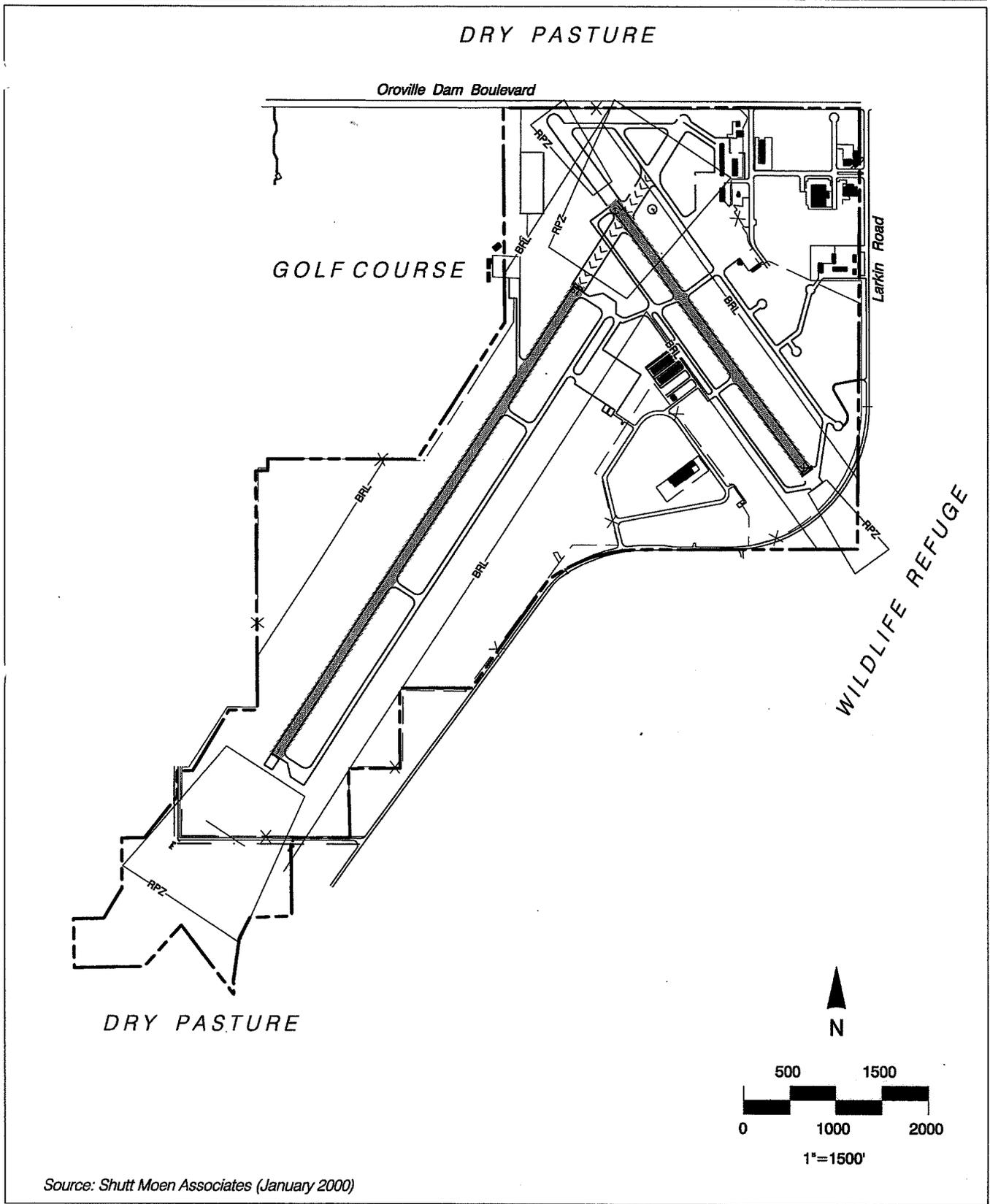
PROPOSED FACILITY IMPROVEMENTS

- *Airfield*
 - None
- *Building Area*
 - As needed, provide capacity for 200 based aircraft
 - Expand aviation commercial development
- *Approach Protection*
 - None

Source: Data Compiled by Shutt Moen Associates (January 2000)

Exhibit 5A

**Airport Features Information
Oroville Municipal Airport**

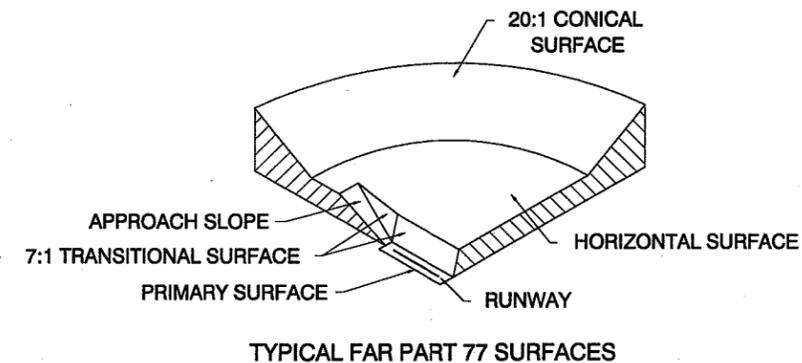
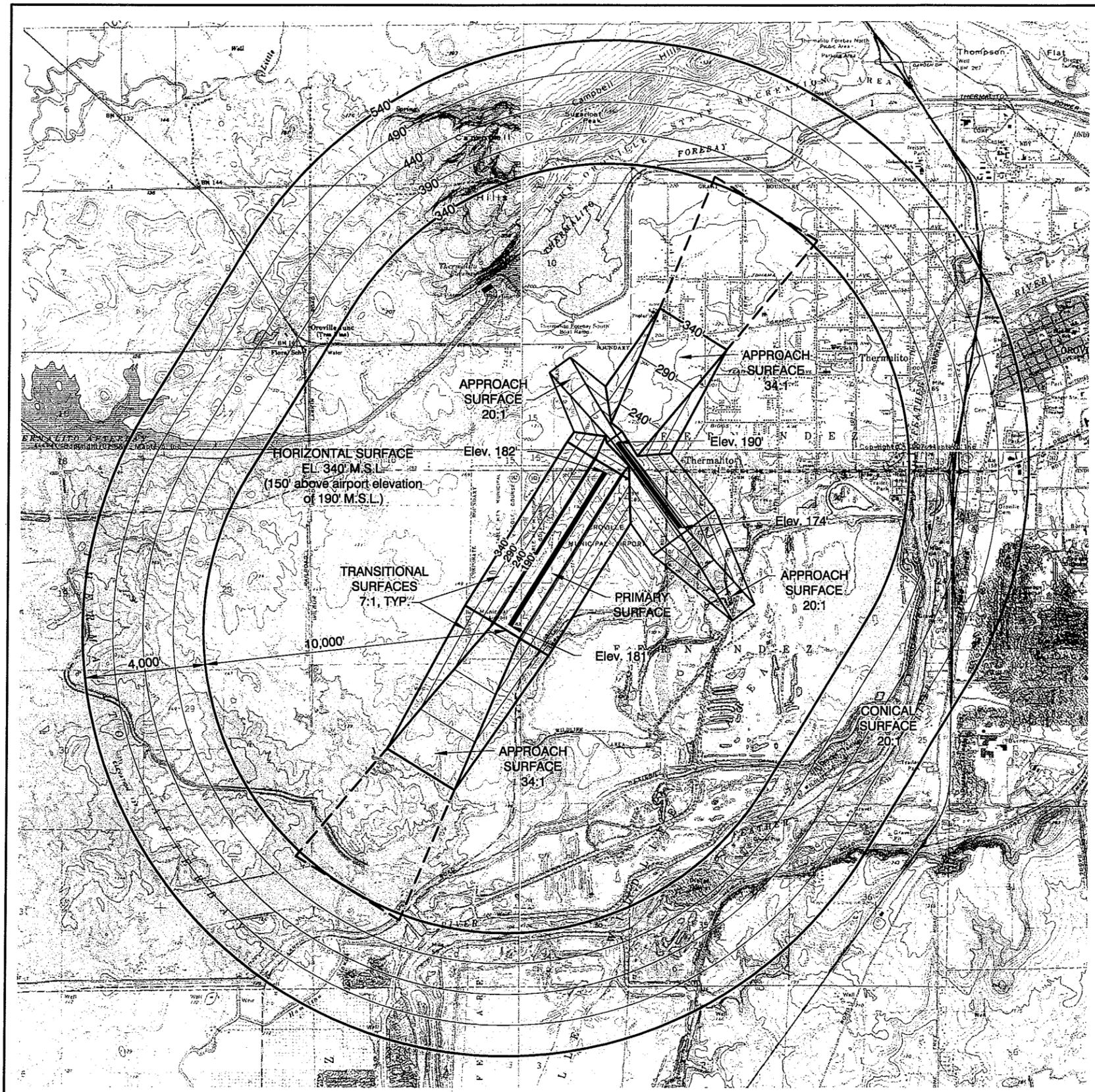


Source: Shutt Moen Associates (January 2000)

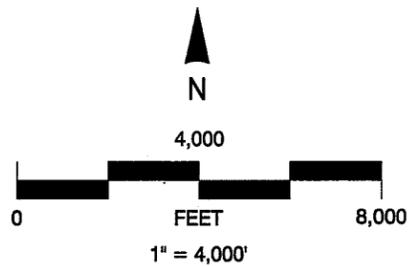
Exhibit 5B

Airport Layout Diagram
Oroville Municipal Airport

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TYPICAL FAR PART 77 SURFACES



Source: Shutt Moen Associates (January 2000)

Exhibit 5C

Airspace Plan
Oroville Municipal Airport

BASED AIRCRAFT

Aircraft Type	Current ^a	Future ^b
Single-Engine	62	data
Twin-Engine, Piston	3	not
Twin-Engine, Turboprop	0	available
Turbojet	0	
Helicopters	3	
Total	67	100

TIME OF DAY DISTRIBUTION ^d

	Current	Future
<i>Single-Engine Aircraft</i>		
Day	80%	no
Evening	18%	change
Night	2%	
<i>Twin-Engine Aircraft & Business Jet Aircraft</i>		
Day	90%	no
Evening	9%	change
Night	1%	

AIRCRAFT OPERATIONS

	Current	Future
<i>Total</i>		
Annual	36,500 ^c	72,000 ^b
Average Day	100	200
<i>Distribution by Aircraft Type ^d</i>		
Single-Engine	94%	91%
Twin-Engine Piston	5%	7%
Twin-Engine, Turboprop	<1%	1%
Business Jet	<1%	1%
Helicopter	<1%	<1%

RUNWAY USE DISTRIBUTION ^d

	Current	Future
<i>Single-Engine Aircraft</i>		
<i>Takeoffs & Landings</i>		
Runway 1	11%	
Runway 19	64%	no
Runway 12	21%	change
Runway 30	4%	
<i>Twin-Engine & Business Jet Aircraft</i>		
<i>Takeoffs & Landings</i>		
Runway 1	15%	no
Runway 19	85%	change

Distribution by Type of Operation ^e

Local	40%
(incl. touch-and-goes)	
Itinerant	60%

FLIGHT TRACK INFORMATION

➤ Left traffic on all runways

Notes:

- ^a Source: City and fixed base operator records
- ^b Source: Oroville Municipal Airport Master Plan (1990) forecast for 2010; (airport layout plan depicts potential capacity for >500 aircraft)
- ^c Source: FAA "Airport Master Record" (1997) estimate
- ^d Source: Oroville Municipal Airport Master Plan (1990)
- ^e Source: Shutt Moen Associates estimate based upon available data

Source: Data Compiled by Shutt Moen Associates (January 2000)

