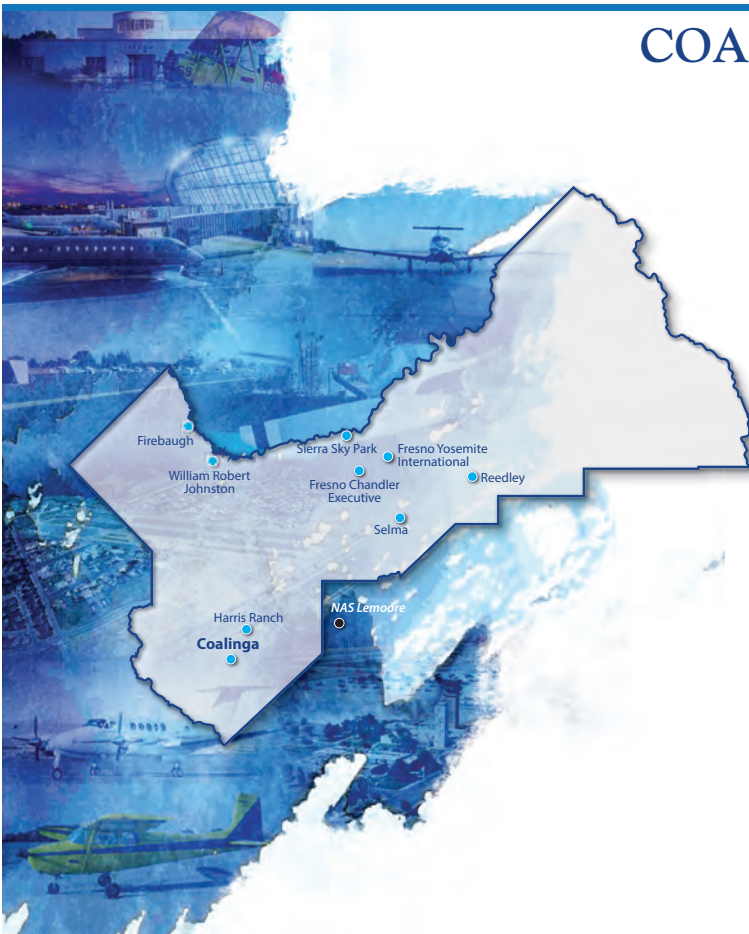




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Appendix A

COALINGA MUNICIPAL AIRPORT



Appendix A: Coalinga Municipal Airport

Appendix A provides an overview of Coalinga Municipal Airport's (Airport) setting, airport influence area (AIA), safety zones, noise, airspace and overflight areas. This Appendix will also discuss the existing and planned land uses, as well as current and future Airport facilities.

Coalinga Municipal Airport is a public use airport located four miles northeast from the center of the City of Coalinga, which is in the southwestern portion of Fresno County. The Airport sits on approximately 1,004 acres of land 622 feet above mean sea level. The 2017 – 2021 *National Plan of Integrated Airports* (NPIAS) classifies the Airport as a basic general aviation facility and the 2013 *California Aviation System Plan* (CASP) considers it a community airport. The City of Coalinga owns the Airport and the Airport is located within City limits; however, just beyond the Airport property line is unincorporated Fresno County.

SAFETY ZONES

The AIA and Safety Zones for Coalinga Municipal Airport are shown on **Exhibit A1**. Figure 3A of the California Airport Land Use Planning Handbook (Handbook) provides three example zones for general aviation airports, which are differentiated by runway length. The Handbook zone examples are provided as a starting point for developing safety zones specific to an airport. As discussed below, Coalinga Municipal Airport has two runways: Runway 12-30 is 5,000 feet long and Runway 1-19 is 2,471 feet long. The Federal Aviation Administration (FAA)-approved Airport Layout Plan (ALP) includes runway extensions for both runways. The ultimate lengths are 7,500 feet for Runway 12-30 and 3,000 feet for Runway 1-19. Using these lengths, the Long General Aviation Runway classification was assumed for

Runway 12-30 and the Short General Aviation Runway example was used for Runway 1-19. For this plan, the outermost zone in the Handbook examples was replaced by the 14 CFR Part 77 Conical Surface, Outer Approach Transitional Surface, and Precision Approach Surface which also represent the airspace and overflight review area boundaries. The Outer Approach Transitional Surface and Precision Approach Surface are used at airports with runways that have a Precision Instrument Approach such as Coalinga Municipal Airport. Additional information regarding the safety compatibility zones can be found in **Appendix M**.

NOISE

The standard methodology for analyzing noise conditions at airports involves the use of a computer simulation model. The Airport Environmental Design Tool Version 2c (AEDT) is accepted by the State of California and required by the FAA for developing noise exposure contours. This is the model used to develop the noise exposure contours for this Airport Land Use Compatibility Plan (ALUCP). The following sections describe the noise modeling inputs for the Coalinga Municipal Airport noise exposure contours shown on **Exhibit A2**. Additional information regarding the noise modeling process and land use compatibility thresholds can be found in **Appendix M**.

AIRCRAFT OPERATIONS AND FLEET MIX

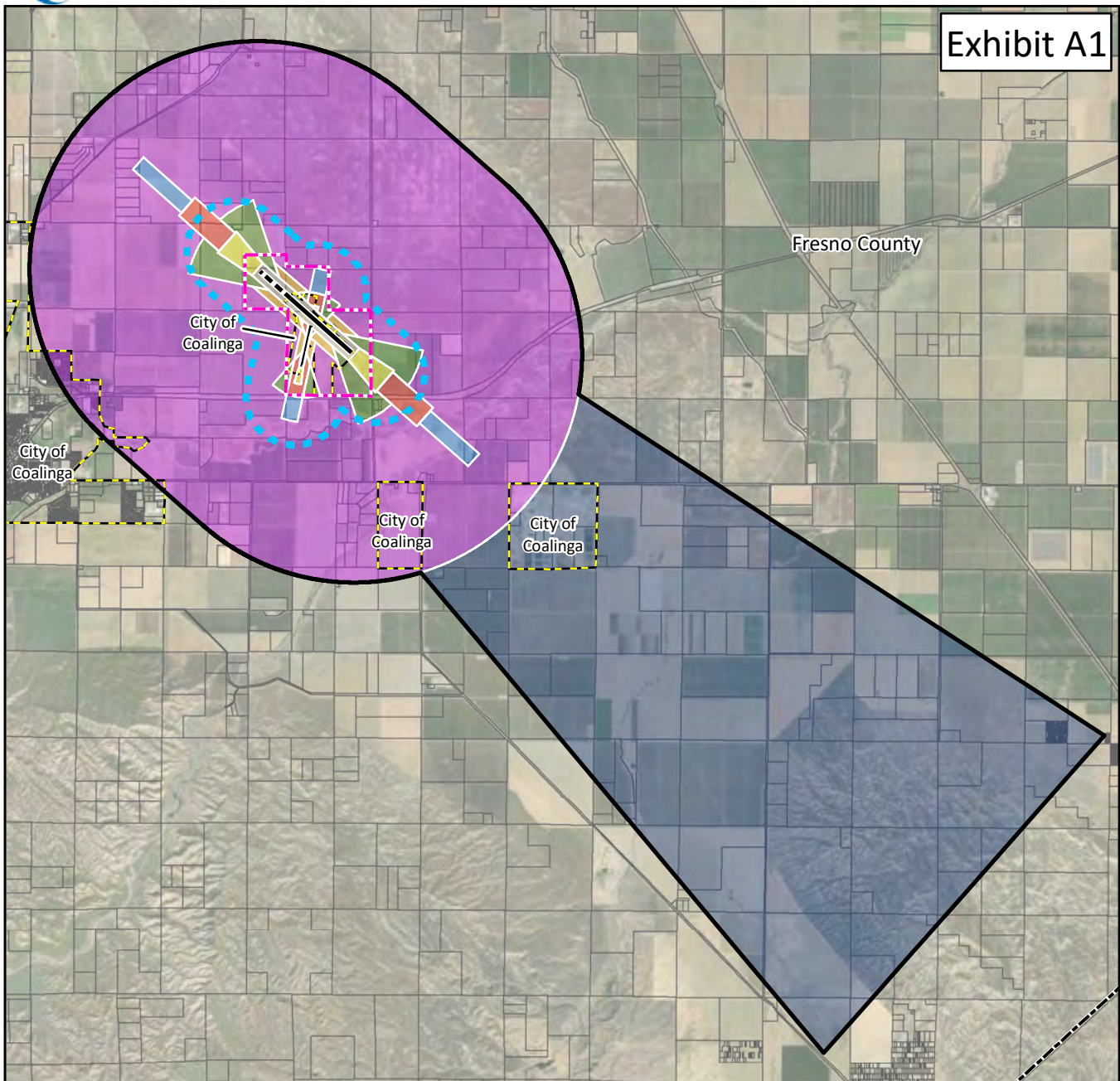
As outlined in Public Utilities Code (PUC) Section 21675(a), the noise contours included in an ALUCP must reflect the anticipated growth of the airport during at least the next 20 years. **Table A1** summarizes the 2037 operations for the Airport using the FAA's Terminal Area Forecast, Fiscal Years 2016-2045, and also includes the aircraft types used in the noise model. Airfield observations and based aircraft lists were used to determine the types of aircraft which frequently use the Airport. To accurately represent the noise conditions at the Airport, the AEDT provides aircraft noise data for many of the aircraft operating in the national fleet.

