

3.0 EXISTING AIRPORT CHARACTERISTICS

3.1 OPERATIONAL CHARACTERISTICS

3.1.1 Location

Avi Suquilla Airport, consisting of approximately 255 acres, is located north of the Town of Parker on the east bank of the Colorado River, 163 miles west of Phoenix. Highway access from Phoenix is provided via Interstate 10 and Arizona State Highway Route 95. Driving time between Phoenix and Parker is approximately three hours. Figure 3-1 depicts the Airport's regional location.

3.1.2 Topography

Field elevation of Avi Suquilla Airport is 448 feet mean sea level (msl). As shown in Figure 3-2, the Airport's topography is relatively flat; however, desert mountains are located in both quadrants north of the Airport. Ground elevation gradually rises to 2,000 feet msl over a span of 10 nautical miles to the east and to 4,110 feet msl approximately 11 nautical miles to the northwest. These high terrain conditions within proximity of the Airport must be given primary consideration in planning for the future development of the Airport.

3.2 AIRSIDE CHARACTERISTICS

Airside characteristics at Avi Suquilla Airport include the runway, taxiway, aircraft parking apron, and various airfield lighting.

3.2.1 Runway 01-19

Avi Suquilla Airport has a single asphalt and concrete runway (01-19) oriented north and south, which is 4,800 feet long and 75 feet wide. The runway strength is sufficient for aircraft weighing up to 20,000 pounds. Runway markings are consistent with FAA Advisory Circular 5300-4B for visual runways.

3.2.2 Taxiway

The taxiway system at the Airport consists of one parallel taxiway 4,800 feet long by 50 feet wide with four perpendicular stub taxiways connecting to the runway. The taxiways are marked with a centerline and holding lines in accordance with FAA standards.