Exhibit 5D

Airport Activity Data
Oroville Municipal Airport

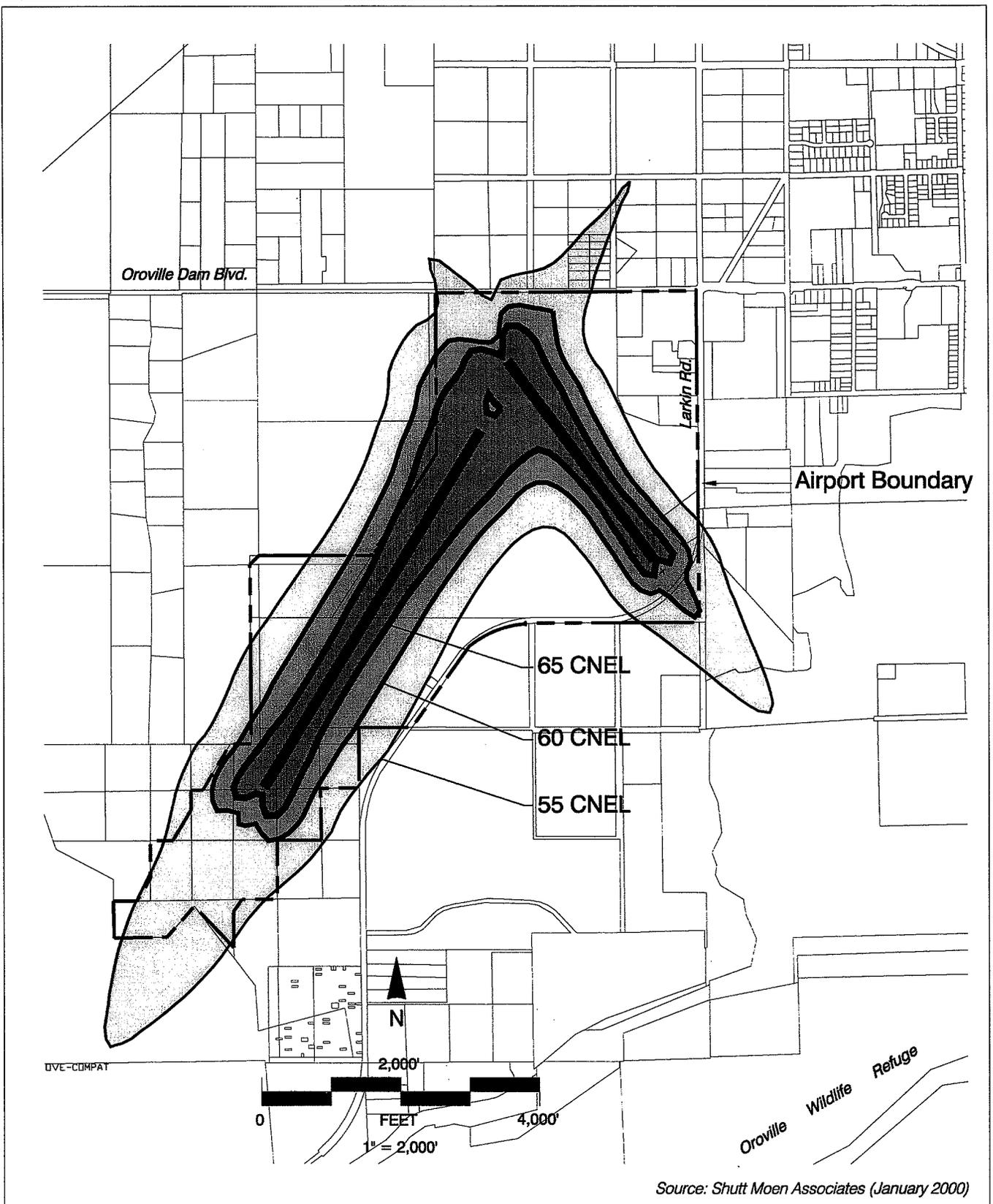


Exhibit 5E

Noise Impacts Oroville Municipal Airport

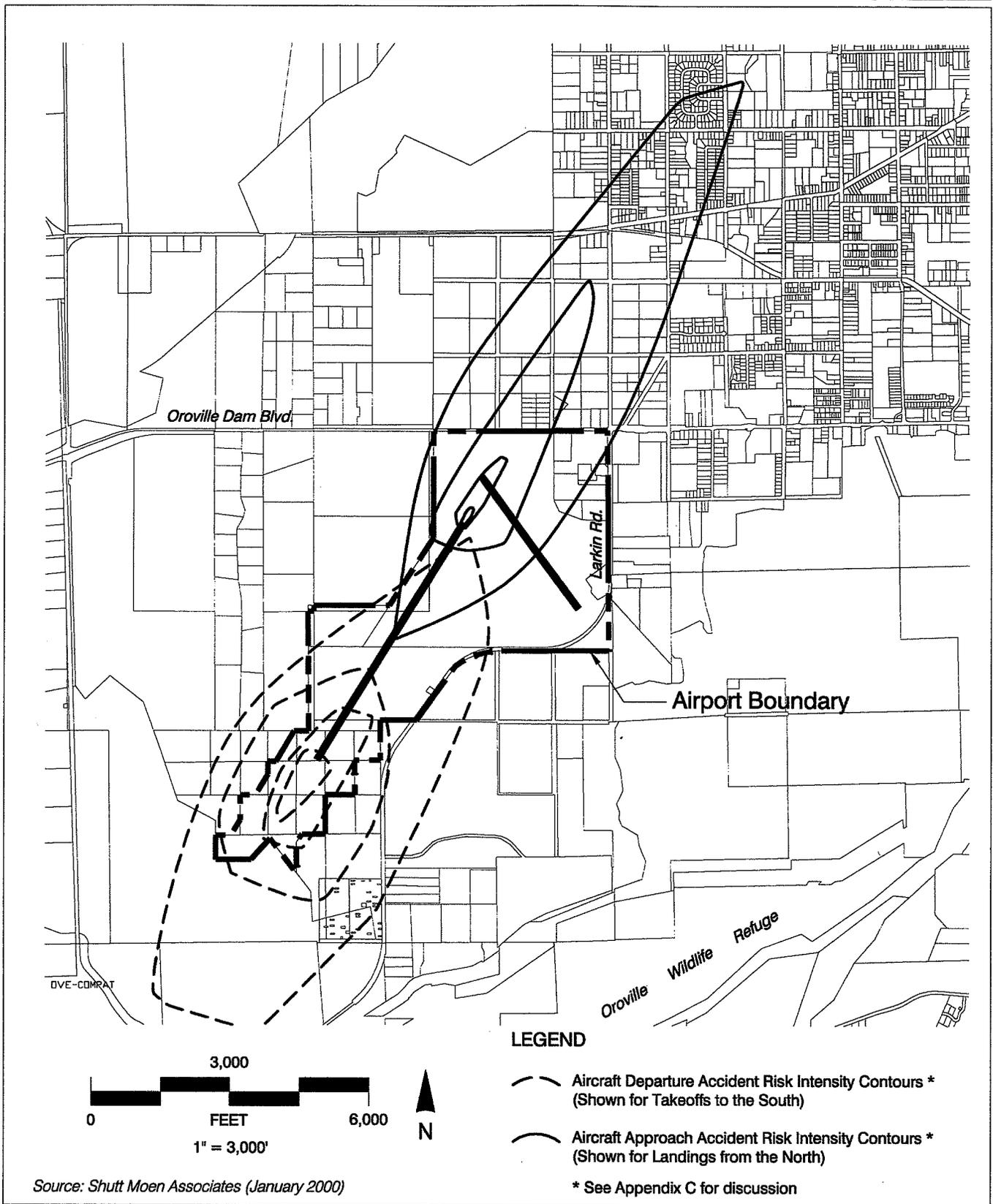


Exhibit 5F

Accident Risk Intensity Oroville Municipal Airport

AIRPORT LOCATION AND NEARBY TOPOGRAPHY

- *Location*
 - Southern Butte County
 - 3 miles west of central Oroville
- *Topography*
 - Situated at 200± foot elevation in gently rolling hills along eastern edge of Sacramento Valley
 - Rising terrain (elevations above 1,000 ft. MSL) 5± miles northeast
 - Thermalito Afterbay (part of state water system) immediately southwest of airport

AIRPORT ENVIRONS LAND USE JURISDICTIONS

- *County of Butte*
 - Most of surrounding area in unincorporated county jurisdiction, except north and northeast of airport
- *City of Oroville*
 - Airport property and inner portion of northeast approach within city limits
 - City sphere of influence covers entire airport environs; no near-term annexation planned
- *State of California*
 - Dept. of Water Resources controls State Water Project facilities including Thermalito Forebay and Afterbay
 - Dept. of Fish and Game governs Oroville Wildlife Refuge

EXISTING AIRPORT AREA LAND USES

- *General Character*
 - Sparsely populated except to northeast
 - Golf course in western quadrant of airport
- *Runway Approaches*
 - Northwest (Rwy 12): Open pasture; widespread residential
 - Northeast (Rwy 19): Mostly undeveloped, open pasture within 1 mi. of rwy end; suburban residential areas beyond
 - Southwest (Rwy 1): Thermalito Afterbay
 - Southeast (Rwy 30): Oroville Wildlife Refuge
- *Traffic Patterns*
 - Edge of Thermalito residential areas along left downwind for Rwy 12 and left base for Rwy 19
 - Minimal development elsewhere

STATUS OF COMMUNITY PLANS

- *Butte County General Plan*
 - Land Use element adopted 1979; Noise and Safety elements adopted 1977
- *City of Oroville General Plan*
 - Adopted October 1995
 - Establishes land use designations for lands within city sphere of influence, including airport vicinity
 - Includes airport compatibility policies in Circulation Element

PLANNED AIRPORT AREA LAND USES

- *County of Butte*
 - Additional low-density residential (up to 5 dwelling units per acre) planned in Thermalito community
 - Continued agricultural residential (5- or 10-acre minimum lot size) uses to west of airport
 - Other areas set aside for open space and/or recreational uses
- *City of Oroville*
 - Additional light industrial development planned for south and west sides of airport property and on private lands to north and northeast
 - Medium-density residential indicated along north and east edges of north-side industrial area and adjacent to golf course west of airport
 - Other planned uses same as county

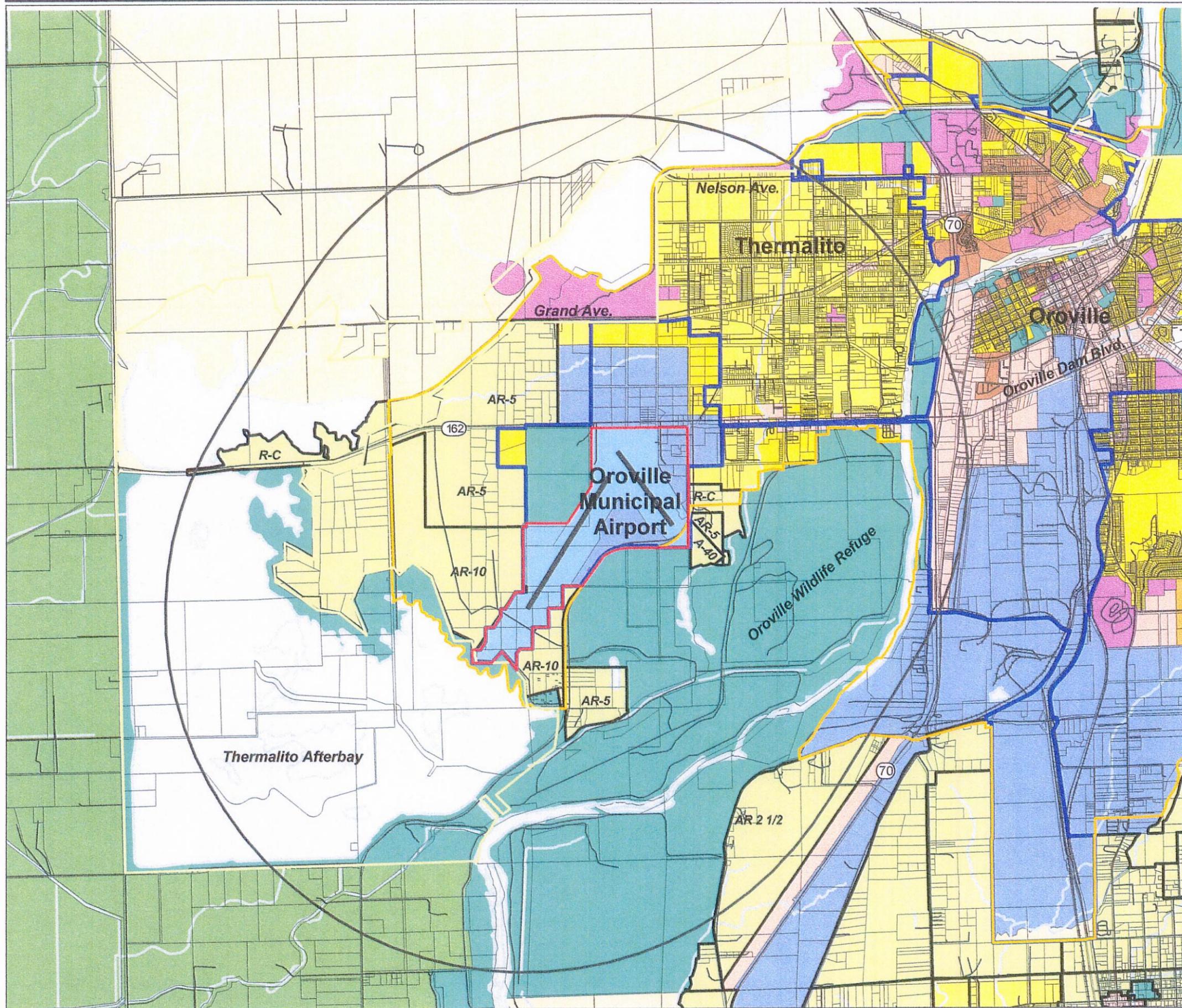
ESTABLISHED COMPATIBILITY MEASURES

- *Butte County Butte General Plan*
 - Circulation Element includes policy to "ensure that land uses in the vicinity of public airports are compatible with respective airport land use plans"
 - Noise Element has policy to "discourage noise-sensitive activities near airports"
 - No airport-related height limit zoning adopted
- *City of Oroville General Plan*
 - Limit residential densities to 6 units per gross acre within overflight zone as defined in 1985 ALUC plan
 - Prohibit schools and other uses resulting in "large concentrations" of people in overflight zone (policy discusses, but does not set, criteria for "large concentrations" of people)
 - Restrict development within 55 dB CNEL contour
 - Require aviation easement dedication as condition for subdivision approval within overflight zone
 - No airport-related height limit zoning adopted

Source: Data Compiled by Shutt Moen Associates (January 2000)

Exhibit 5G

**Airport Environs Information
Oroville Municipal Airport**



LEGEND

General Plan Land Use Designations (Simplified)*

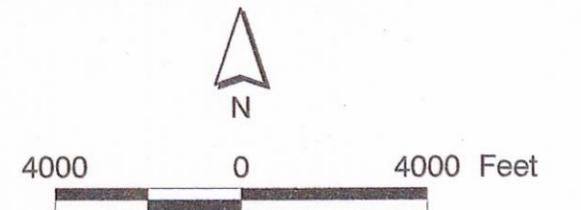
- High-Density Residential (> 14.0 d.u./ac.)
 - Medium-High-Density Residential (8.1-14.0 d.u./ac.)
 - Medium-Density Residential (5.1-8.0 d.u./ac.)
 - Low-Density Residential (1.0-5.0 d.u./ac.)
 - Mobile Home Park
 - High-Intensity Commercial/Office
 - Low-Intensity Commercial/Office
 - Office/Business Park
 - Light Industrial/Warehousing
 - Mixed Use
 - Airport
 - School
 - Other Public/Institutional
 - Parks & Recreation
 - Rural Residential (2.0-10.0 ac. parcels)
 - Agriculture/Foothill Residential (1.0-40.0 ac. parcels, depending on zoning as shown)
- Maximum Parcel Sizes:*
 40 acres: A-40
 10 acres: R-C, AR-10
 5 acres: AR-5
 1-4 acres: AR-2.5