The selection of individual aircraft types is important to the modeling process because different aircraft types generate different noise levels. The aircraft fleet mix for Coalinga Municipal Airport was derived from the 2007 Coalinga Airport Master Plan and interviews with the Airport manager. **Table A1** summarizes the generalized fleet mix data input into the noise analysis.

A variety of general aviation, single engine fixed-propeller aircraft are modeled with the GASEPV and GASEPF aircraft in the AEDT. The GASEPV represents many single engine general aviation aircraft including the Mooney M-20, Cessna 172 and 180, and Piper Cherokee Arrow. The general aviation, single engine fixed-pitch propeller model, the GASEPF, also represents several single engine general aviation aircraft. These include the Cessna 150, Piper Archer, and the Piper Tomahawk.



Exhibit A1

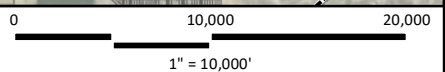


LEGEND

- Airport Property¹
- Parcel Boundary
- Municipal Boundary
- Airport Influence Area (AIA)²
- Vulnerable Occupants Review Area (See Section 3.2.2 & Table 3A)

Safety Zones³

- 1. Runway Protection Zone
- 2. Inner Approach/Departure Zone
- 3. Inner Turning Zone
- 4. Outer Approach/Departure Zone
- 5. Sideline Zone
- 6. Traffic Pattern Zone
- 7. Precision Approach Zone



¹Coalinga Airport Layout Plan (2007).

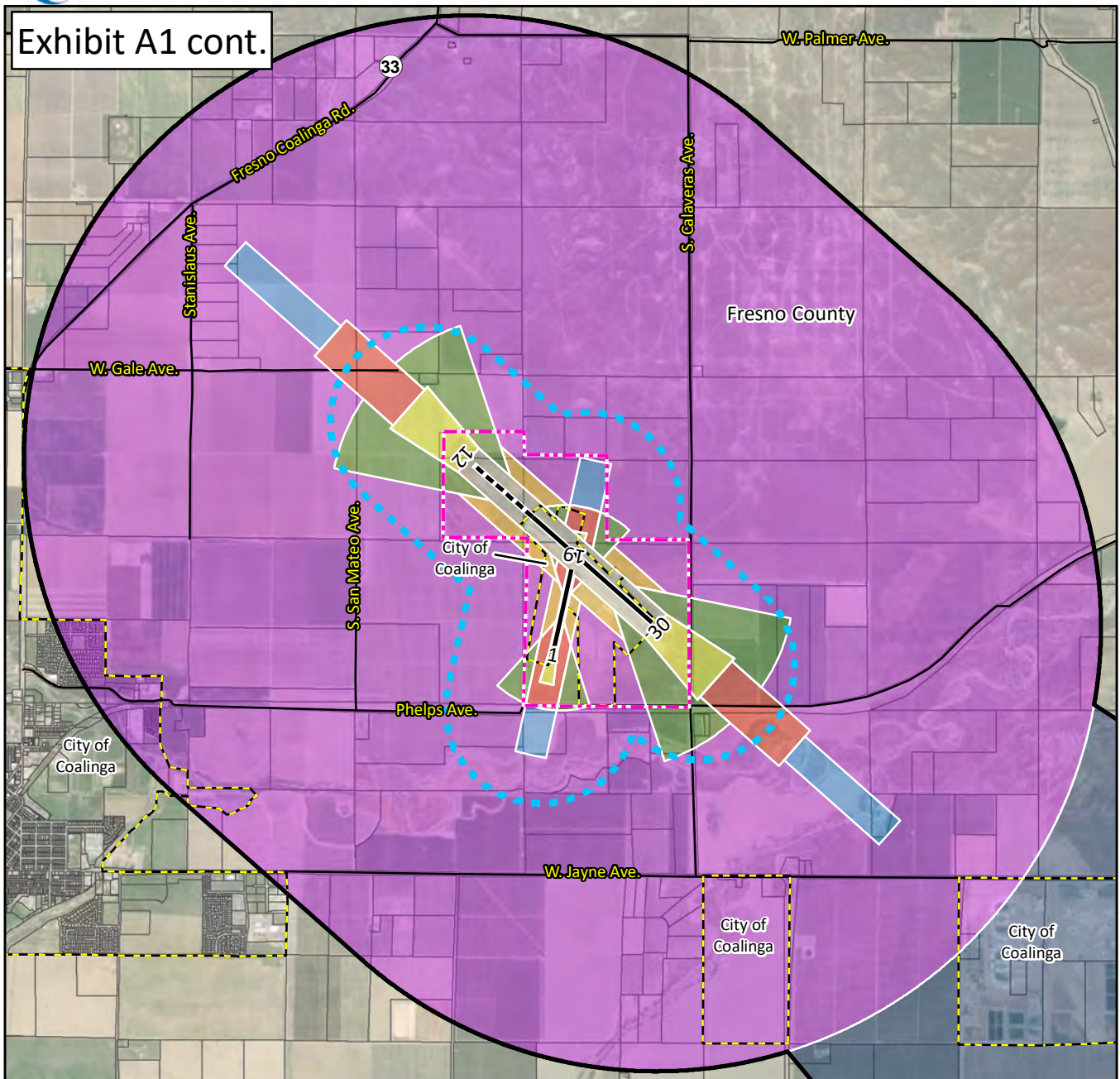
²AIA drawn from Part 77 Conical and Outer Transitional surfaces (see 14 CFR, Subchapter E, Part 77, §77.25.).

³Figure 3A, California Airport Land Use Planning Handbook (2011), and Coffman Associates analysis.

Sources: Fresno County Parcels, Fresno County Streets, ESRI Basemap Imagery (2019).



Exhibit A1 cont.

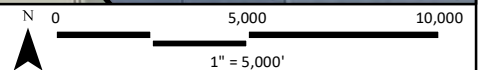


LEGEND

- Existing Runway¹
- - - Ultimate Runway¹
- - - Airport Property¹
- ▭ Parcel Boundary
- - - Municipal Boundary
- Streets
- ▭ Airport Influence Area (AIA)²
- ⋯ Vulnerable Occupants Review Area (See Section 3.2.2 & Table 3A)

Safety Zones³

- 1. Runway Protection Zone
- 2. Inner Approach/Departure Zone
- 3. Inner Turning Zone
- 4. Outer Approach/Departure Zone
- 5. Sideline Zone
- 6. Traffic Pattern Zone
- 7. Precision Approach Zone



¹Coalinga Airport Layout Plan (2007).