- Open Space/Woodlands/Grazing
- Water

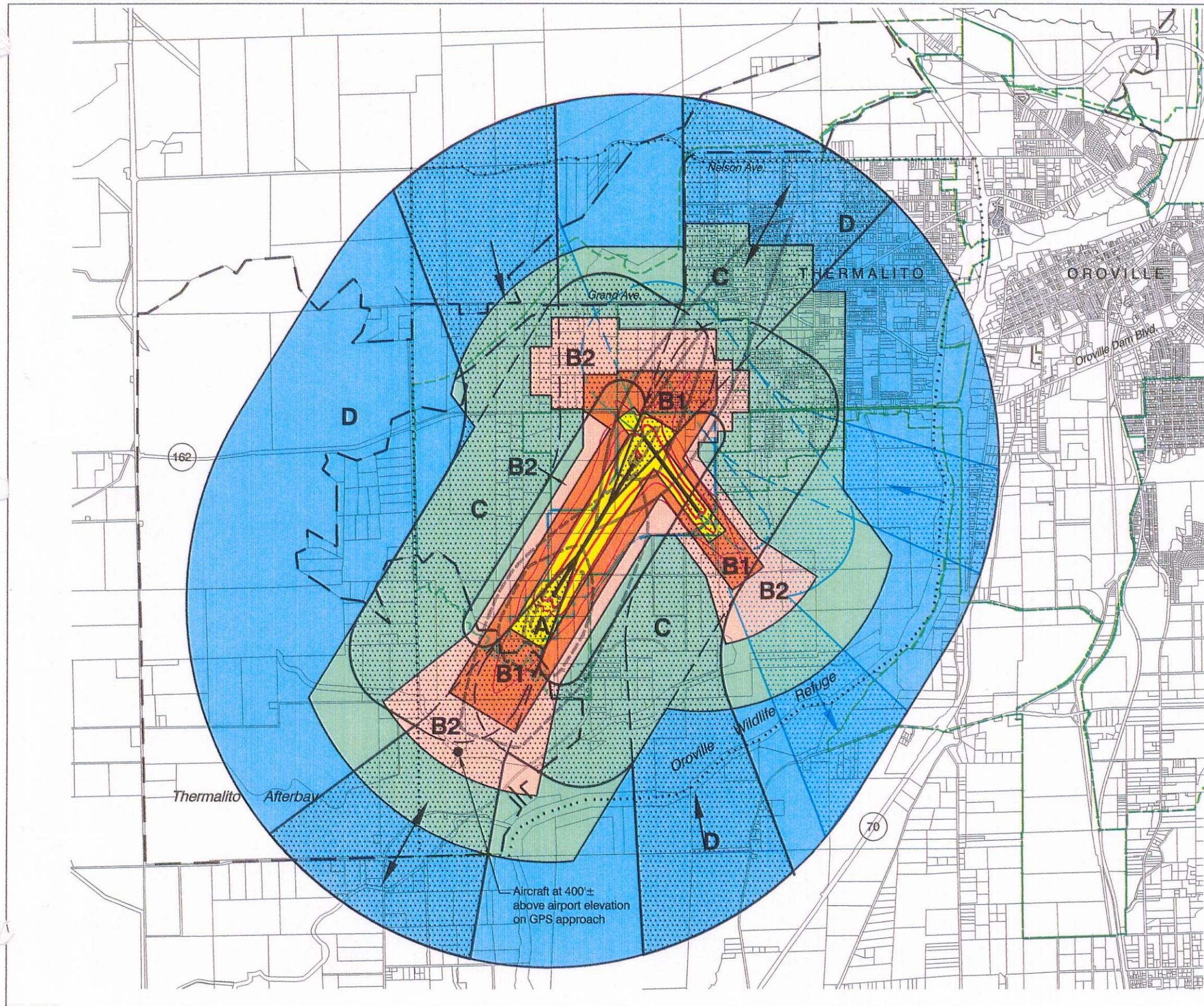
Boundary Lines

- Airport Influence Area
- Airport Property
- Oroville City Limits
- Oroville Sphere of Influence
- State Lands

* County designations shown except within city limits.



Source: Summarized from Butte County and City of Oroville General Plan maps by Shutt Moen Associates (January 2000)



Legend

Compatibility Zones

- Airport Influence Area Boundary
- Zone A
- Zone B1
- Zone B2
- Zone C
- Zone D

Noise and Overflight Compatibility Factors

- 65 dB CNEL
- 60 dB CNEL
- 55 dB CNEL

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

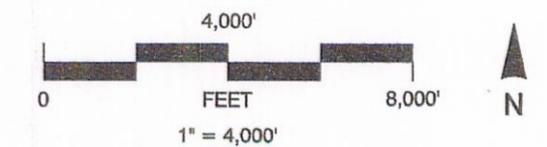
Safety and Airspace Compatibility Factors

- Aircraft Departure Accident Risk Intensity Contours* (Shown for Takeoffs to the South)
- Aircraft Approach Accident Risk Intensity Contours* (Shown for Landings from the North)
- FAR Part 77 Conical Surface Limits (same as Airport Influence Area)
- No FAR Part 77 Surface Penetrations

Boundary Lines

- Airport Property Line
- Oroville City Limits
- Oroville Sphere of Influence
- State Lands
- Existing Airport Influence Area (adopted 1997)

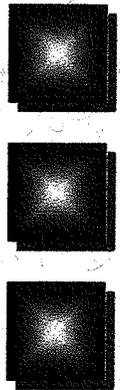
* Aircraft accident risk intensity contours are derived from accident location data in Caltrans Aeronautics Program database. The contours represent relative intensities (highest concentrations) of near-airport accidents in 20% increments.

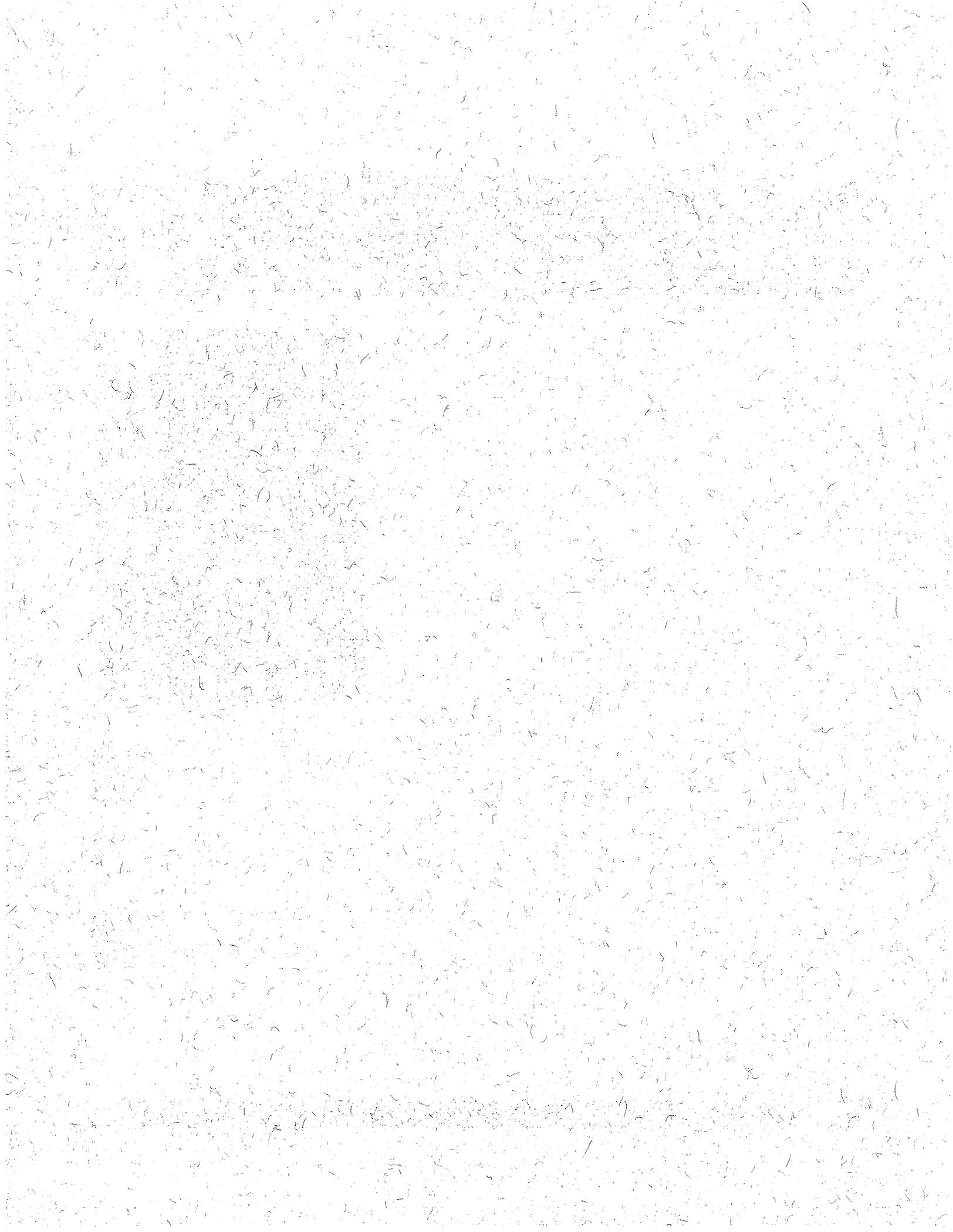


Source: Shutt Moen Associates (December 2000)

Background Data: Paradise Skypark Airport

6





6

Background Data: Paradise Skypark Airport

INTRODUCTION

Privately owned Paradise Skypark Airport fulfills a dual role of providing general aviation access to the community of Paradise and serving as a weather alternate when the larger airports in the valley below are enveloped in fog. These roles are made possible by the airport's location only three miles south of the Paradise town center and its elevation 1,300 feet above sea level. Additionally, the airport is an important regional base for skydiving activities.

Positioned along a narrow ridge and occupying only some 41 acres of property, Paradise Skypark Airport is both physically and operationally constrained. Current facilities consist of a 3,100-foot runway — rebuilt in 1999 — and parking space for some 50 aircraft. The runway slopes steeply upward to the north. As a result, nearly all aircraft land from and take off toward the south. Aircraft parking, arranged in a narrow band close to each side of the runway, is limited to no more than double the present capacity. The total number of aircraft operations also might ultimately double, but the runway length limits the types of aircraft using the airport to ones similar to those now operating there.

Land use compatibility has historically not been a significant issue at the airport. Except to the north, few homes are located in the airport vicinity. The steep, undulating terrain greatly limits the potential for nearby development, either residential or otherwise. The most likely locations for future development are north and northwest of the airport, within and adjacent to the Paradise town limits. The rarity of aircraft flights in this direction limits the compatibility concerns, although both noise and safety remain factors within a half mile or so of the runway's north end.

GENERAL INFORMATION

- *Airport Ownership* — Private
- *Property Size*
 - Fee title: 41 acres
 - Avigation easements: Data unavailable
- *Airport Classification* — Gen'l aviation, community use
- *Airport Elevation* — 1,344 feet MSL
- *Access*
 - Via Airport Road to northeast corner of airport
 - State Route 191 0.2 miles east

BUILDING AREA

- *Location* — Midfield, east and west sides of runway
- *Aircraft Parking Capacity*
 - Hangar spaces for 22± aircraft
 - Tiedown spaces for 30± aircraft (based & transient)
- *Services*
 - Aviation gasoline (attendant service, daytime, week-days)
 - Flight instruction; aircraft rental; pilot supplies
 - Major aircraft overhaul
 - Scenic flights; skydiving school

RUNWAY/TAXIWAY DESIGN

Runway 17-35

- *Critical Aircraft* — Light, twin-engine propeller
- *Classification* — Airport Reference Code B-I (small) (max. approach speed 121 kts; max. wingspan 49 ft.)
- *Dimensions* — 3,183 ft. long, 60 ft. wide; paved overrun beyond each end; Rwy 17 threshold displaced 415 ft.
- *Pavement Strength* — 4,000 lbs. for aircraft with single-wheel main gear
- *Average Gradient* — 2.1% (rising to north)
- *Lighting* — Low-intensity edge lights
- *Primary Taxiways*
 - Parallel taxiway along south ⅓ of runway length on east
 - Partial parallel midfield on west
 - Both parallel taxiways substandard distance from runway

APPROACH PROTECTION

- *Runway Protection Zones*
 - Runway 17: 1,000 ft. long (30% on airport property)
 - Runway 35: 1,000 ft. long (20% on airport property)
- *Approach Obstacles*
 - Runway 17: None
 - Runway 35: None

TRAFFIC PATTERNS AND APPROACH PROCEDURES

- *Airplane Traffic Pattern*
 - Left traffic Rwy 35; right traffic Rwy 17
 - Pattern altitude 800 feet AGL
 - Typical 15° right turn after takeoff to follow valley
- *Instrument Approaches*
 - None
- *Visual Navigational Aids*
 - Airport: None
 - Runway 17: None
 - Runway 35: Tri-color VASI
- *Operational Restrictions*
 - Runway slopes steeply upward to north; aircraft normally land Rwy 35, take off Rwy 17
 - Night landings not allowed on Rwy 17
 - Parachute drop zone north of runway

AIRPORT PLANNING DOCUMENTS

- *Airport Master Plan*
 - None
- *Airport Layout Plan*
 - Prepared January 2000

PROPOSED FACILITY IMPROVEMENTS

- *Airfield and Building Area*
 - Runway realignment, extension, widening, and lighting project completed in May 1999
 - Future hangar construction as needed
 - Ultimate aircraft parking capacity: 40± hangar spaces; 40± tiedowns

Source: Data Compiled by Shutt Moen Associates (January 2000)

Exhibit 6A

Airport Features Information
Paradise Skypark Airport

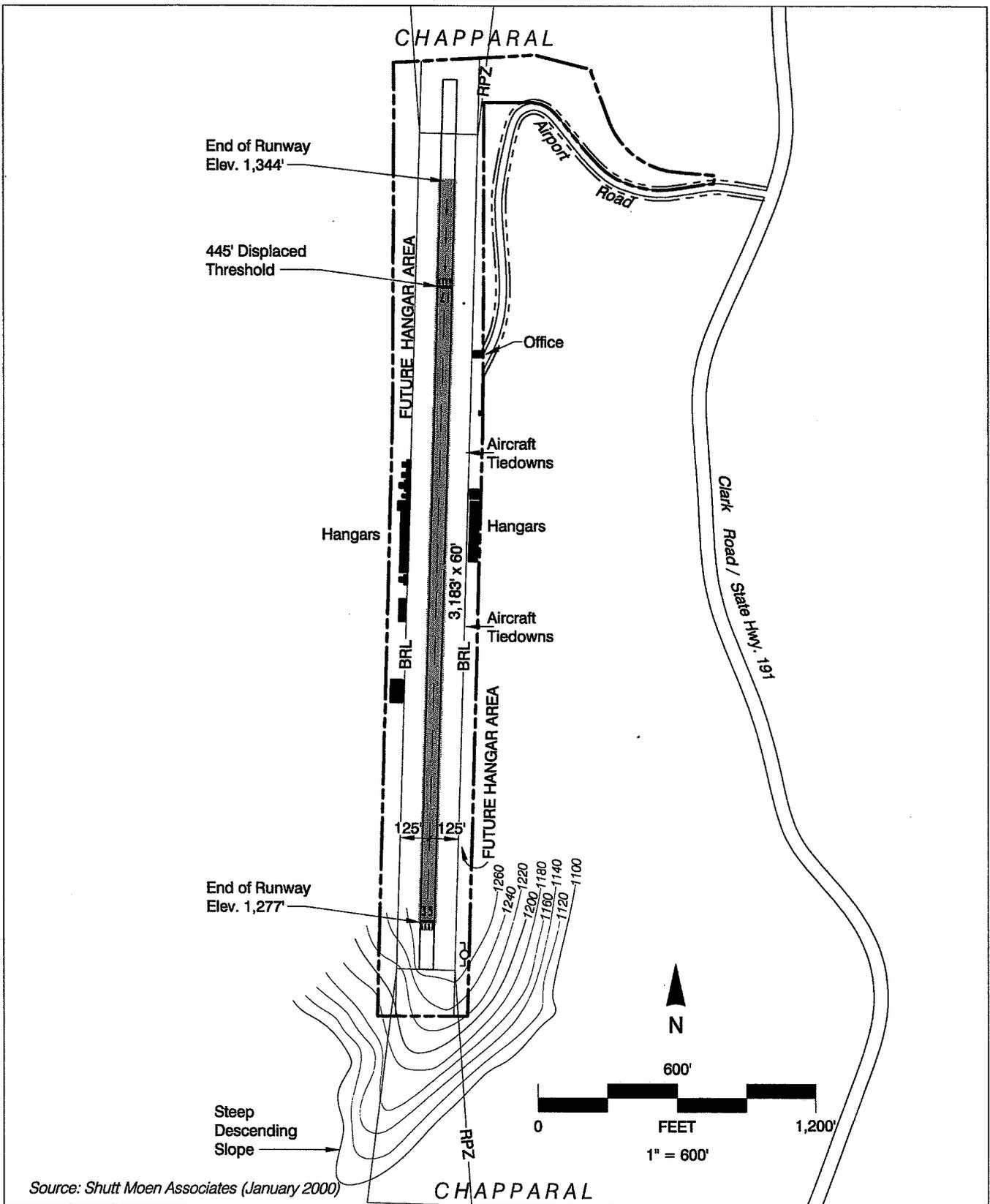
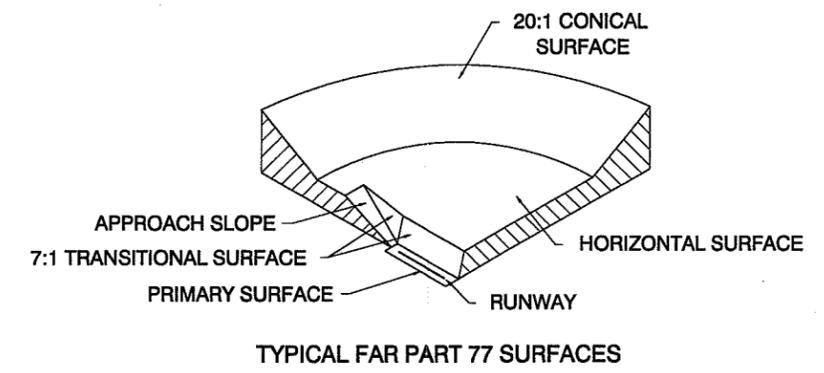
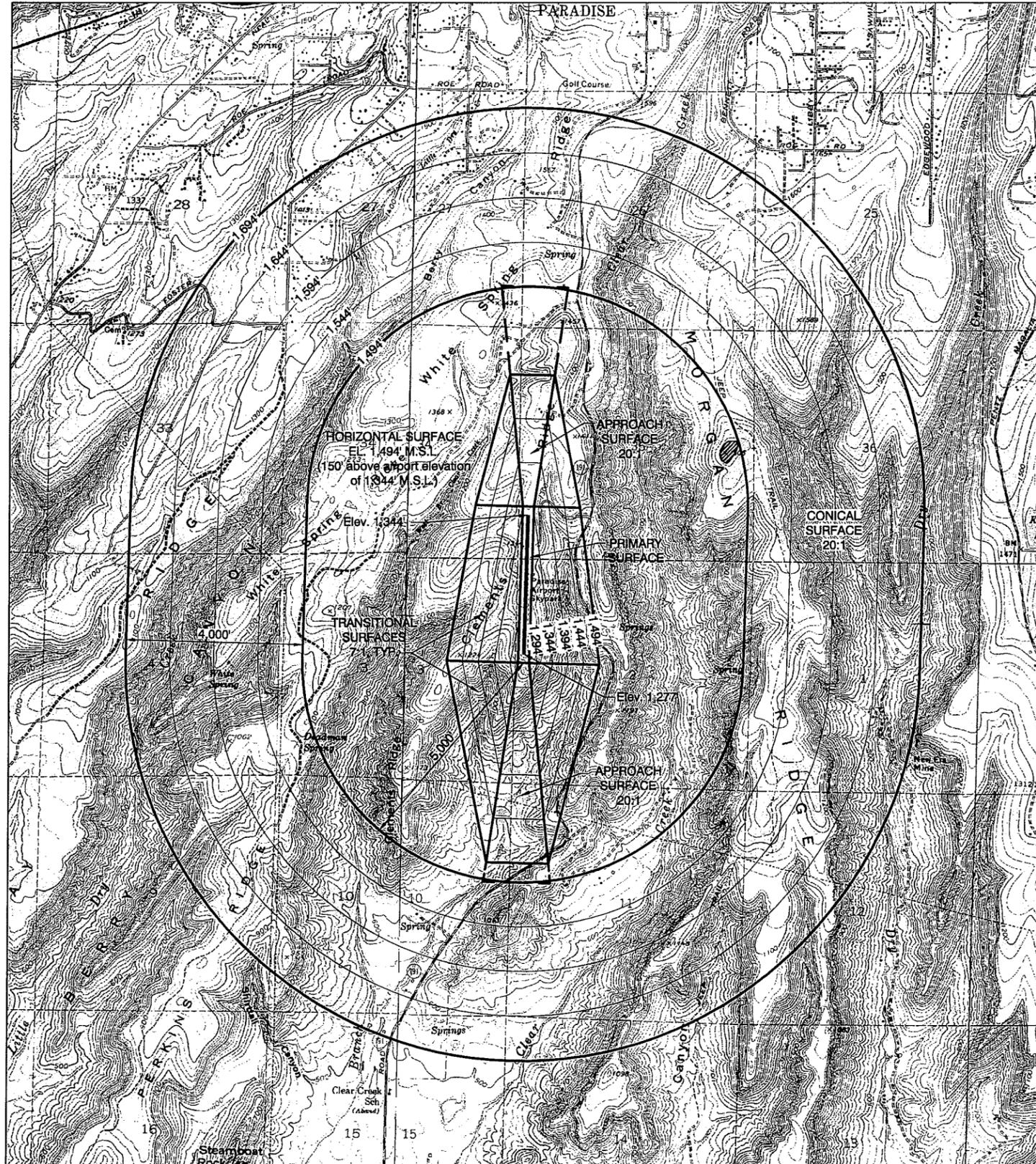


Exhibit 6B

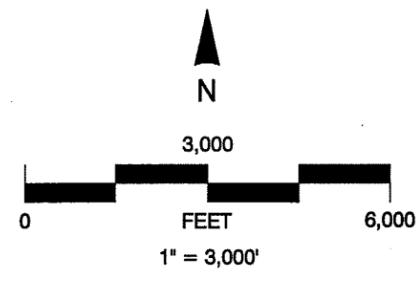
Airport Layout Diagram
Paradise Skypark Airport

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TYPICAL FAR PART 77 SURFACES

Terrain Penetration



Source: Shutt Moen Associates (January 2000)

Exhibit 6C

Airspace Plan
Paradise Skypark Airport

BASED AIRCRAFT

<i>Aircraft Type</i>	Current ^a	Future ^a
Single Engine	44	95
Multi Engine	1	5
Turboprop	0	0
Turbojet	0	0
Helicopters	0	0
Total	45	100

RUNWAY USE DISTRIBUTION

<i>All Aircraft</i>	Current ^a	Future ^a
Takeoffs		
Runway 17	100%	no change
Runway 35	<1%	change
Landings, Day		
Runway 17	2%	no change
Runway 35	98%	change
Landings, Night		
Runway 17	0%	no change
Runway 35	100%	change

AIRCRAFT OPERATIONS

<i>Total</i>	Current ^a	Future ^b
Annual	15,000	30,000
Average Day	41	82

Distribution by Aircraft Type

Single-Engine	97%	
Multi-Engine	3%	no change
Turboprop	<1%	change
Turbojet	0%	
Helicopter	<1%	

Distribution by Type of Operation

Local		
(incl. touch-and-goes) ^c	67%	no change
Itinerant	33%	change

FLIGHT TRACK INFORMATION

► Aircraft departing Rwy 17 normally make 15° right turn to follow valley

TIME OF DAY DISTRIBUTION

<i>All Aircraft</i>	Current ^a	Future ^a
Day (7 a.m. to 7 p.m.)	95%	no change
Evening (7 p.m. to 10 p.m.)	4%	change
Night (10 p.m. to 7 a.m.)	1%	

Notes

- ^a Source: Shutt Moen Associates estimates based upon data from airport manager
- ^b For compatibility planning purposes, future aircraft operations are assumed to be approximately twice the estimated existing activity levels
- ^c Infrequent touch-and-goes because of runway slope and threshold displacement

Source: Data Compiled by Shutt Moen Associates (January 2000)