²Part 77 Conical and Outer Transitional surfaces (see 14 CFR, Subchapter E, Part 77, §77.25.).

³Figure 3A, California Airport Land Use Planning Handbook (2011), and Coffman Associates analysis.

Sources: Fresno County Parcels, Fresno County Streets, ESRI Basemap Imagery (2016).



Exhibit A1 cont. 2

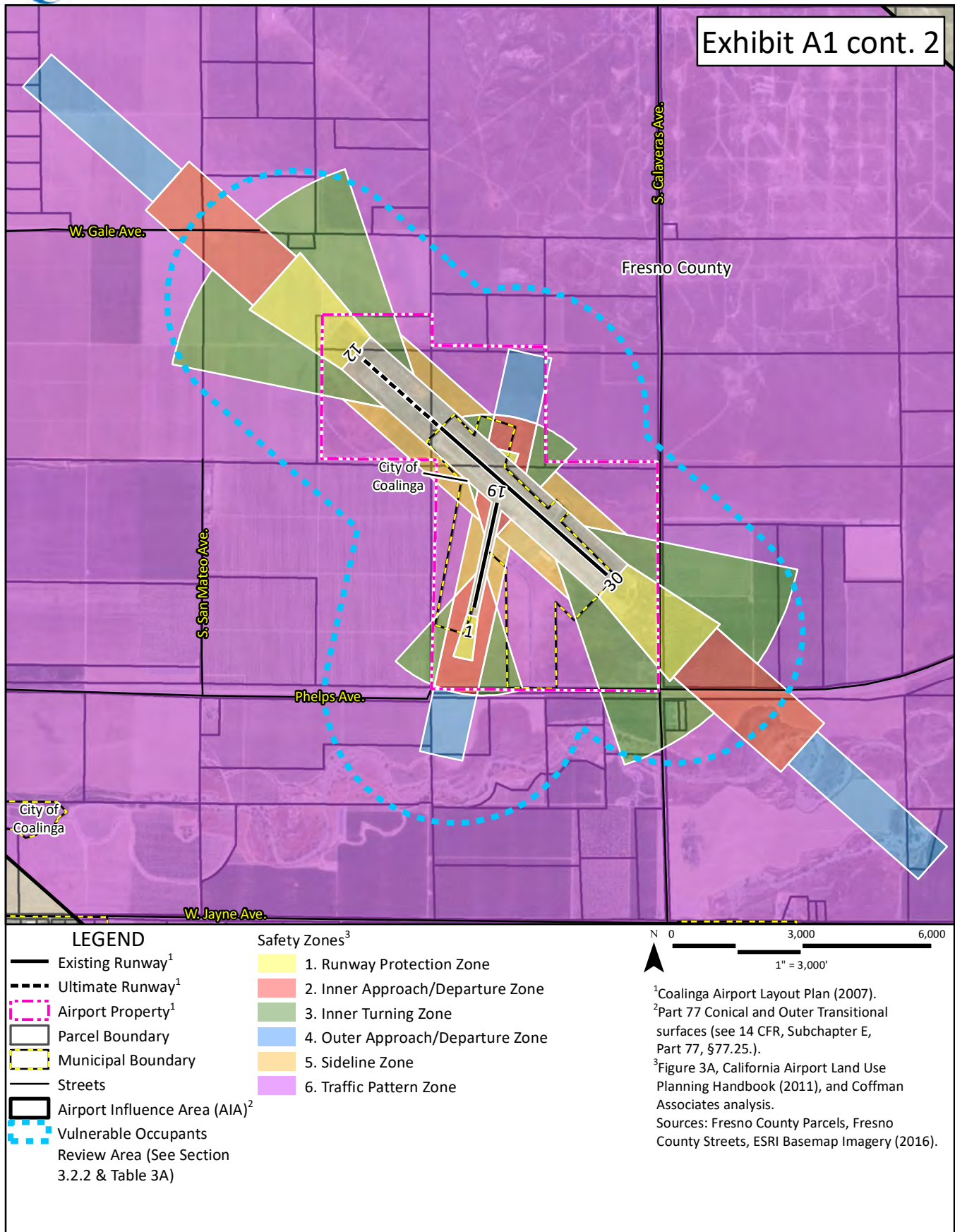




Exhibit A2

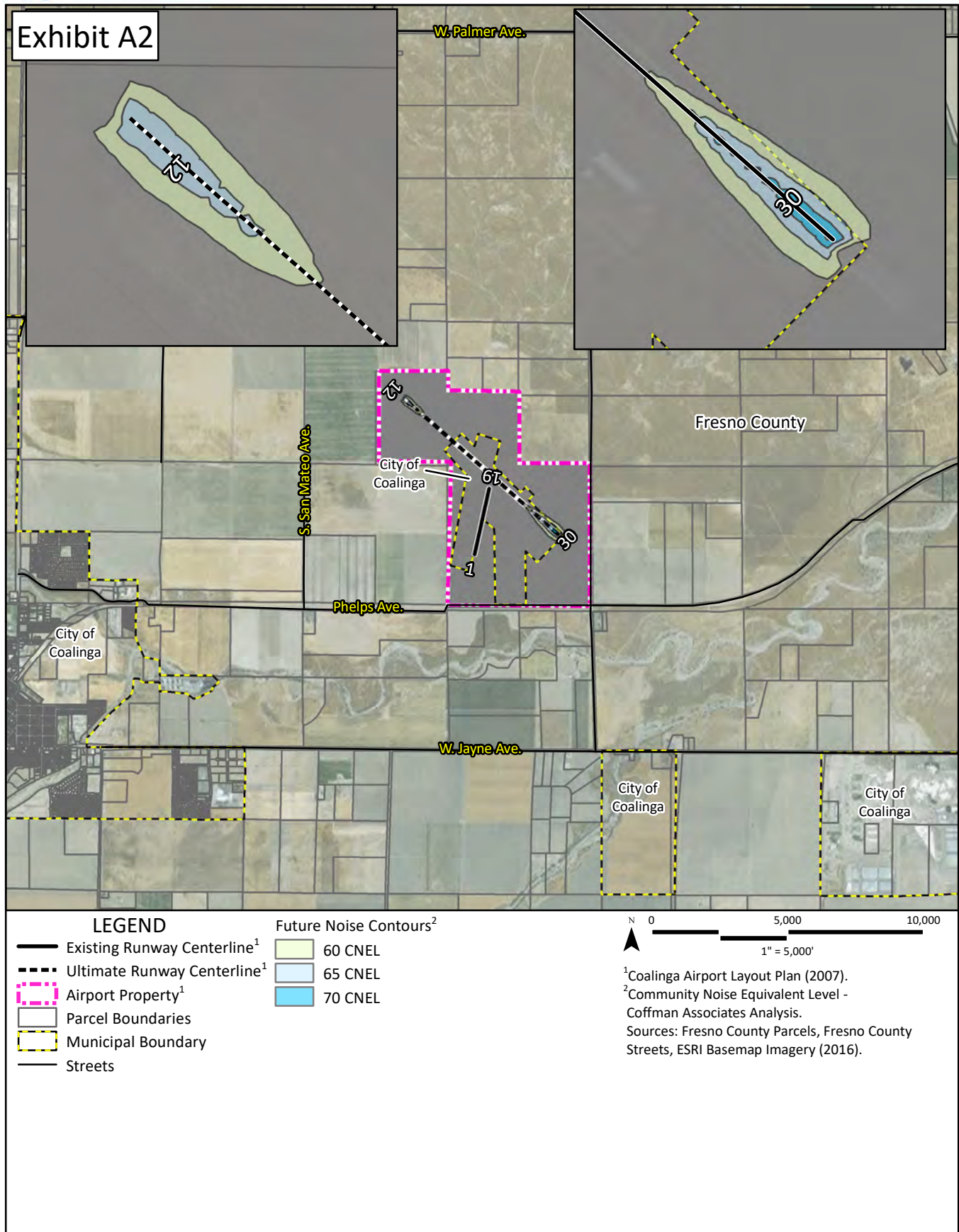




Exhibit A2 cont.

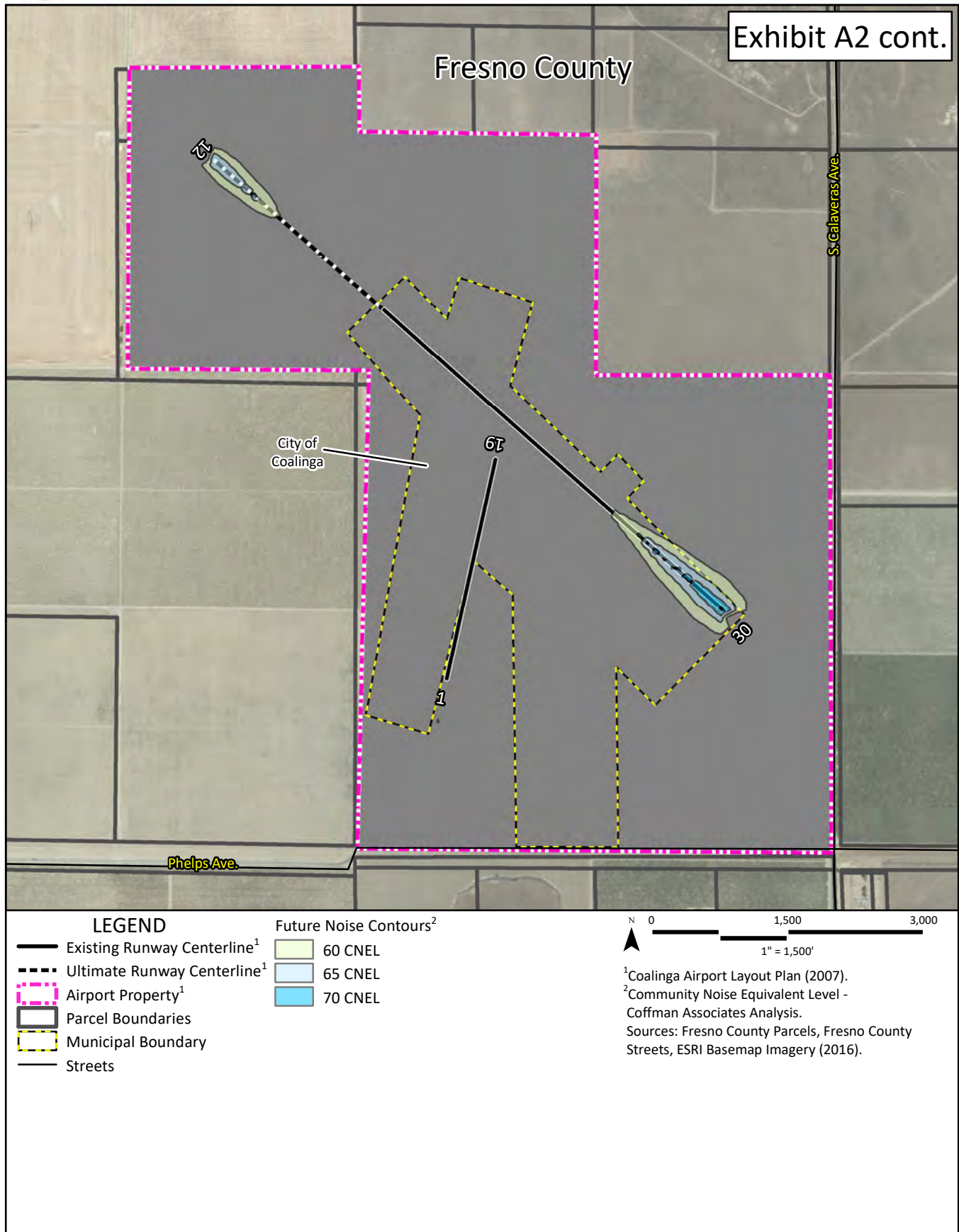


TABLE A1
Coalinga Municipal Airport
Aircraft Fleet Mix and Operations

Operations	AEDT Designator	2017	2037 ²
Itinerant			
Single Engine, Fixed	GASEPF	900	900
Single Engine, Variable	GASEPV	900	900
Subtotal		1,800	1,800
Local			
Single Engine, Fixed	GASEPF	300	300
Single Engine, Variable	GASEPV	300	300
Subtotal		600	600
Grand Total		2,400	2,400

Source:

¹ FAA 5010 Airport Master Record, operations for 12 months ending August 2, 2016

² FAA Terminal Area Forecast, Fiscal Years 2016-2045, January 2017

Time-of-Day

The time-of-day which aircraft operations occur is important as input to the AEDT due to the 10-decibel nighttime (10:00 p.m. to 7:00 a.m.) and 4.8-decibel evening (7:00 p.m. to 10:00 p.m.) weighting of flights.

Since the Airport is not equipped with an airport traffic control tower (ATCT), time-of-day information was estimated based upon Airport staff interviews and time-of-day activity levels at similar airports. Currently, most operations occur during the daytime hours, with an estimated one percent occurring during evening hours, and approximately one percent occurring during nighttime hours.

Runway Use

Runway usage data is also an essential component for developing noise exposure contours. Based on a review of regional airport activity and wind conditions discussed in the 2007 Coalinga Municipal Airport Master Plan, the following assumptions were made for runway use:

- Runway 12 – 29 percent
- Runway 30 – 69 percent
- Runway 1 – 1 percent
- Runway 19 – 1 percent

Flight Tracks

A review of local flight procedures was used to develop consolidated flight tracks for use in the AEDT. As discussed below, the traffic pattern for Runway 30 and Runway 19 is right hand, and the traffic pattern for Runway 12 and Runway 1 is left hand. Accordingly, it is assumed that touch-and-go traffic occurs to the east of the Airport for Runway 12-30 and to the west of the Airport for Runway 1-19.

Flight Profiles

The standard arrival profile used in the AEDT program is a three-degree approach. No indication was given by Airport staff that there was any variation on this standard procedure for civilian aircraft. Therefore, the standard approach was included in the model as representative of local operating conditions.

AIRSPACE AND OVERFLIGHT

Exhibit A3 depicts the Airspace Plan from the 2007 *Coalinga Municipal Airport Master Plan*. This exhibit includes the 14 CFR Part 77 Conical Surface, Outer Approach Transitional Surface, and Precision Approach Surface which make up the Airport Influence Area for Coalinga Municipal Airport.