Exhibit 6D

Airport Activity Data
Paradise Skypark Airport

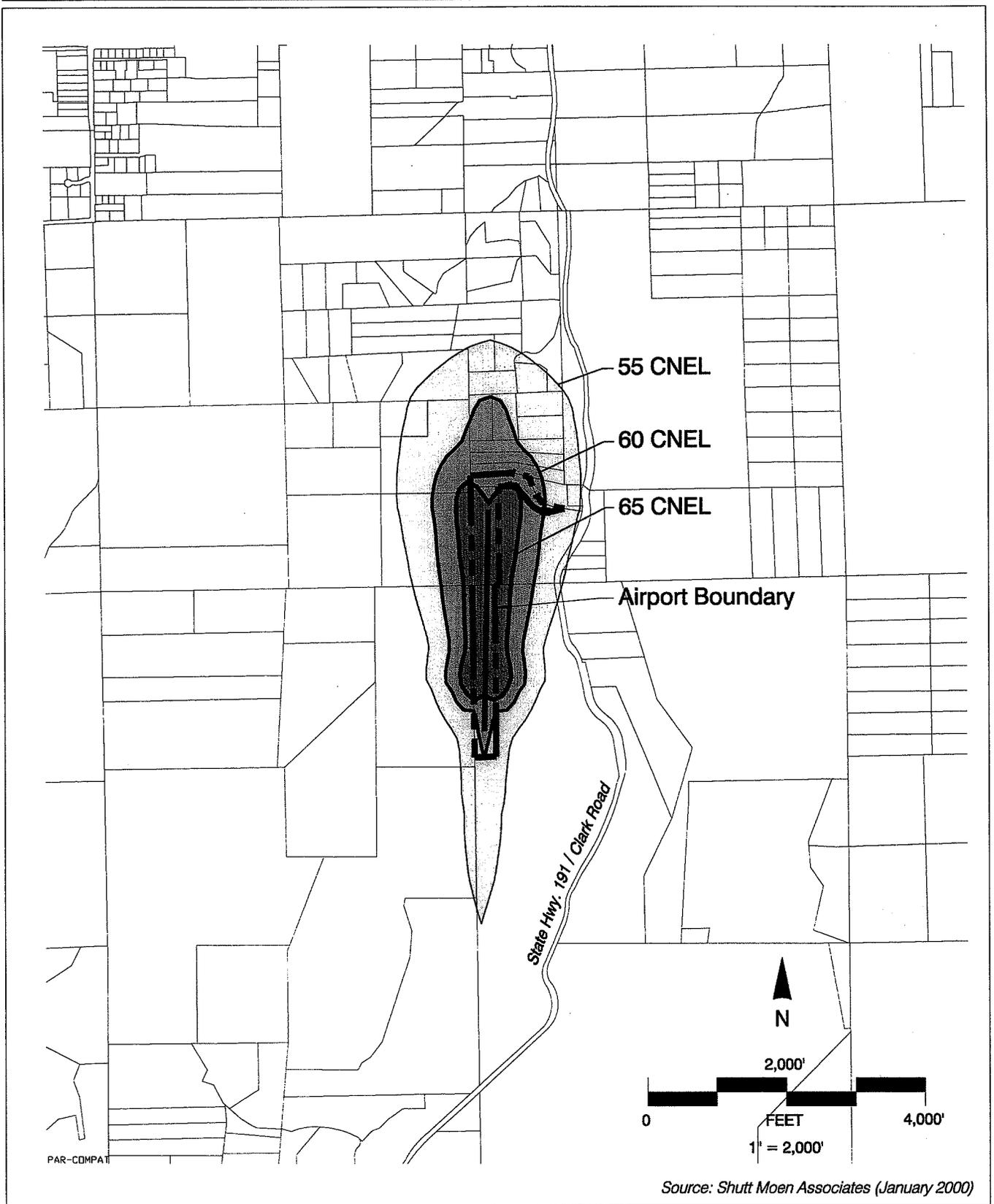


Exhibit 6E

Noise Impacts Paradise Skypark Airport

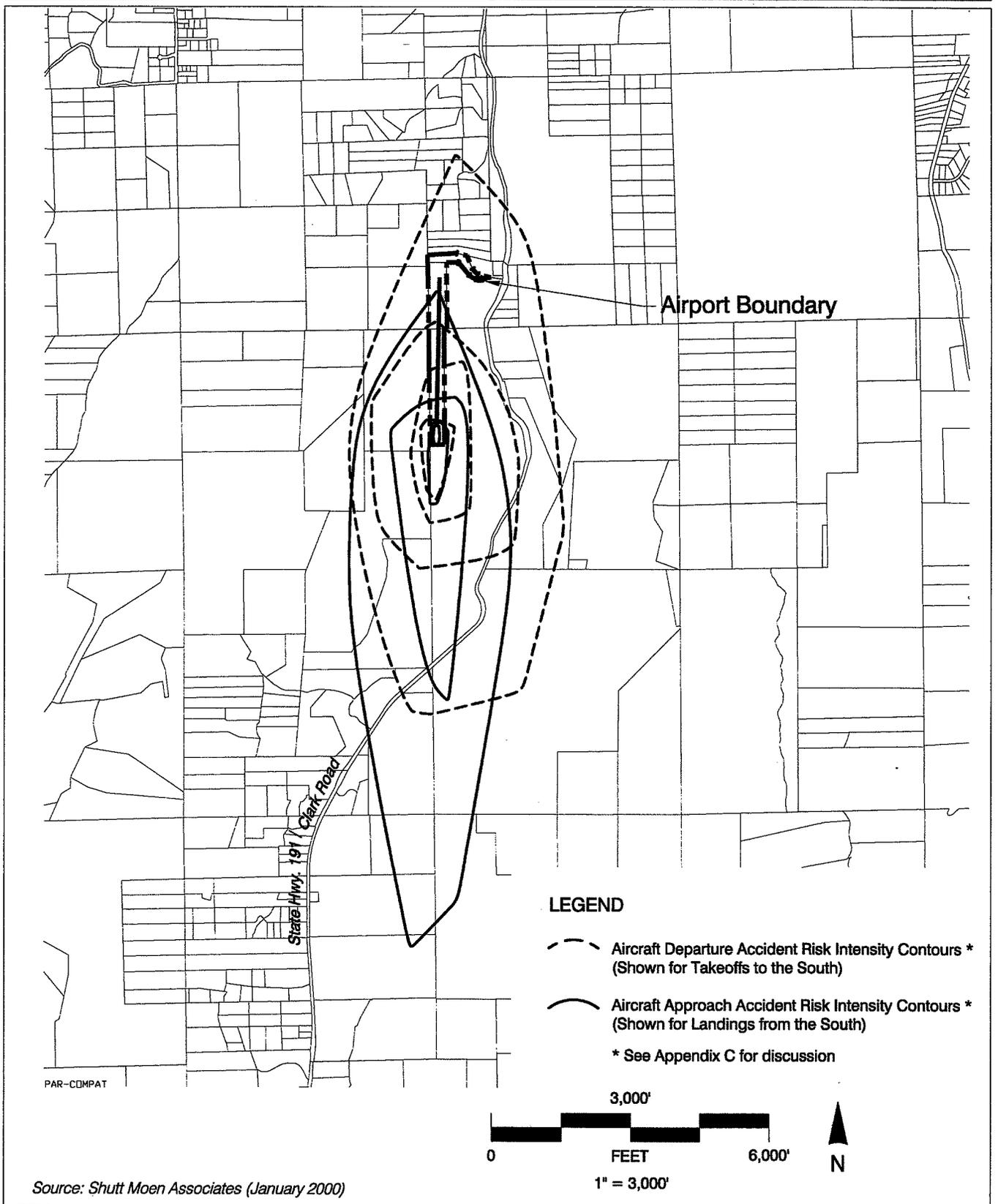


Exhibit 6F

Accident Risk Intensity
Paradise Skypark Airport

AIRPORT LOCATION AND NEARBY TOPOGRAPHY

- *Location*
 - Central Butte County
 - 3 miles south of central Paradise
- *Topography*
 - Airport situated at 1,300 feet elevation on ridge above eastern edge of Sacramento Valley
 - Slightly higher terrain along ridge to north; lower elevations elsewhere
 - Higher mountains 5± miles north and east

AIRPORT ENVIRONS LAND USE JURISDICTIONS

- *County of Butte*
 - Airport and immediate environs in unincorporated Butte County jurisdiction
- *Town of Paradise*
 - City limits under 1 mile north of airport
 - Airport within city sphere of influence

EXISTING AIRPORT AREA LAND USES

- *General Character*
 - Scrub on steeply sloping ridges and valleys
 - Sparsely populated except toward north
- *Runway Approaches*
 - North (Rwy 17): widely scattered dwellings along ridge
 - South (Rwy 35): steep slope; grazing land below
- *Traffic Pattern*
 - Steep terrain; sparsely populated grazing land

STATUS OF COMMUNITY PLANS

- *Butte County General Plan*
 - Land Use element adopted 1979; Noise and Safety elements adopted 1977
- *Town of Paradise General Plan*
 - Adopted 1994, amended 1998

PLANNED AIRPORT AREA LAND USES

- *County of Butte*
 - Forest residential zoning in all directions within a mile of airport
 - Minimum parcel sizes vary from 5 acres northeast of airport to 20 acres northwest and 40 acres on south and east
- *Town of Paradise*
 - Airport and adjacent area in city sphere of influence designated for open space/agricultural uses
 - Nearest areas in city limits planned for agricultural residential uses (minimum 1-acre parcels) with light industrial development along Hwy 191

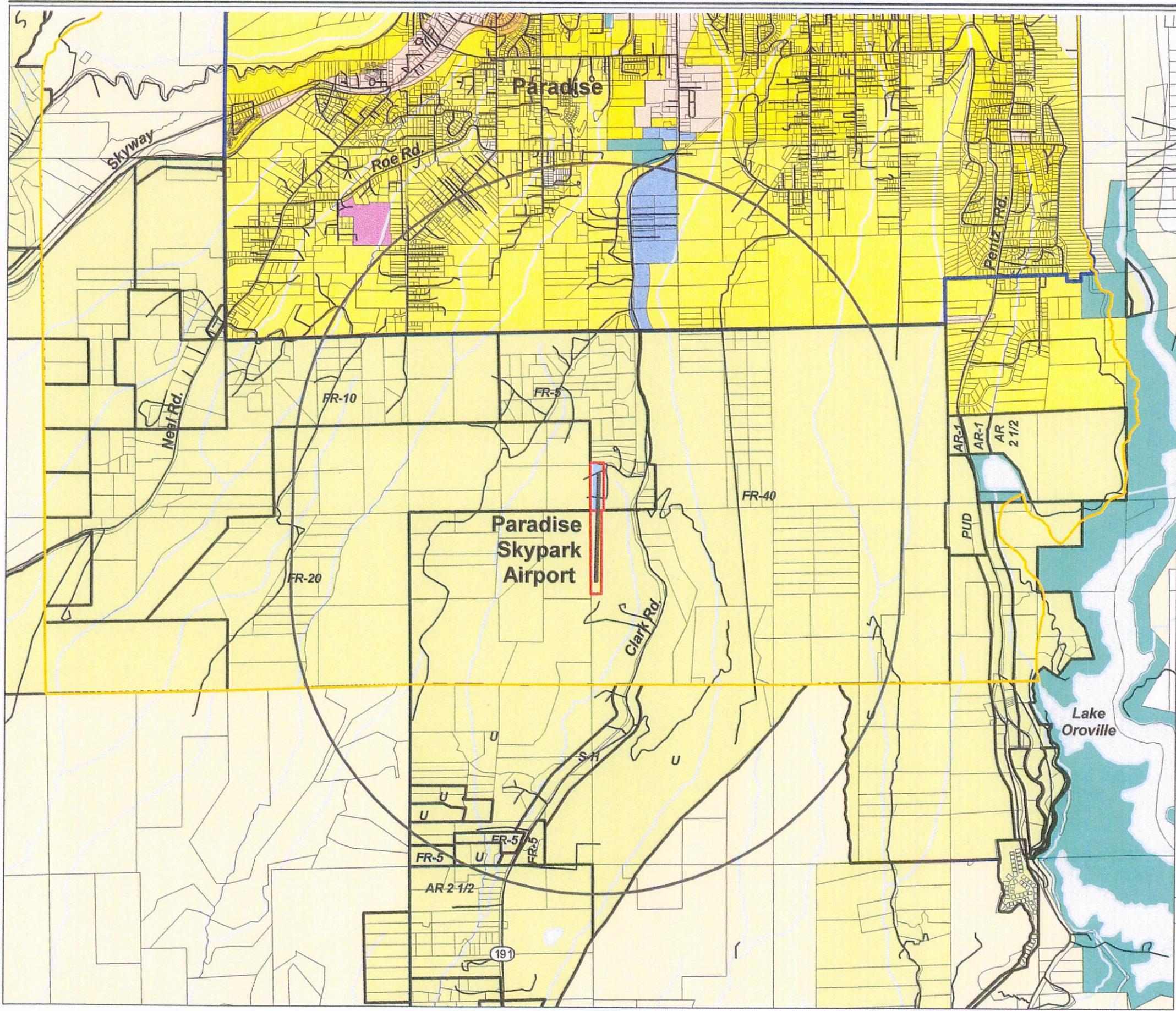
ESTABLISHED COMPATIBILITY MEASURES

- *County of Butte General Plan*
 - Circulation Element includes policy to “ensure that land uses in the vicinity of public airports are compatible with respective airport land use plans”
 - Also, private airstrips are to “be controlled to ensure that they are outside flight paths and from existing airports and that they do not provide a hazard or annoyance to neighboring areas”
 - Noise Element has policy to “discourage noise-sensitive activities near airports”
 - No airport-related height limit zoning adopted
- *Town of Paradise General Plan*
 - Policies allow only low-intensity industrial and other uses compatible with “FAA regulations” and ALUC plan adjacent to airport
 - Single-family residential and other noise-sensitive uses not permitted within 55-dB L_{dn} contour (shown on land use constraints diagram); multi-family residential permitted within 55-dB L_{dn} contour subject to acoustical analysis
 - ALUC plan for Skypark adopted by reference; all zoning, subdivision, and general plan amendments within airport influence area to be submitted to ALUC for review and approval (Safety Element)
 - No airport-related height limit zoning adopted

Source: Data Compiled by Shutt Moen Associates (January 2000)

Exhibit 6G

**Airport Environs Information
Paradise Skypark Airport**



LEGEND

General Plan Land Use Designations (Simplified)*

- High-Density Residential (>14.0 d.u./ac.)
- Medium-High-Density Residential (8.1-14.0 d.u./ac.)
- Medium-Density Residential (5.1-8.0 d.u./ac.)
- Low-Density Residential (1.0-5.0 d.u./ac.)
- Mobile Home Park
- High-Intensity Commercial/Office
- Low-Intensity Commercial/Office
- Office/Business Park
- Light Industrial/Warehousing
- Mixed Use
- Airport
- School
- Other Public/Institutional
- Parks & Recreation
- Rural Residential (2.0-10.0 ac. parcels)
- Agriculture/Foothill Residential (1.0-40.0 ac. parcels, depending on zoning as shown)

Maximum Parcel Sizes:

- 40 acres: FR-40
- 20 acres: FR-20
- 10 acres: FR-10
- 1-4 acres: AR-2.5, AR-1
- 0.15 acre: S-4

Variable:

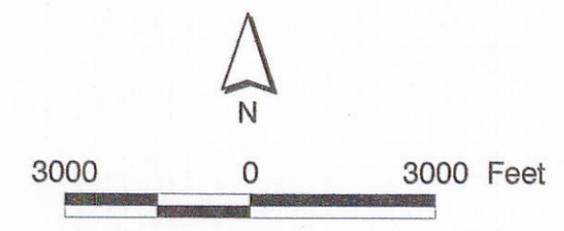
- U, PUD

- Open Space/Woodlands/Grazing
- Water

Boundary Lines

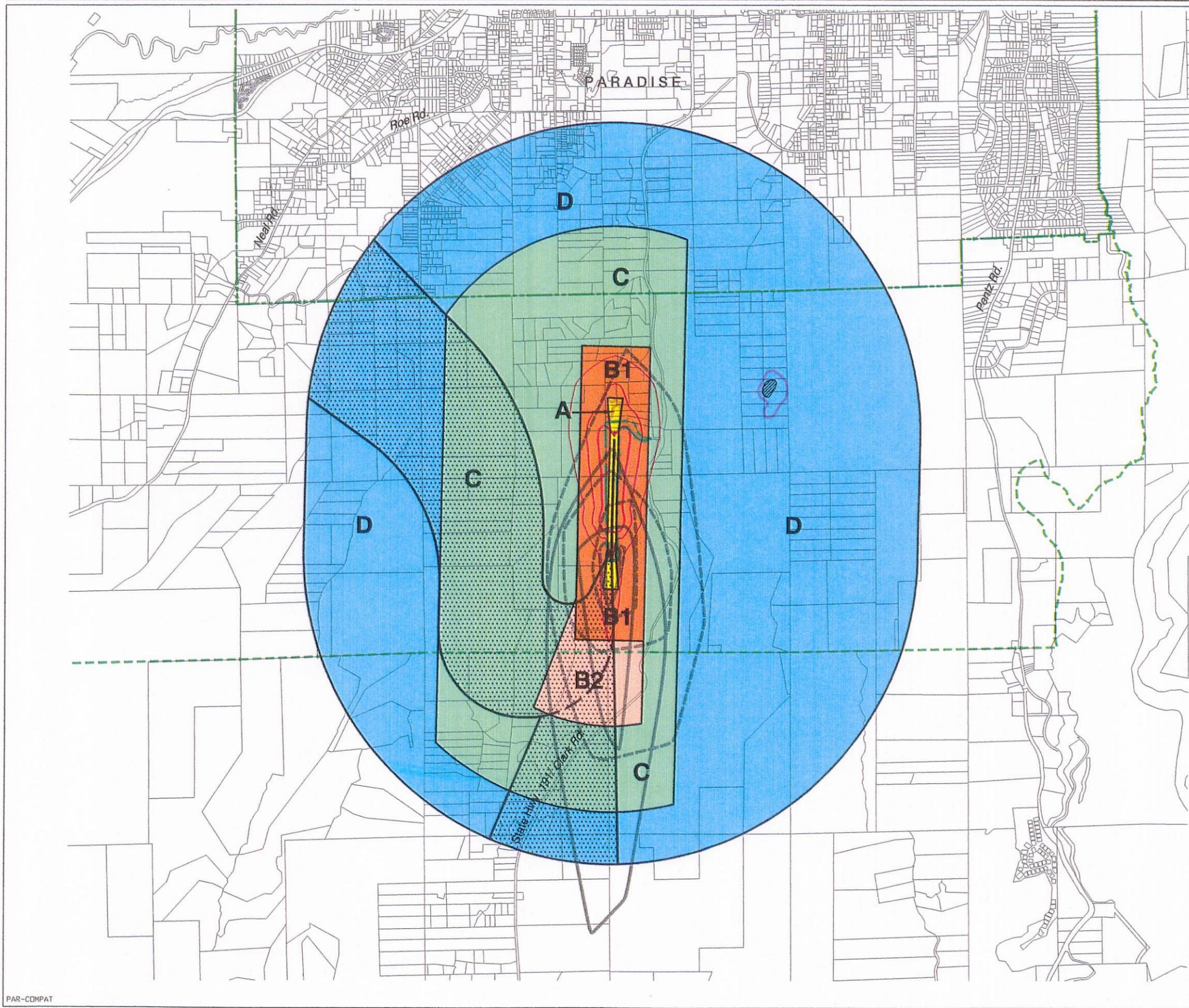
- Airport Influence Area
- Airport Property
- Paradise Town Limits
- Paradise Sphere of Influence

* County designations shown except within city limits.