AIRPORT INFORMATION

AIRPORT FACILITIES

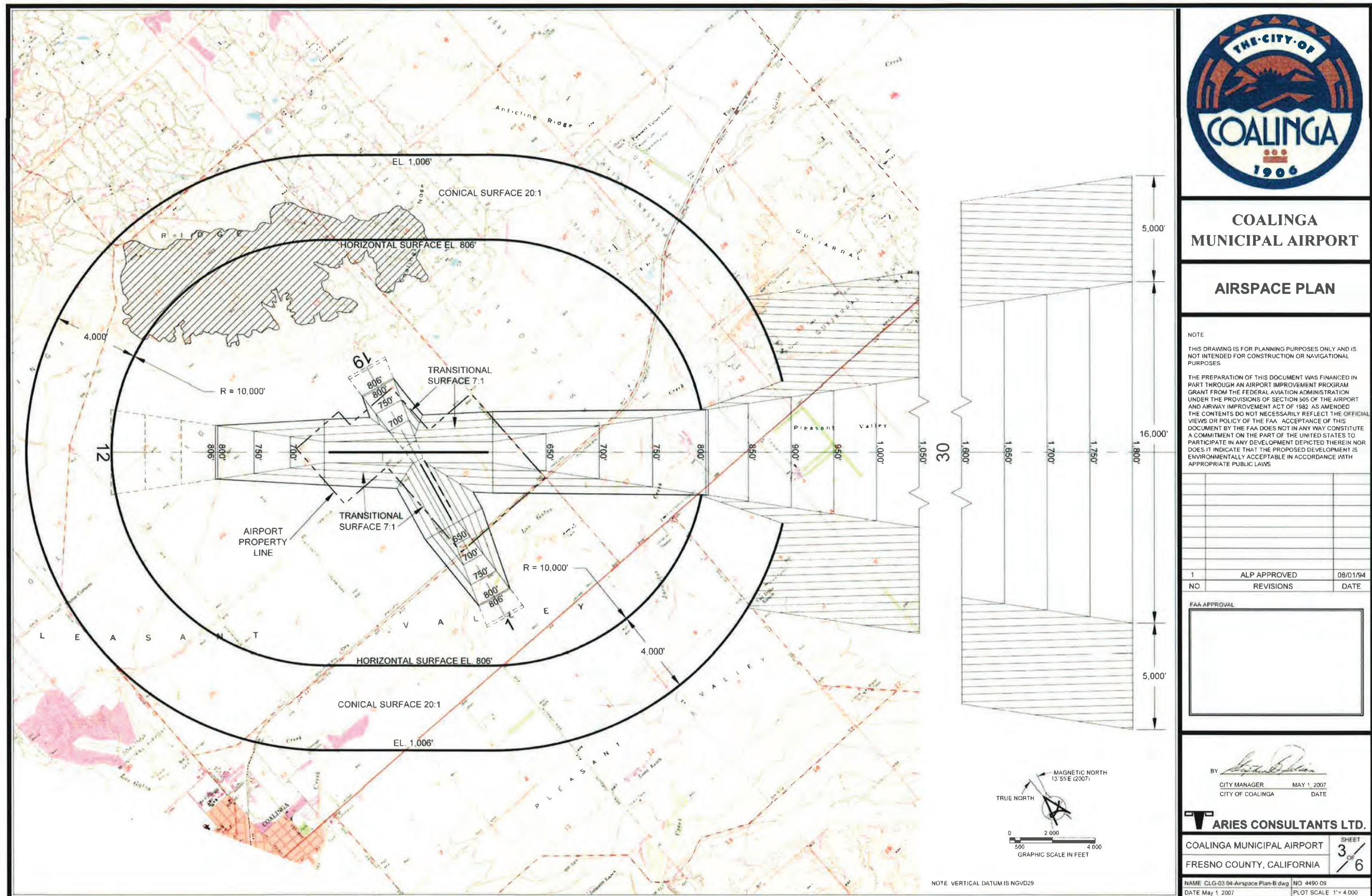
Coalinga Municipal Airport has two runways, 12-30 and 1-19, as well as one helipad. **Table A2** provides additional details about the Airport's facilities and **Exhibit A4** shows the ALP.

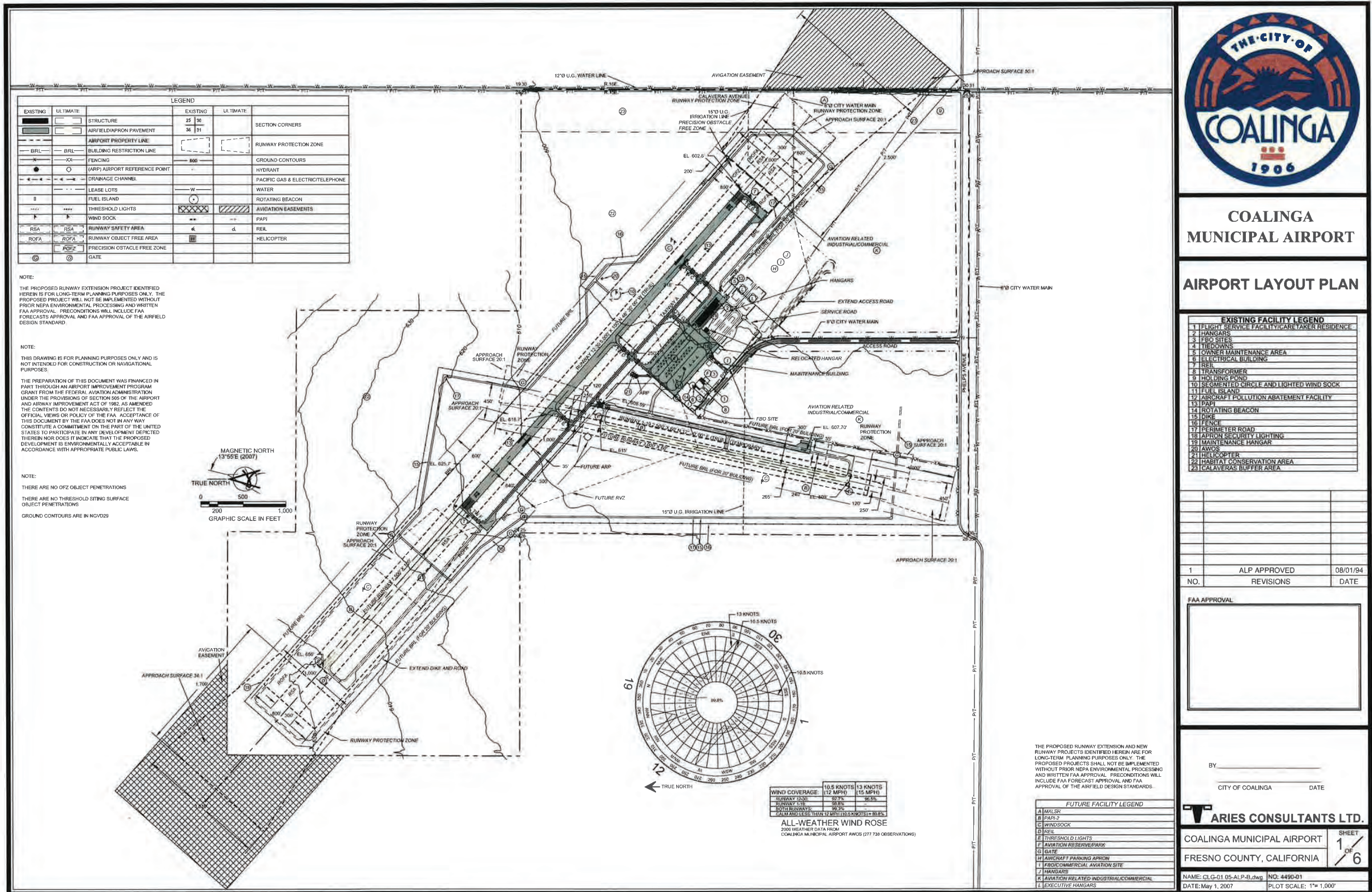
Runway 12-30 is 5,000 feet long and 100 feet wide. It is constructed of asphalt and is in good condition. The runway load bearing strength for single-wheel landing gear aircraft is up to 30,000 pounds. There are non-precision runway pavement markings that are in good condition and medium intensity runway lights with non-lighted touch down points and runway end identifier lights (REILs). The traffic pattern for Runway 12 is a standard left-handed pattern whereas Runway 30 is a non-standard right-handed traffic pattern. Both runway ends have a two-light precision approach path indicator (PAPI) on the left with a three-degree glide angle. Currently, there are no instrument approach procedures for Runway 12-30.