Source: Summarized from Butte County and Town of Paradise General Plan maps by Shutt Moen Associates (January 2000)

Planned Airport Vicinity Land Uses
Paradise Skypark Airport



Legend

Compatibility Zones

- Airport Influence Area Boundary
- Zone A
- Zone B1
- Zone B2
- Zone C
- Zone D
- Height Review Overlay Zone

Noise and Overflight Compatibility Factors

- 65 dB CNEL
- 60 dB CNEL
- 55 dB CNEL

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

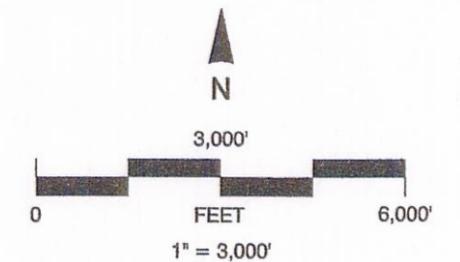
Safety and Airspace Compatibility Factors

- Aircraft Departure Accident Risk Intensity Contours* (Shown for Takeoffs to the South)
- Aircraft Approach Accident Risk Intensity Contours* (Shown for Landings from the South)
- FAR Part 77 Conical Surface Limits (Same as Airport Influence Area)
- FAR Part 77 Surface Penetrations

Boundary Lines

- Airport Property Line
- Paradise City Limits
- Paradise Sphere of Influence

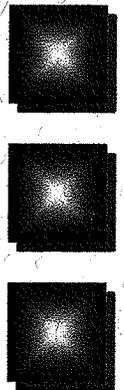
* Aircraft accident risk intensity contours are derived from accident location data in Caltrans Aeronautics Program database. The contours represent relative intensities (highest concentrations) of near-airport accidents in 20% increments.

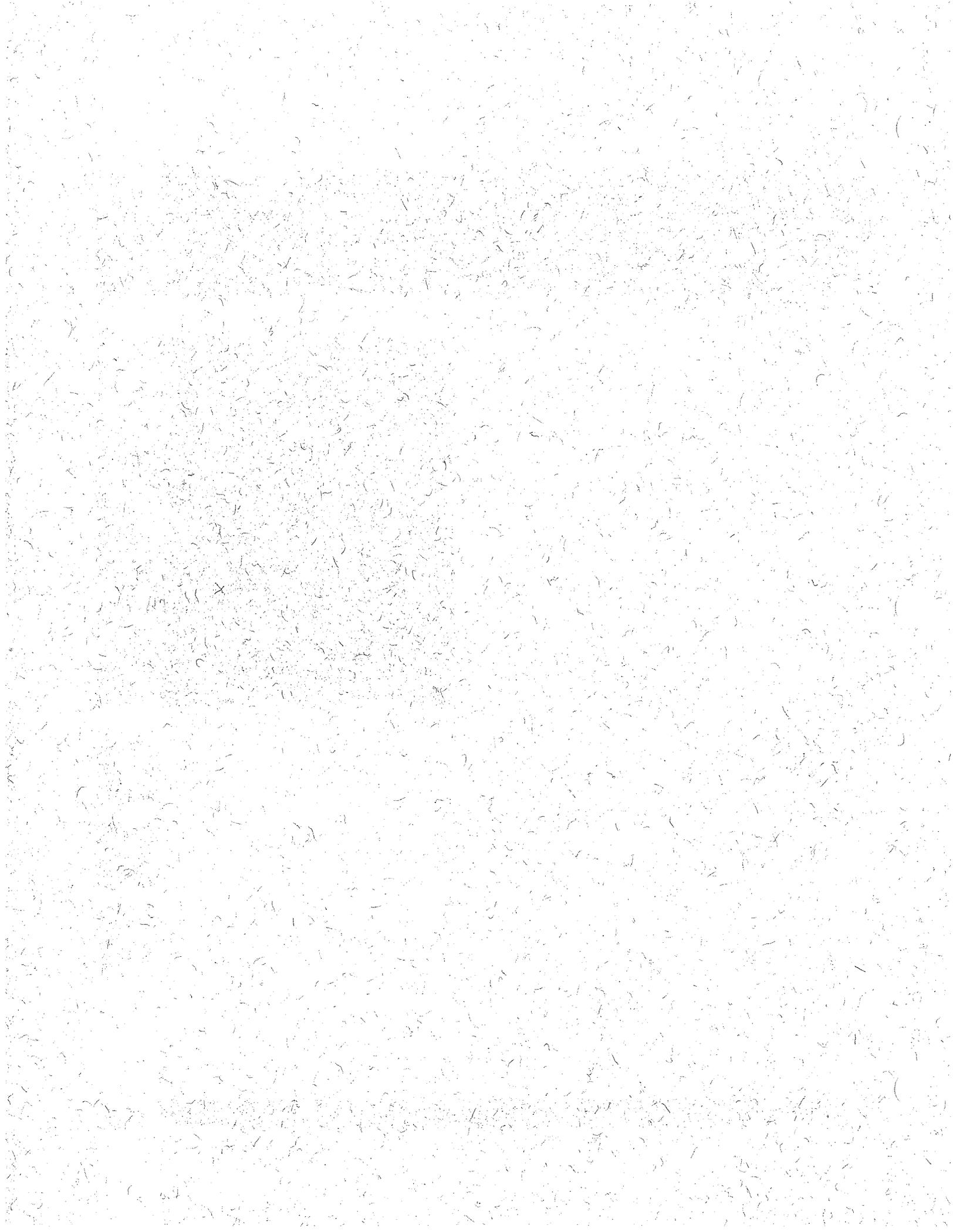


Source: Shutt Moen Associates (December 2000)

Background Data: Ranchaero Airport

7





7

Background Data: Ranchaero Airport

INTRODUCTION

Situated near the southwestern edge of the City of Chico, tiny Ranchaero Airport serves a combination of recreational, flight training, agricultural, and limited business functions. Current activity is estimated at only some 5,000 aircraft operations per year. The airport's short, 2,280-foot runway limits its use to single-engine airplanes and helicopters.

Modification to placement of the runway thresholds were made in 2000 along with various building area upgrades including new aircraft hangars. Overall, though, the basic configuration of this privately owned air strip has remained unchanged since its construction in 1946.

Historically, land use compatibility conflicts involving the airport have stemmed from two sources. The major issue arose because of the airport's lack of control over the runway protection zones. As a result, orchards were planted which became obstructions to the runway approaches. This situation now appears to be resolved with the airport's acquisition of easements over the inner parts of the runway protection zones. The second, continuing, conflict is presented by the subdivision north of the airport. To avoid overflight of the homes, most aircraft landing at the airport turn for final approach less than 1,000 feet from the runway end. Aircraft taking off toward the north also usually make a close-in turn. These procedures, together with the airport's low volume of activity, have minimized the problem.

For the future, no significant new compatibility issues are currently foreseeable. No major changes in the character of either the airport or the surrounding land uses are anticipated. The City of Chico urban development area boundary and the Butte County "green line" both preclude extension of urban uses into the agricultural lands west of the city.

GENERAL INFORMATION

- *Airport Ownership* — Private
- *Property Size*
 - Fee title: 23 acres
 - Object Free Area easements: 2.5± acres
 - Avigation easements: Data unavailable
- *Airport Classification* — Gen'l aviation, community use
- *Airport Elevation* — 173 feet MSL
- *Access*
 - via Oak Park Avenue (ends at north end of airport)
 - State Route 32 (1 mile east)

BUILDING AREA

- *Location* — Northwest corner of runway
- *Aircraft Parking Capacity*
 - Hangar spaces for 18± aircraft
 - Tiedown spaces on grass for 22± aircraft
- *Services* — Airport has one fixed base operator:
 - Aviation gasoline (self-serve)
 - Flight training and aircraft rental
 - Charter services; scenic rides
 - Major aircraft overhaul

RUNWAY/TAXIWAY DESIGN

Runway 15-33

- *Critical Aircraft* — Small, single-engine propeller
- *Classification* — Airport Reference Code B-I (small) (max. approach speed 121 kts; max. wingspan 49 ft.)
- *Dimensions* — 2,280 ft. long, 30 ft. wide
 - Rwy 15 landing threshold displaced 300 ft.
 - Rwy 33 landing threshold displaced 200 ft.
- *Pavement Strength* — 12,000 lbs. (estimated) for aircraft with single-wheel main gear
- *Average Gradient* — <0.1%
- *Lighting* — Nonstandard edge lights
- *Primary Taxiways* — Full-length parallel on west

APPROACH PROTECTION

- *Runway Protection Zones*
 - Runway 15: 1,000 feet long, none on airport; easements on object free area (240 feet from rwy end)
 - Runway 33: 1,000 feet long, none on airport; easement on object free area (240 feet from rwy end)
- *Approach Obstacles*
 - Runway 15: orchard adjacent to object free area
 - Runway 33: orchard adjacent to object free area

TRAFFIC PATTERNS AND APPROACH PROCEDURES

- *Airplane Traffic Pattern*
 - Right traffic Runway 15; left traffic Runway 33
 - Most aircraft landing Rwy 15 or departing Rwy 33 make close-in turn to avoid overflight of residential area north of airport
 - Pattern altitude 800 feet AGL
- *Instrument Approaches*
 - None
- *Visual Navigational Aids*
 - Airport: None
 - Runway 15: None
 - Runway 33: None
- *Operational Restrictions*
 - Prior permission needed to land
 - Airport closed at night
 - Touch-and-goes prohibited
 - Agricultural operations prohibited

AIRPORT PLANNING DOCUMENTS

- *Airport Master Plan*
 - None
- *Airport Layout Plan*
 - None

PROPOSED FACILITY IMPROVEMENTS

- *Runway/Taxiway System*
 - None beyond planned near-term modifications
- *Approach Protection*
 - None
- *Building Area*
 - Pave aircraft apron
 - Install card-lock fuel system
 - Replace hangars

Source: Data Compiled by Shutt Moen Associates (January 2000)