Runway 1-19 is the crosswind runway at the Airport. It is 2,741 feet long and 60 feet wide. It is made of asphalt and gravel with an oil surface treatment. It is in poor condition and requires rehabilitation. Runway 1-19 has a single-wheel load bearing strength of 12,500 pounds. There are basic runway markings in fair condition. There are no runway edge lights or approach lighting; however, there are unlighted touchdown points. Runway 1 has a standard, left-handed traffic pattern and Runway 19 has a non-standard right-handed traffic pattern. There are no REILs, nor are there any visual or instrument approach aids.

The helipad is constructed of asphalt and is 50 feet by 50 feet. There are basic markings on the helipad that are in fair condition. The helipad uses a left-handed traffic pattern. There are no visual or instrument approach aids.

In addition to the runways and helipad, the Airport provides 100LL fuel, tiedowns, and hangars. There is an administration building on Airport property that is subdivided into two parts, one of which is an





Airport office, the other of which is an apartment for an onsite caretaker. The Airport is bounded by a secure perimeter fence.

TABLE A2
Airport Facilities
Coalinga Municipal Airport

	Runway 12-30	Runway 1-19	Helipad
RUNWAYS			
Length (feet)	5,000	2,471	50
Width (feet)	100	60	50
Threshold Displacement (feet)	0	0	N/A
Runway Pavement Surface Material	Asphalt	Asphalt, Gravel	Asphalt
Runway Pavement Surface Treatment	N/A	Oil treated	N/A
Runway Pavement Condition	Good	Poor	Good
Runway Pavement Load Bearing Strength (lbs.)			
Single Wheel	30,000	12,500	N/A
Dual Wheel	N/A	N/A	N/A
Double Tandem	N/A	N/A	N/A
Double Dual Tandem	N/A	N/A	N/A
Runway Pavement Markings			
Type	Non-Precision	Basic	Basic
Condition	Good	Fair	Fair
Runway Lighting			
Runway Edge Lighting	MIRL	None	Perimeter lights
Approach Lighting System (ALS)	No	No	N/A
Touchdown Point	Yes (no lights)	Yes (no lights)	N/A
Traffic Pattern	Left Right	Left Right	Left Left
Runway End Identifier Lights (REILs)	Yes	No	
VISUAL APPROACH AIDS			
Type	2-Light PAPI on Left	N/A	N/A
Glide Path	3.00 degrees	N/A	N/A
INSTRUMENT APPROACH AIDS			
Instrument Landing System (ILS)	No	No	N/A
Global Positioning System (GPS)	No	No	N/A
VOR/DME	No	No	N/A

N/A: Not Applicable

MIRL: Medium Intensity Runway Lights

PAPI: Precision Approach Path Indicator

VOR/DME: Very High Frequency Omnidirectional Range Distance Measuring Equipment

Source: AirNav (July 2017)

FUTURE AIRPORT PLANS

Future plans for the Airport are explained below and shown on the ALP (**Exhibit A4**).

In the *Coalinga Municipal Airport Master Plan* (May 2007), it is recommended that the City acquire an aviation easement over approximately 39 acres of land to the southeast of Runway 30 for the future enlarged runway protection zone (RPZ). This enlarged RPZ would be necessary for the ultimate extension of Runway 12-30 to the northwest, lengthening it to 7,500 feet. To accommodate this future runway length, the ALP shows the taxiway to the southwest of Runway 12-30 extending to the northwest to be a full-length parallel taxiway. A new entry/exit taxiway is planned at the northwest end of the ultimate Runway 12-30. A new aircraft holding apron is planned for at the northwest end of the ultimate Runway 12 end. In addition, global position system (GPS) procedures for Runways 12 and 30 with straight-in minimums are planned.

A permanent crosswind Runway 1-19 is planned to replace the existing temporary crosswind runway. The ultimate crosswind runway would be 3,000 feet long by 60 feet wide and the existing Runway 1-19 would become the future parallel taxiway.

AIRPORT ENVIRONS

EXISTING LAND USES

Existing land uses are shown on **Exhibit A5**.

Half of Airport property is considered City of Coalinga jurisdiction and the other half unincorporated Fresno County. Besides the parts of Airport property that are within the City of Coalinga's municipal boundaries, the area surrounding the Airport is entirely unincorporated, and mostly dominated by agricultural land uses. Other parcels in the airport influence area (AIA) include other/oil, open space, vacant, and residential.

In addition to the surrounding land uses, approximately 360 acres of the north and east sides of the Airport property is set aside as a Habitat Conservation Area. Any future development at the Airport would be on the south side to not impact the Habitat Conservation Area or runway buffer zones (Airport Master Plan, 2007).

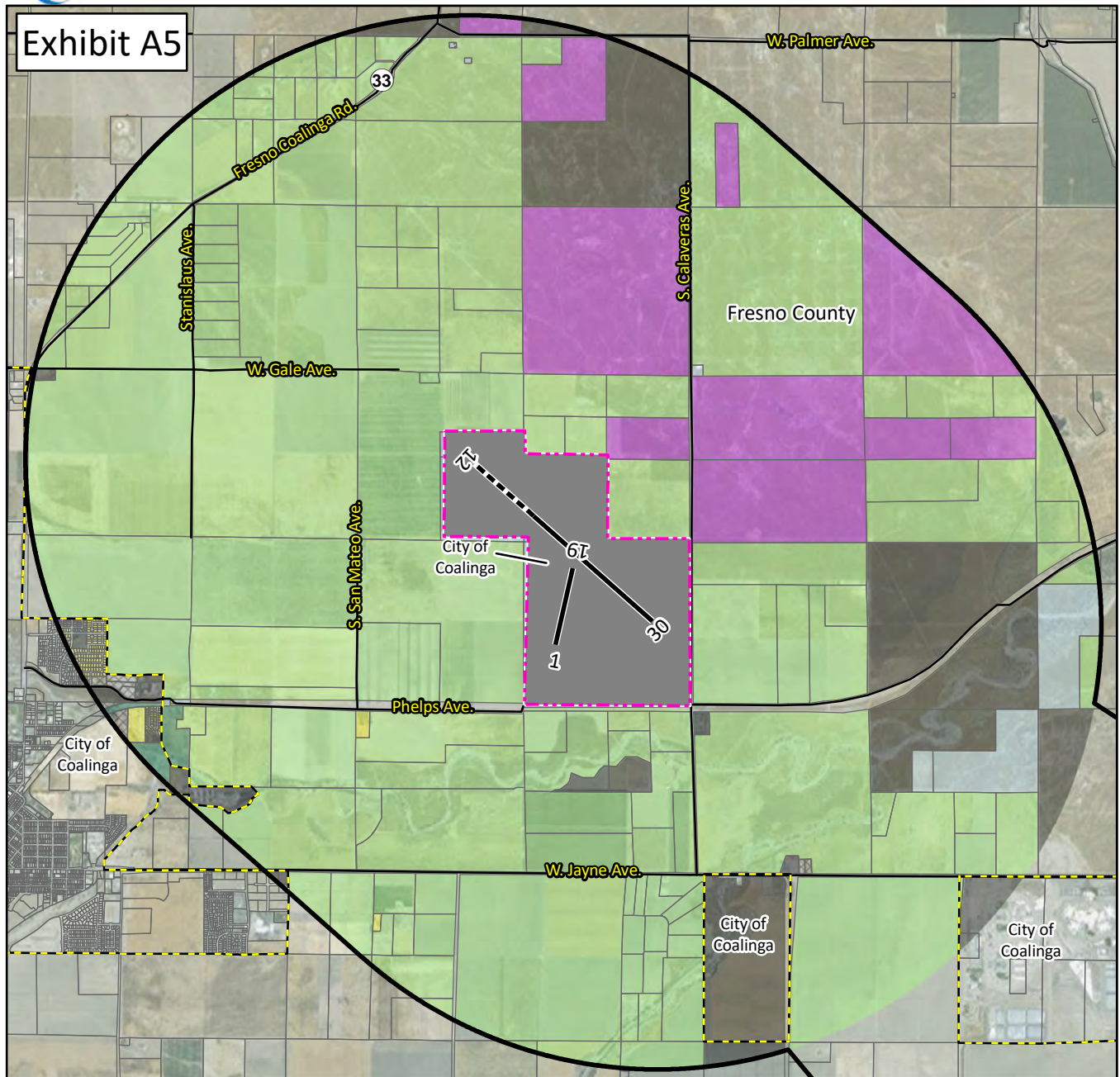
ZONING

Exhibit A6 shows zoning in the AIA.

Except for the areas within the City's limits, the AIA is zoned for agricultural uses. Most of the areas within City limits are zoned public; however, the western parcels in the AIA are zoned for residential, commercial, and open space, in addition to public. Much of the AIA is part of unincorporated Fresno County.



Exhibit A5

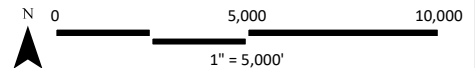


LEGEND

- Existing Runway¹
- - - Ultimate Runway¹
- Airport Property¹
- Parcel Boundary
- - - Municipal Boundary
- Streets
- Airport Influence Area (AIA)²

Existing Land Use³

- Single Family Residential
- Agricultural
- Public
- Open Space
- Industrial
- Transportation/Right-of-Way
- Vacant
- No Data



¹Coalinga Airport Layout Plan (2007).

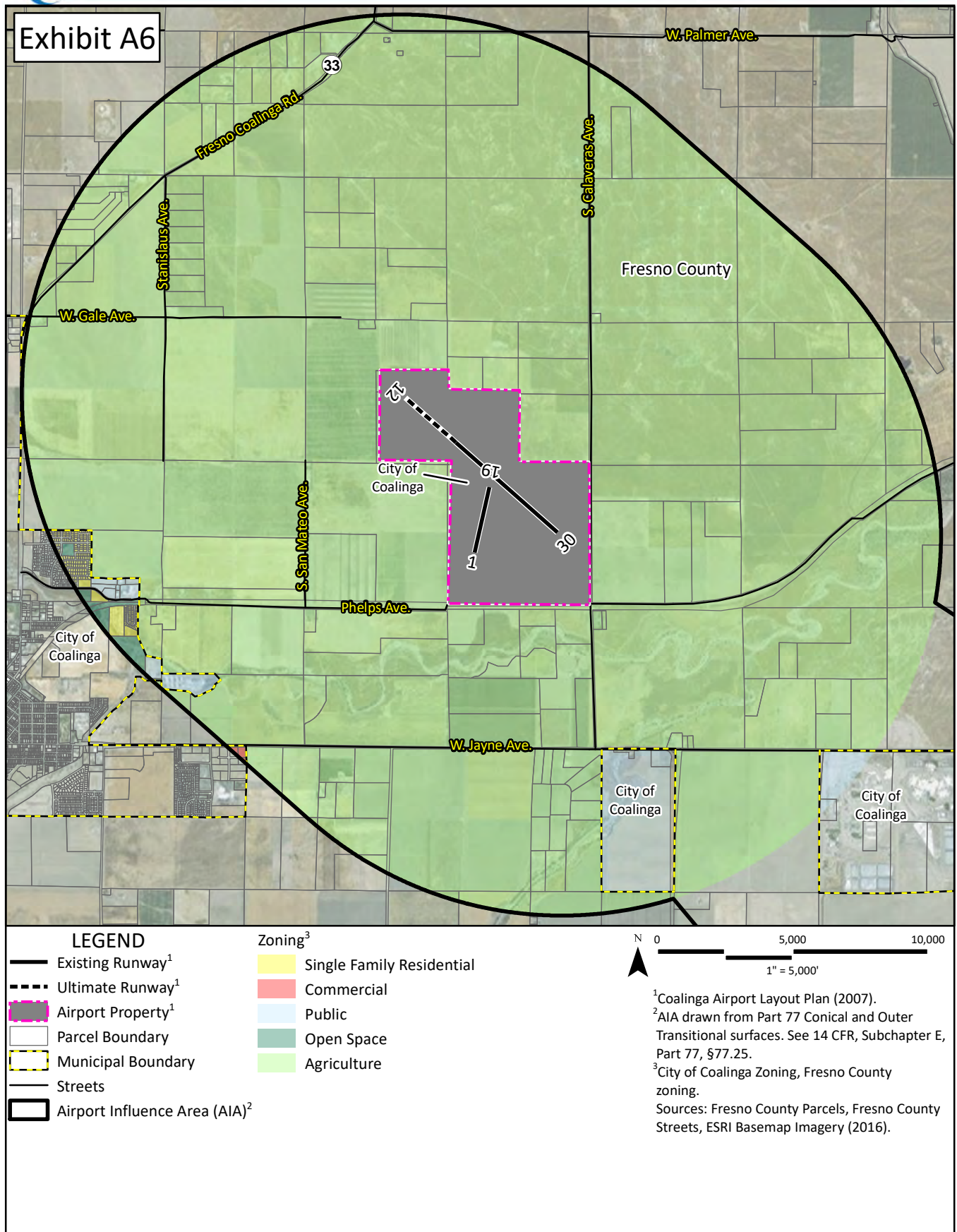
²Part 77 Conical and Outer Transitional surfaces. See 14 CFR, Subchapter E, Part 77, §77.25.

³Fresno Council of Governments

Sources: Fresno County Parcels, Fresno County Streets, ESRI Basemap Imagery (2016).



Exhibit A6



GENERAL PLAN

General plan land uses are shown on **Exhibit A7**.

The City of Coalinga updated their General Plan in June 2009, and **Exhibit A7** represents the planned land uses for Coalinga based on the goals and objectives outlined in this plan. Agricultural uses are the primary planned use in the AIA; however, several parcels are planned for industrial, low- and multi-family residential, and open space uses, as well. Areas within the City of Coalinga are primarily planned for public use; however, select parcels are planned for open space, too. As mentioned previously, most of the AIA is not part of the City of Coalinga, but rather is part of unincorporated Fresno County.

COMPATIBILITY FACTORS

Exhibit A8 is a compatibility factors map, which compiles National Transportation Safety Board flight accident data for all airports in the United States, noise exposure contours, and arrival and departure flight tracks from the noise exposure contours. The purpose of this exhibit is to illustrate the methodology behind the shape and size of the safety, noise, and airspace compatibility zones.