Exhibit 7A

**Airport Features Information
Ranchoero Airport**

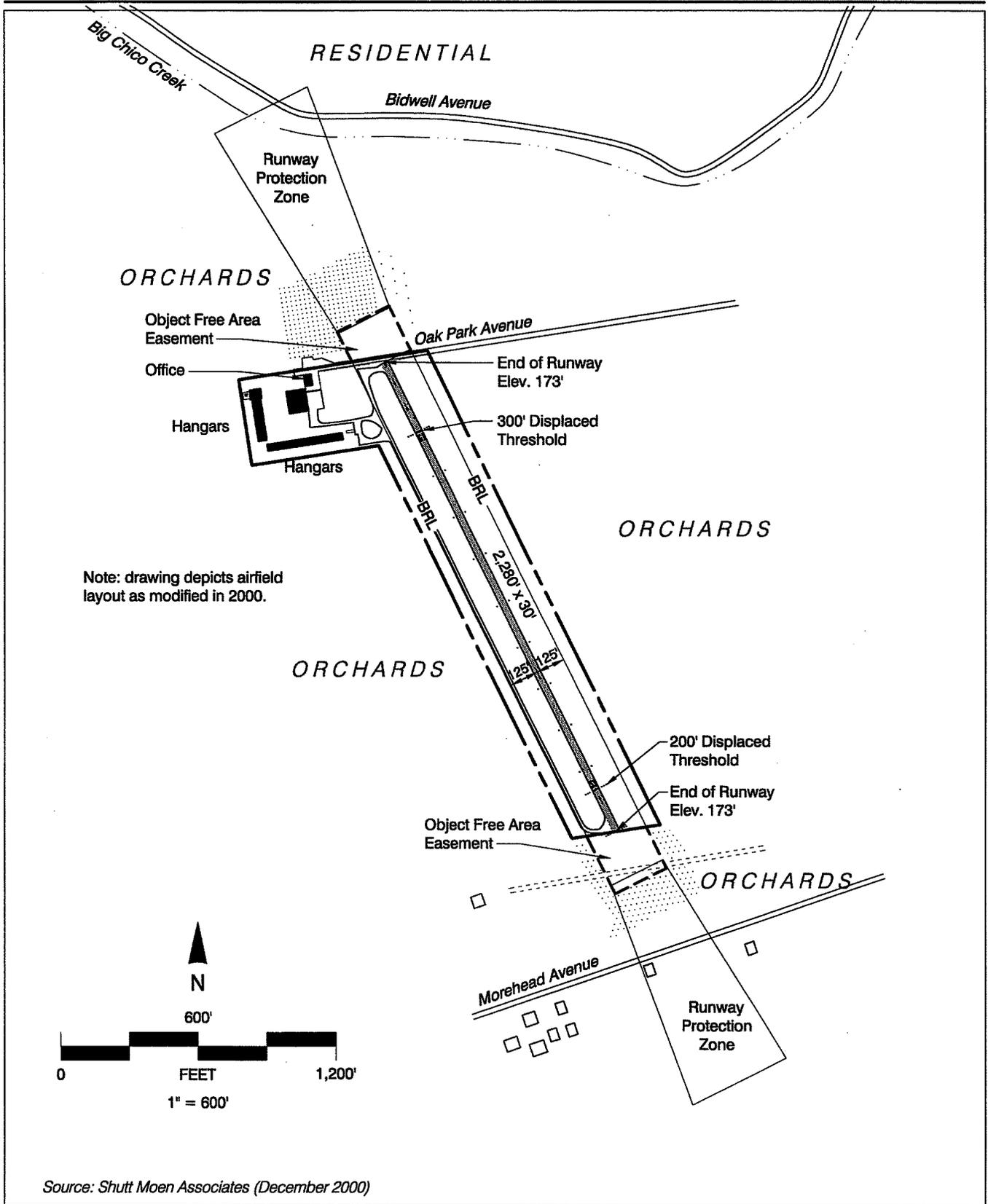
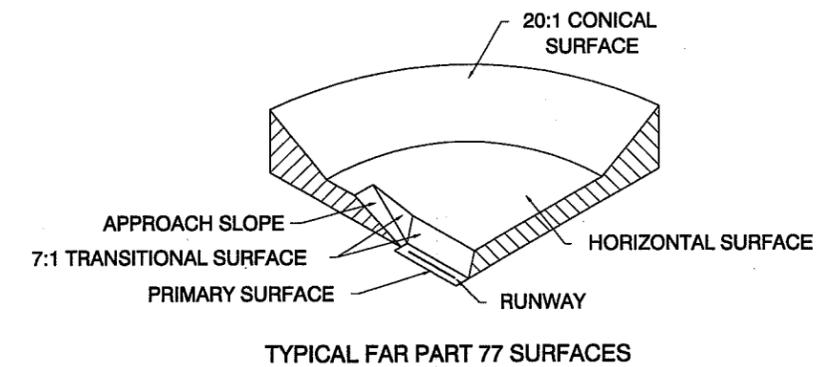
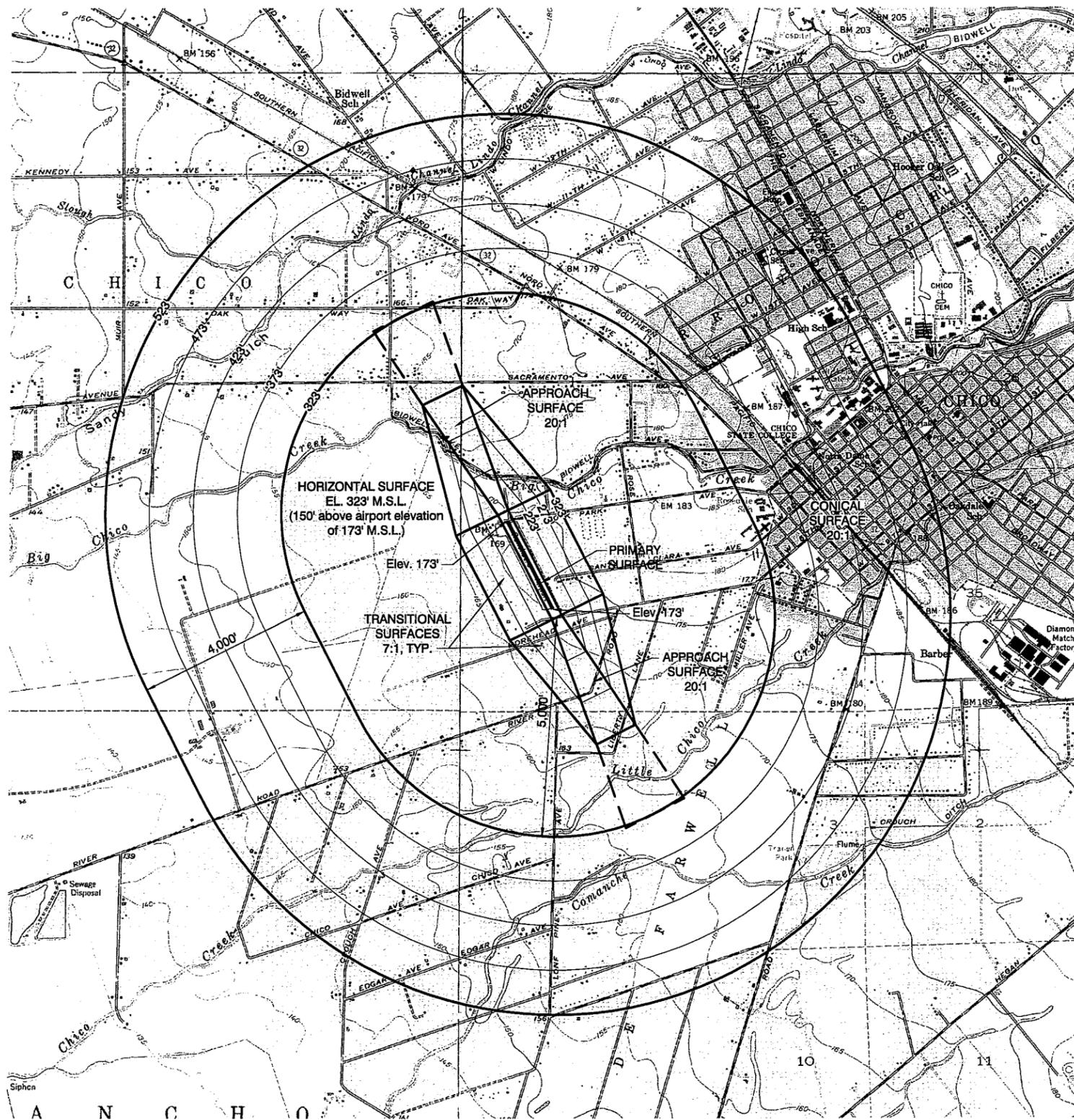


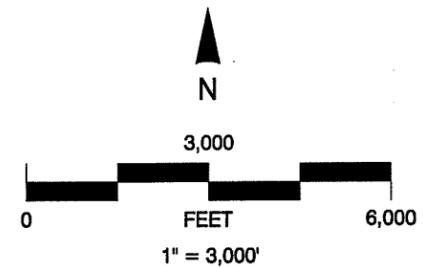
Exhibit 7B

Airport Layout Diagram
Ranchoero Airport

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TYPICAL FAR PART 77 SURFACES



Source: Shutt Moen Associates (January 2000)

Exhibit 7C

Airspace Plan
Ranchoero Airport

BASED AIRCRAFT

Aircraft Type	Current ^a	Future ^b
Single Engine	25	
Multi Engine	0	
Turboprop	0	
Turbojet	0	
Helicopters	1	
Total	26	40

RUNWAY USE DISTRIBUTION

All Aircraft	Current ^a	Future ^a
Takeoffs		
Runway 15	60%	no
Runway 33	40%	change
Landings		
Runway 15	60%	no
Runway 33	40%	change

AIRCRAFT OPERATIONS

Total	Current ^a	Future ^c
Annual	5,000	10,000
Average Day	14	27

Distribution by Aircraft Type

Single-Engine	90%	
Multi-Engine	<1%	no
Turboprop	0%	change
Turbojet	0%	
Helicopter	10%	

Distribution by Type of Operation

Local ^d	25%	no
Itinerant	75%	change

FLIGHT TRACK INFORMATION

► Estimated 85% of aircraft landing Rwy 15 and departing Rwy 33 make close-in turn to avoid overflight of residential area north of airport; other operations follow normal traffic pattern ^a

TIME OF DAY DISTRIBUTION

All Aircraft	Current ^a	Future ^a
Day (7 a.m. to 7 p.m.)	95%	no
Evening (7 p.m. to 10 p.m.)	4%	change
Night (10 p.m. to 7 a.m.) ^e	1%	

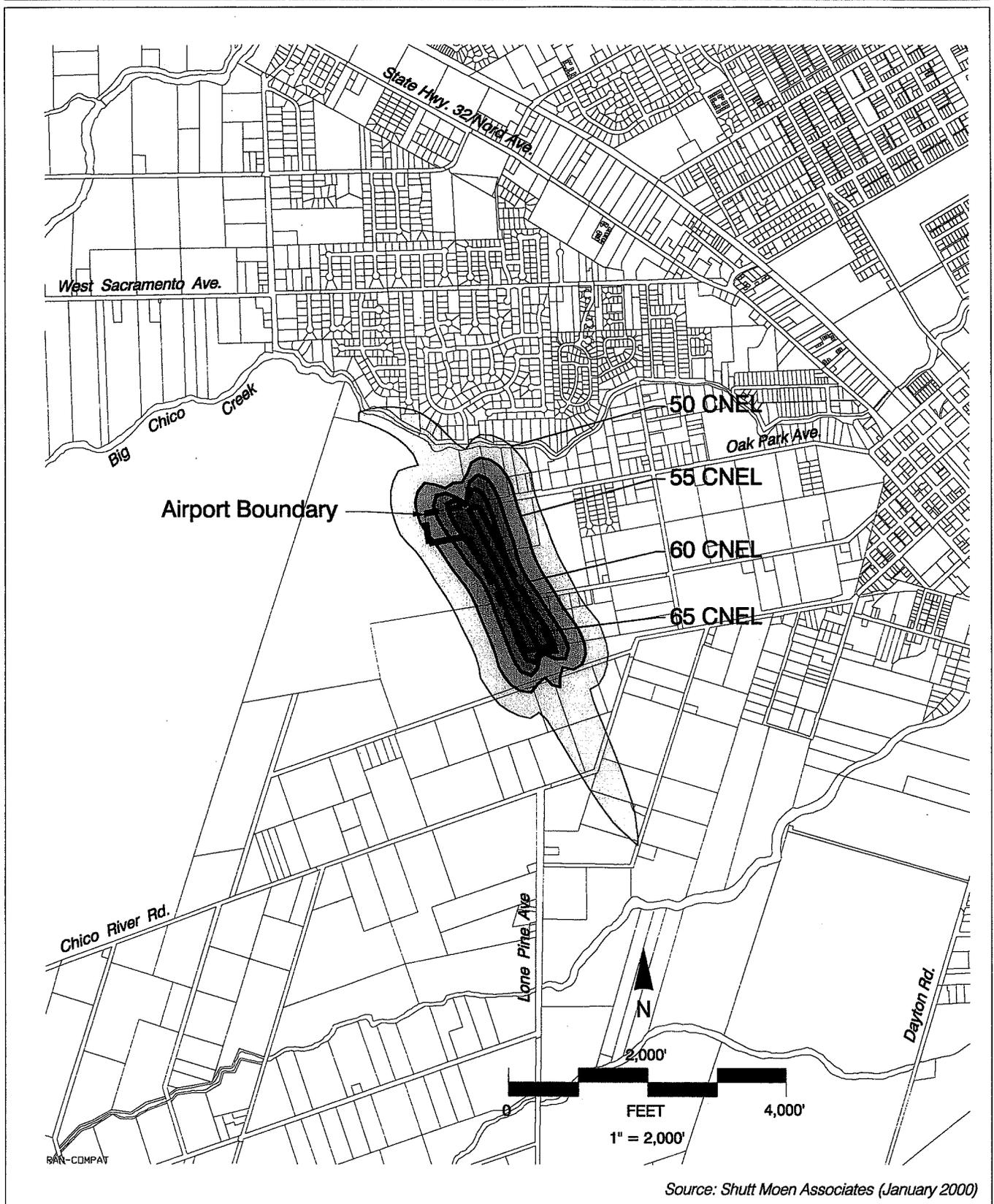
Notes

- ^a Shutt Moen Associates estimates based upon data from FAA Airport Master Record (Form 5010) and airport management.
- ^b Planned aircraft parking capacity of airport.
- ^c For compatibility planning purposes, future aircraft operations are assumed to be approximately twice the estimated existing activity levels.
- ^d Touch-and-go operations are prohibited, but aircraft remaining in traffic pattern are included as local operations.
- ^e Nighttime operations are prohibited. However, operations taking place in daylight early on summer mornings are considered night operations for noise modeling purposes.

Source: Data Compiled by Shutt Moen Associates (January 2000)

Exhibit 7D

Airport Activity Data
Ranchoero Airport



Source: Shutt Moen Associates (January 2000)

Exhibit 7E

Noise Impacts Ranchoero Airport

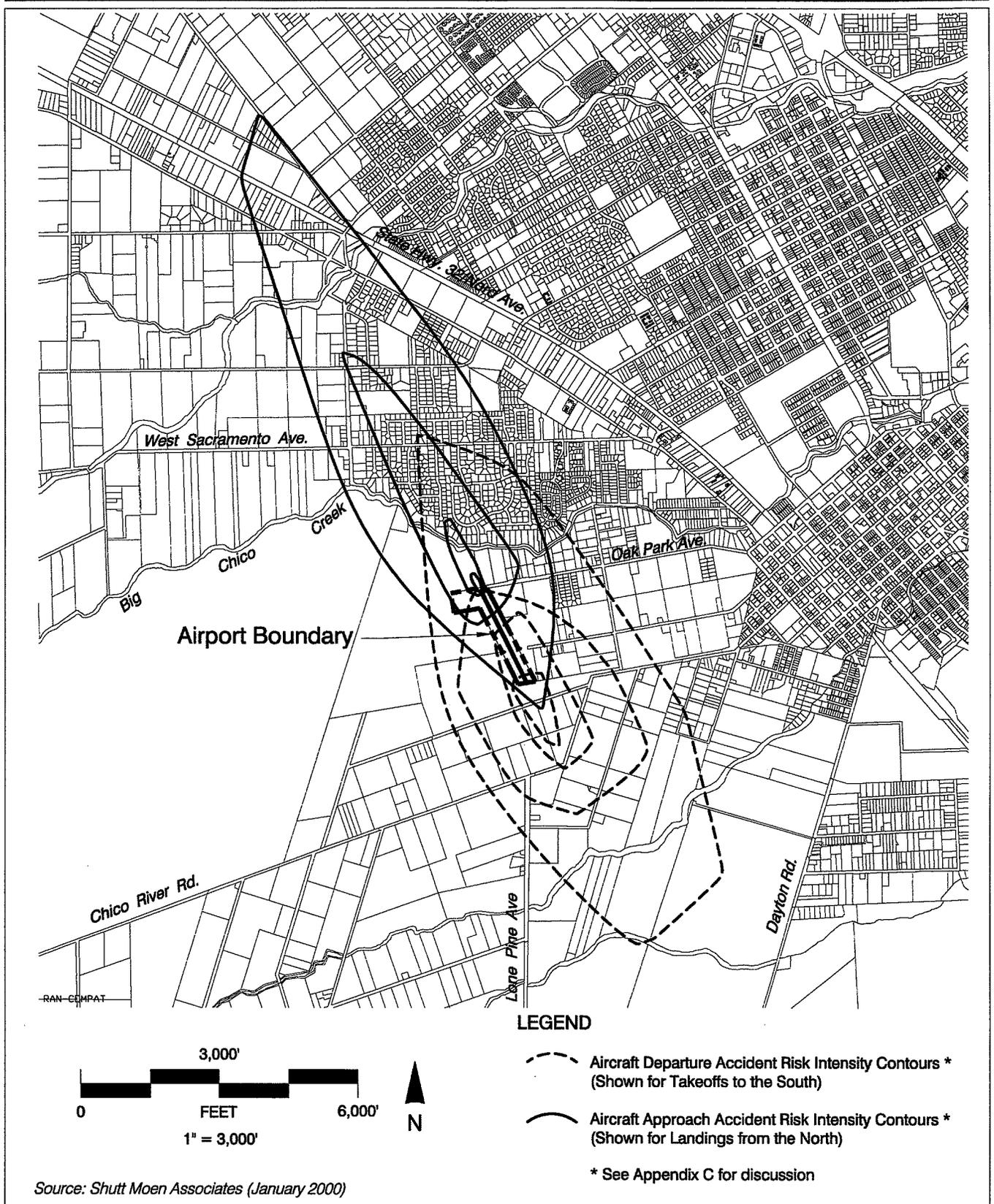


Exhibit 7F

**Accident Risk Intensity
Ranchoero Airport**

AIRPORT LOCATION AND NEARBY TOPOGRAPHY

- *Location*
 - Northwest Butte County
 - 2 miles west of central Chico
- *Topography*
 - Situated at 173 feet elevation near western edge of Sacramento Valley
 - Surrounding terrain is flat with no significantly higher elevations within nearly 10 miles