Exhibit A7

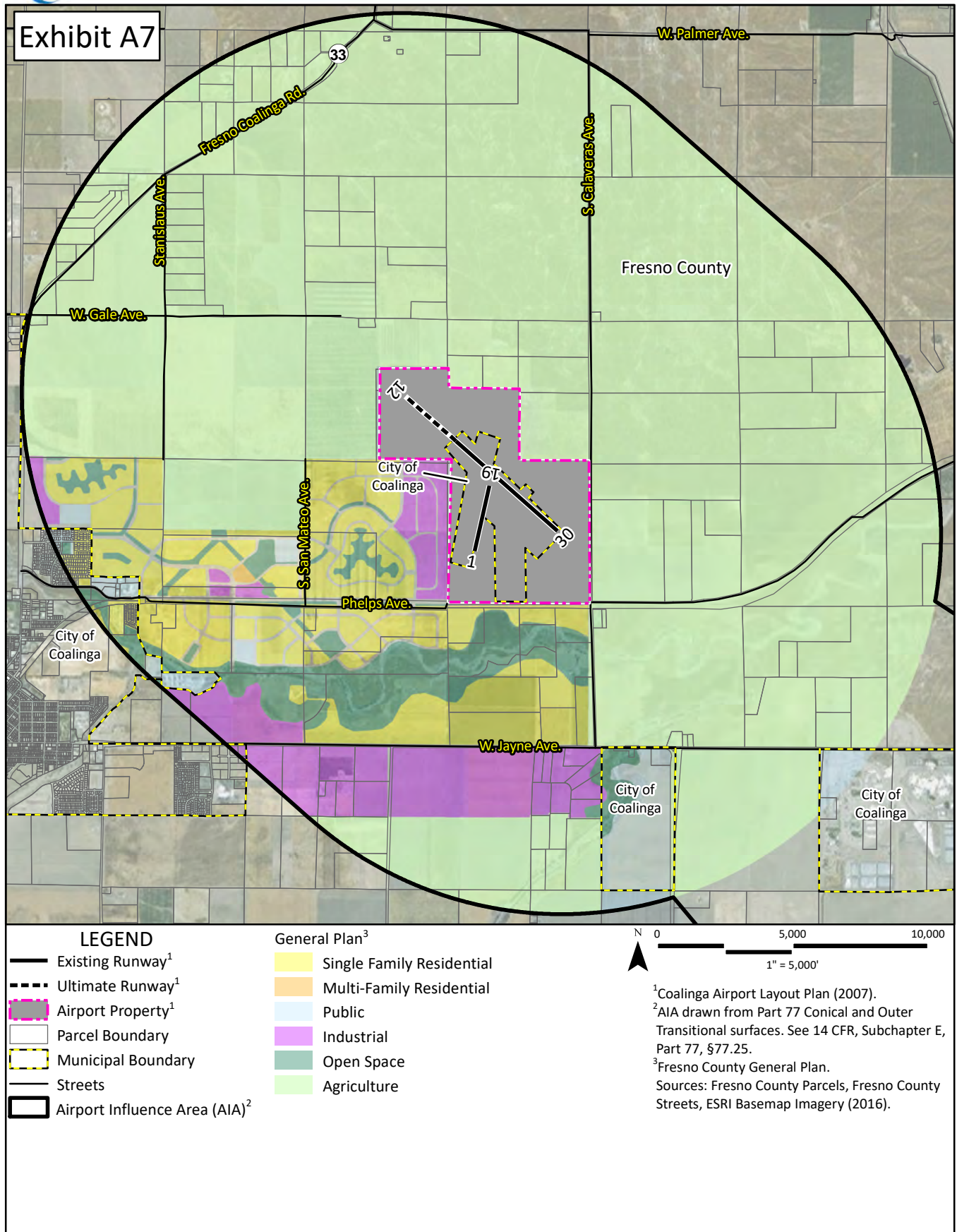
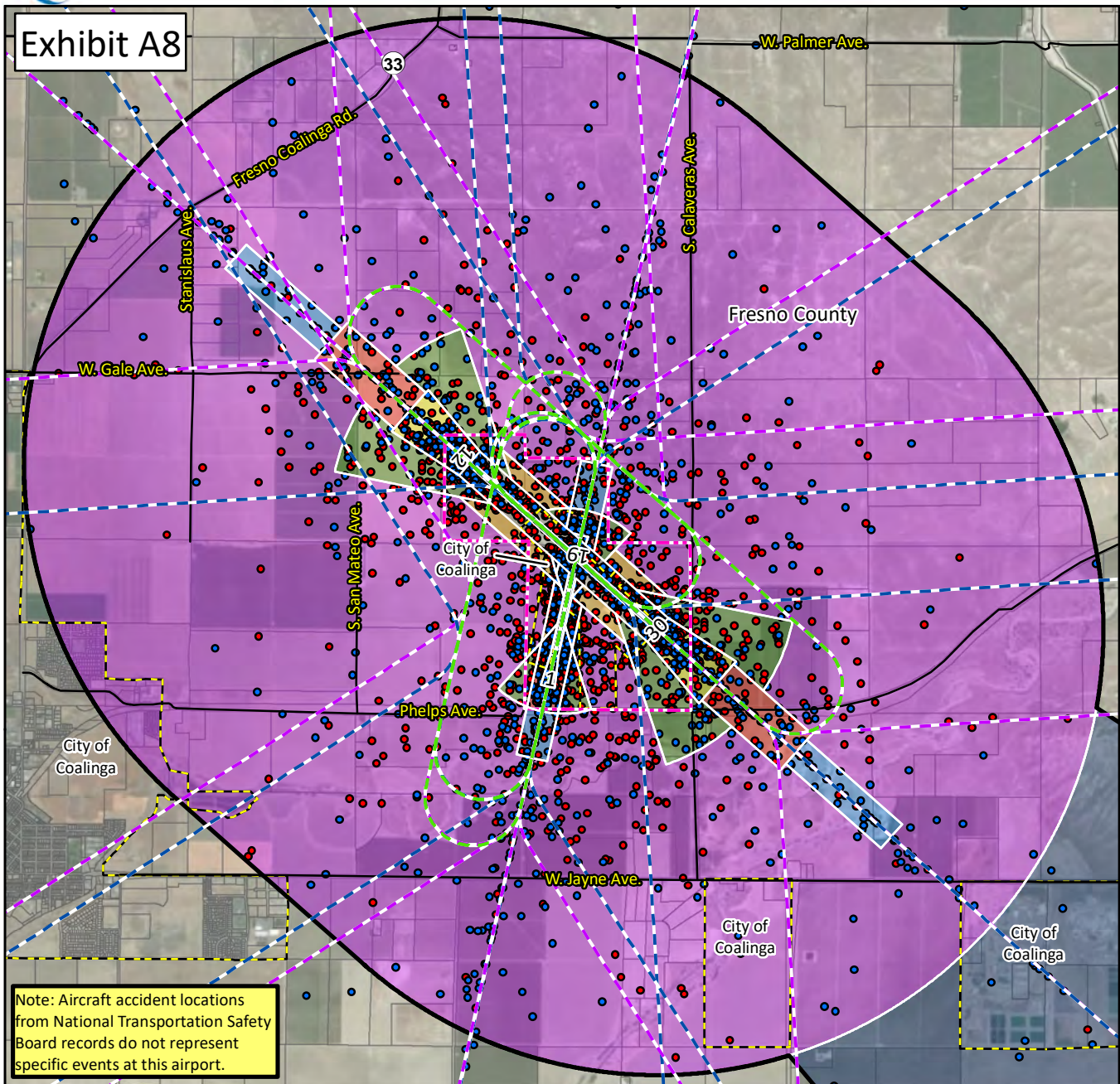




Exhibit A8



Note: Aircraft accident locations from National Transportation Safety Board records do not represent specific events at this airport.

LEGEND

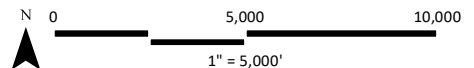
- Existing Runway¹
- Ultimate Runway¹
- Airport Property¹
- Parcel Boundary
- Municipal Boundary
- Streets
- Arrival Accidents²
- Departure Accidents²
- Airport Influence Area³

Flight Tracks⁴

- Approach
- Departure
- Touch And Go

Safety Zones⁵

1. Runway Protection Zone
2. Inner Approach/Departure Zone
3. Inner Turning Zone
4. Outer Approach/Departure Zone
5. Sideline Zone
6. Traffic Pattern Zone
7. Precision Approach Zone



¹Coalinga Airport Layout Plan (2007).

²California Airport Land Use Planning Handbook, 2011. Normalized from airports in United States.

³AIA drawn from Part 77 Conical and Outer Transitional surfaces. See 14 CFR, Subchapter E, Part 77, §77.25.

⁴Coffman Associates analysis.

⁵Figure 3A, California Airport Land Use Planning Handbook (2011), and Coffman Associates Analysis. Sources: Fresno County Parcels, Fresno County Streets, ESRI Basemap Imagery (2016).