AIRPORT ENVIRONS LAND USE JURISDICTIONS

- *County of Butte*
 - Airport and immediate environs in county jurisdiction
- *City of Chico*
 - 1999 city limits within 1.0 miles north and east
 - Residential area north of airport in city sphere of influence
 - Airport and all surrounding lands in city's planning area boundary

EXISTING AIRPORT AREA LAND USES

- *General Character*
 - Orchards immediately around airport
 - Residential neighborhoods of Chico within 0.2 mile north and northeast
- *Runway Approaches*
 - North (Rwy 15): orchard 250 feet from runway end; residential subdivision 1,000 feet
 - South (Rwy 33): orchard 250 feet from runway end; house 800 feet south
- *Traffic Pattern*
 - Orchards

STATUS OF COMMUNITY PLANS

- *Butte County General Plan*
 - Land Use element adopted 1979; Noise and Safety elements adopted 1977
- *City of Chico General Plan*
 - Adopted November 1994

PLANNED AIRPORT AREA LAND USES

- *County of Butte*
 - Airport and lands west, south, and southeast lie outside "greenline" established by *County General Plan*; "greenline" policy intended to protect agricultural uses beyond line and support urban development on Chico city side
 - Lands outside "greenline" designated in *General Plan* as orchard and field crop land, consistent with existing uses; designation requires minimum 20-acre parcels (5 acres with conditional use permit)
 - Existing residential area inside "greenline" north and northeast of airport designated low density (up to 6 dwelling units per gross acre)
- *City of Chico*
 - Urban development area boundary on city *General Plan Diagram* map coincides with county "greenline" in airport vicinity
 - Area to north and northeast designated for very-low- and low-density residential (up to 7 dwelling units per gross acre)

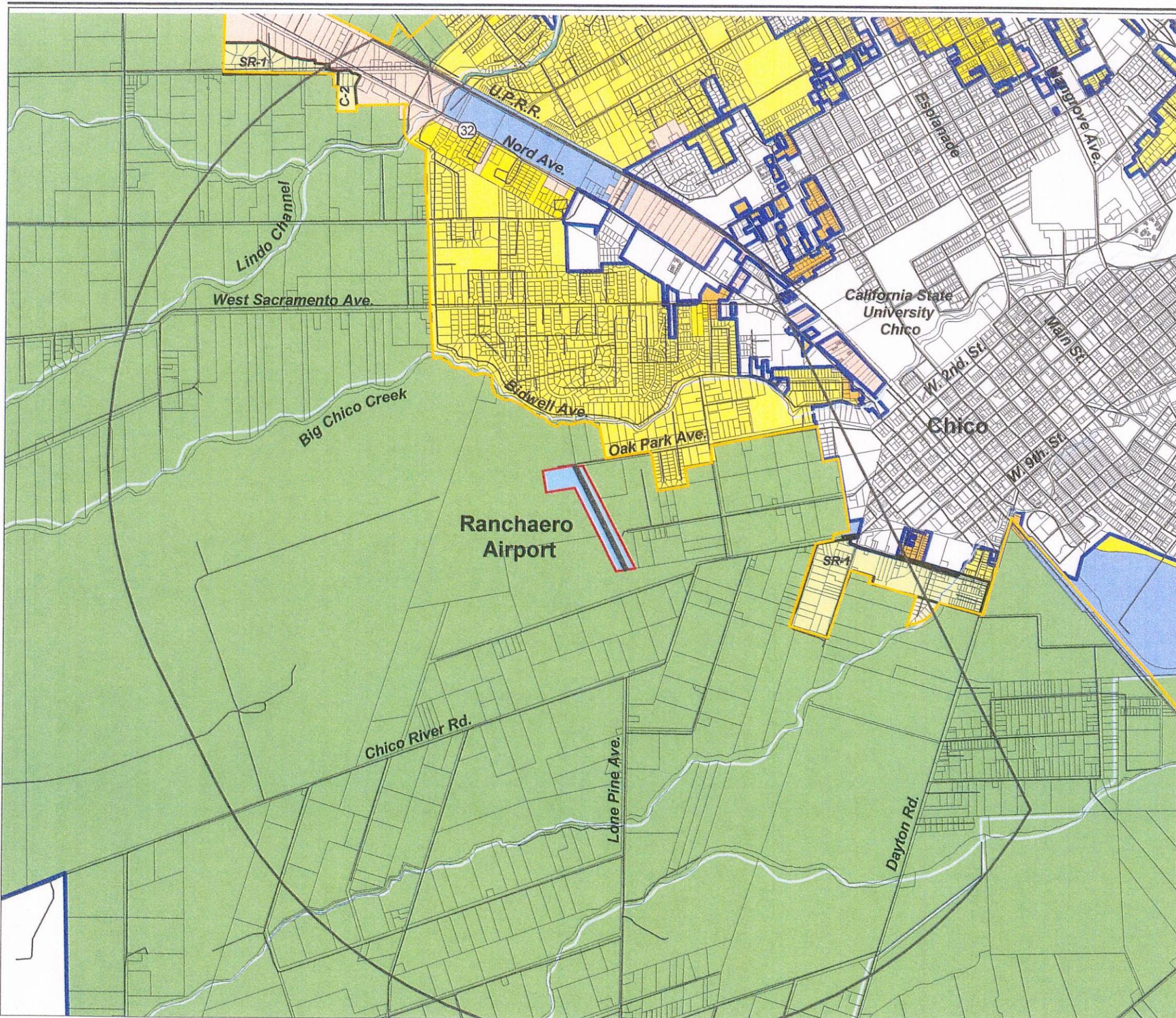
ESTABLISHED COMPATIBILITY MEASURES

- *Butte County General Plan*
 - Circulation Element includes policy to "ensure that land uses in the vicinity of public airports are compatible with respective airport land use plans"
 - Also, private airstrips are to "be controlled to ensure that they are outside flight paths to and from existing airports and that they do not provide a hazard or annoyance to neighboring areas"
 - Noise Element has policy to "discourage noise-sensitive activities near airports"
 - No airport-related height limit zoning adopted
- *City of Chico General Plan*
 - No specific policy reference to Ranchoero Airport
 - Single-family residential normally acceptable up to 60 dB CNEL
- *Other Chico City Policies*
 - Airport height limit zoning does not apply to Ranchoero

Source: Data Compiled by Shutt Moen Associates (January 2000)

Exhibit 7G

Airport Environs Information
Ranchoero Airport



LEGEND

General Plan Land Use Designations (Simplified)*

- High-Density Residential (> 14.0 d.u./ac.)
 - Medium-High-Density Residential (8.1-14.0 d.u./ac.)
 - Medium-Density Residential (5.1-8.0 d.u./ac.)
 - Low-Density Residential (1.0-5.0 d.u./ac.)
 - Mobile Home Park
 - High-Intensity Commercial/Office
 - Low-Intensity Commercial/Office
 - Office/Business Park
 - Light Industrial/Warehousing
 - Mixed Use
 - Airport
 - School
 - Other Public/Institutional
 - Parks & Recreation
 - Rural Residential (2.0-10.0 ac. parcels)
 - Agriculture/Foothill Residential (1.0-40.0 ac. parcels, depending on zoning as shown)
- Maximum Parcel Sizes:*
 1-4 acres: SR-1
 Variable: C-2
- Open Space/Woodlands/Grazing
 - Water

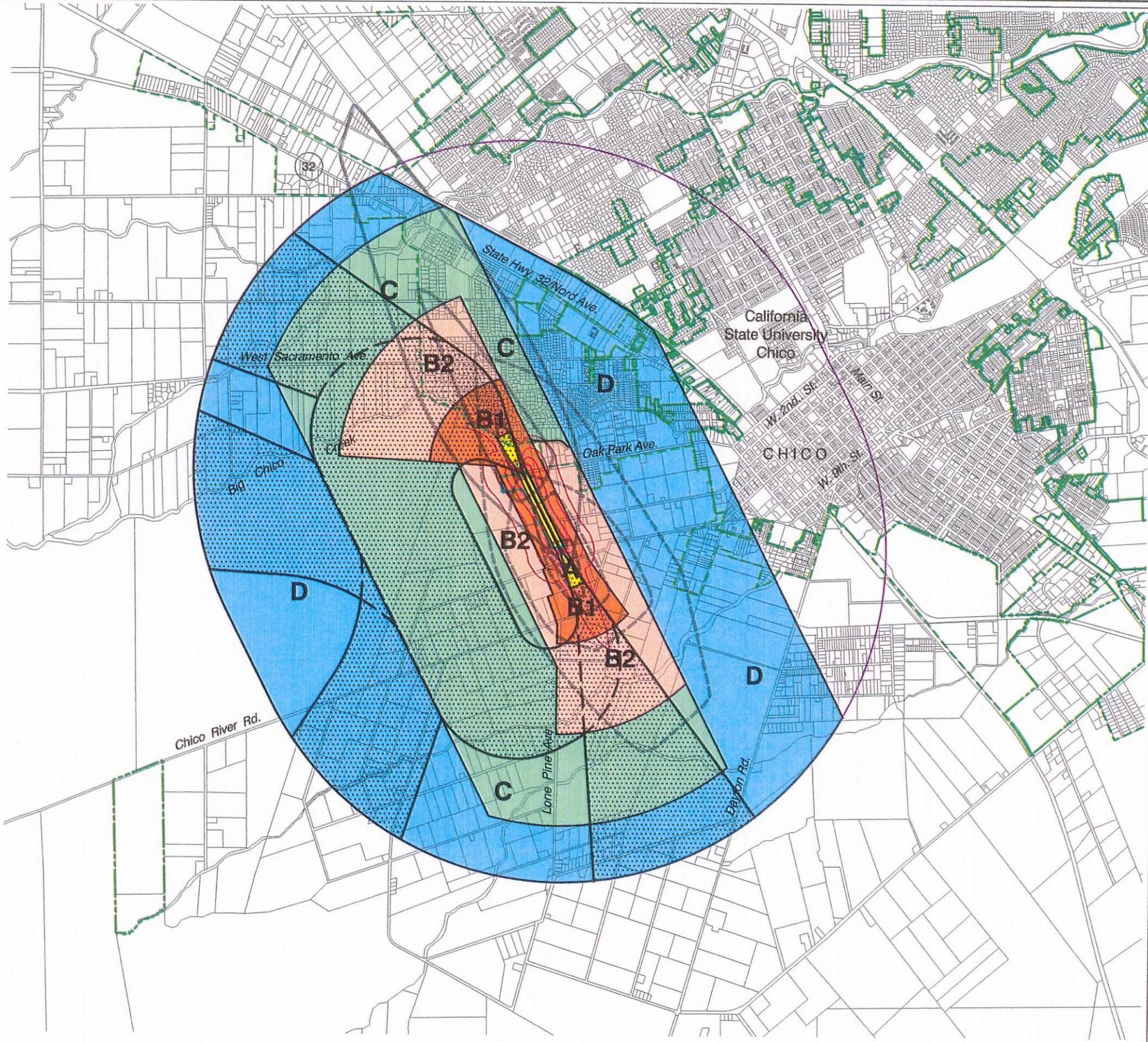
Boundary Lines

- Airport Influence Area
- Airport Property
- Chico City Limits
- Chico Sphere of Influence (Chico Area Greenline)

* County designations



Source: Summarized from Butte County and City of Chico General Plan maps by Shutt Moen Associates (January 2000)



Legend

Compatibility Zones

- Airport Influence Area Boundary
- Zone A
- Zone B1
- Zone B2
- Zone C
- Zone D

Noise and Overflight Compatibility Factors

- 65 dB CNEL
- 60 dB CNEL
- 55 dB CNEL
- 50 dB CNEL

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

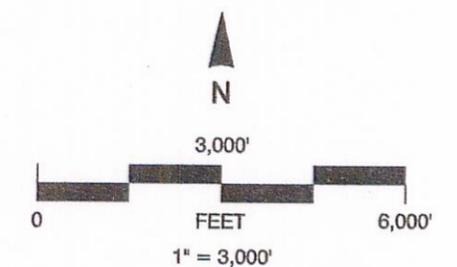
Safety and Airspace Compatibility Factors

- Aircraft Departure Accident Risk Intensity Contours* (Shown for Takeoffs to the South)
- Aircraft Approach Accident Risk Intensity Contours* (Shown for Landings from the North)
- FAR Part 77 Conical Surface Limits (Same as Airport Influence Area except on east)
- No FAR Part 77 Surface Penetrations

Boundary Lines

- Airport Property Line
- Chico City Limits
- Chico Sphere of Influence

* Aircraft accident risk intensity contours are derived from accident location data in Caltrans Aeronautics Program database. The contours represent relative intensities (highest concentrations) of near-airport accidents in 20% increments.



Source: Shutt Moen Associates (December 2000)