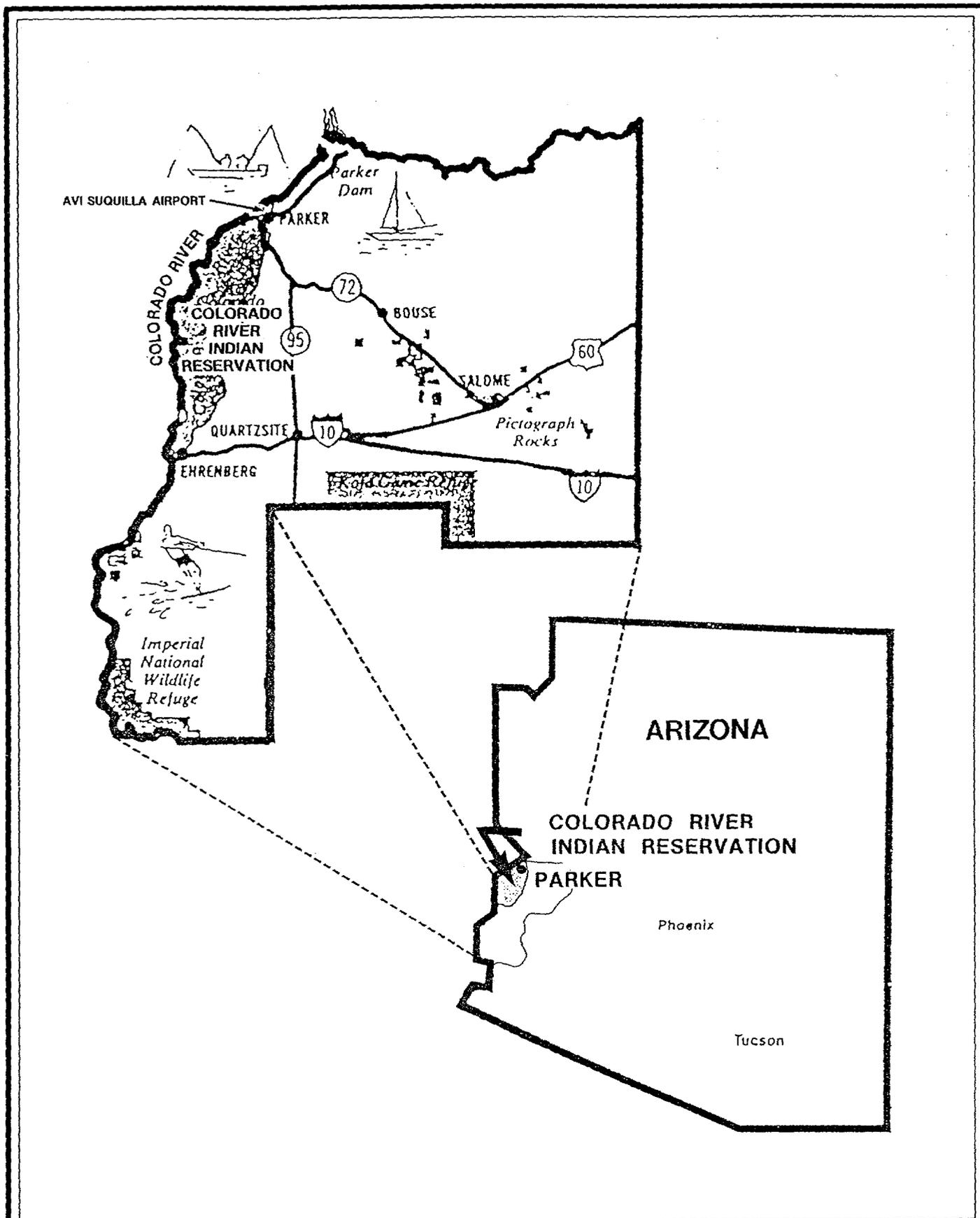


Figure 3-1
REGIONAL LOCATION MAP

AVI SUQUILLA
AIRPORT MASTER PLAN

SOURCE: ARIZONA OFFICE OF ECONOMIC PLANNING AND DEVELOPMENT, 1984

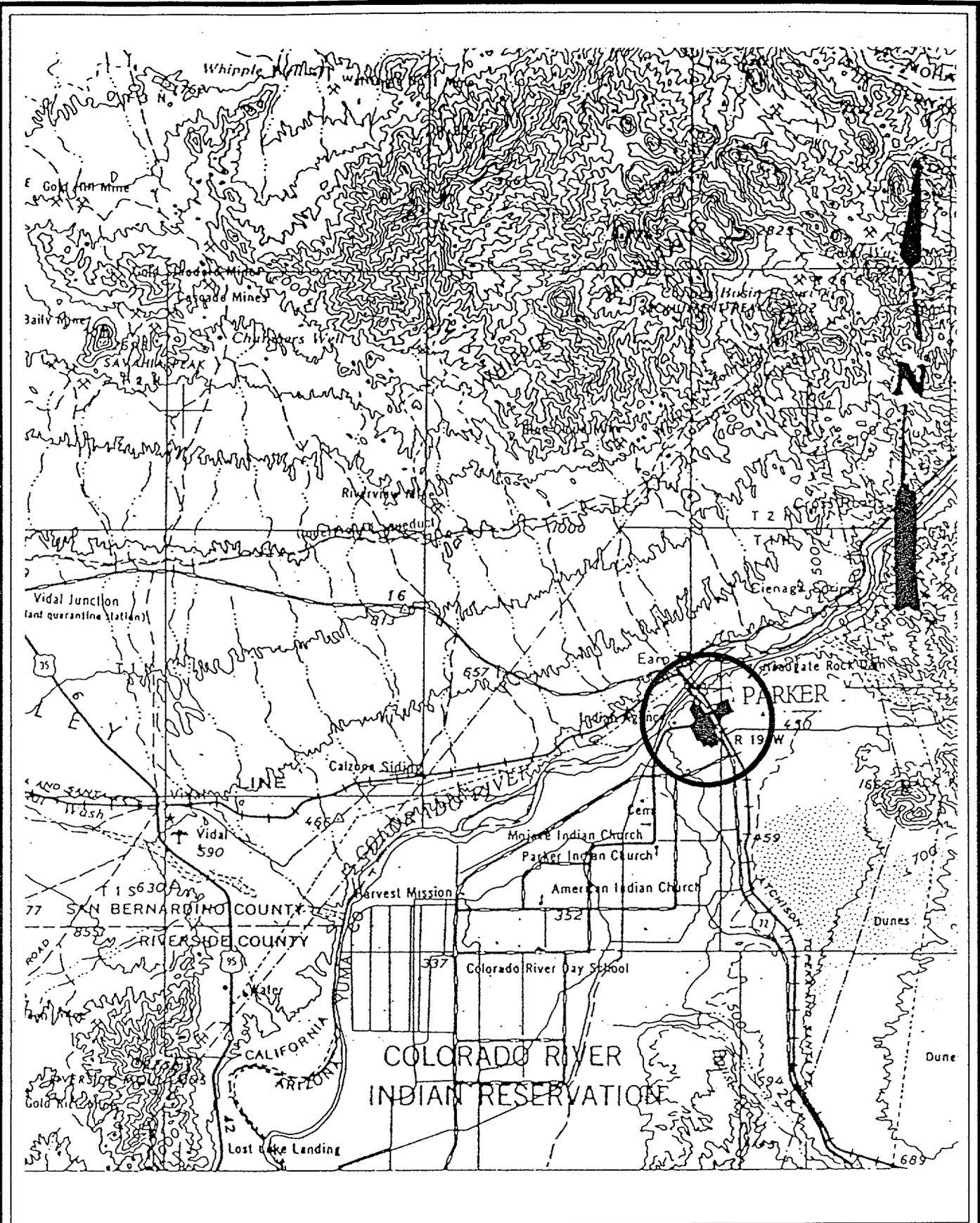


Figure 3-2
FIELD ELEVATION MAP

AVI SUQUILLA
AIRPORT MASTER PLAN

SOURCE: U.S.G.S. TOPOGRAPHIC MAP

3.2.3 Parking Apron

The apron area measures approximately 465,900 square feet, of which 112,900 square feet is improved asphaltic concrete surface. Approximately 241,700 square feet of apron area is treated with an oiled (prime coat) surface, and the remaining 111,300 square feet has an unimproved surface and is used primarily as an overflow parking area during peak periods. There are presently 75 tiedowns, of which 15 are located on improved surfaces.

3.2.4 Airfield Lighting

Power for the airfield lighting is supplied from the electrical vault which is located in the terminal building. Airfield lighting consists of MIRLs, MITLs and a lighted wind cone and tetrahedron located east of the runway at about midfield along with an unlighted wind sock at each runway end. A standard airport rotating beacon is located east of the apron. A two-box Visual Approach Slope Indicator system (VASI-2) is located at each end of the runway.

3.2.5 Existing Airfield Pavement

In 1961, the first asphaltic cement surface replaced the oiled surface. The last surface treatment of the runway was in 1974. Currently, the runway surface exhibits some minor cracking along the edges that will require cleaning and filling. The remaining runway, taxiway and paved ramp surfaces should be sealed to preclude any further deterioration.

3.2.6 Weather Information

There is no weather service facility located at the airport. Weather briefings and flight planning services are provided by flight service stations located in Blythe and Needles, Arizona. Weather information may be obtained either by aircraft radio, if airborne, or by telephone prior to flight.

3.3 LANDSIDE CHARACTERISTICS

3.3.1 Fixed-Base Operations and Services

CRIT-Air, which is owned and operated by CRIT, is the sole fixed-base operation (FBO) at the Airport. The FBO is attended between the hours

of 8:00 a.m. and 6:00 p.m., 7 days a week, and services provided include airframe and power plant repair, fuel (100 LL stored in two 10,000-gallon underground tanks and one 10,000-gallon storage tank for JET-A) air charter service, and flight instruction. The FBO also holds a certificate for air taxi and air cargo operations, and provides air ambulance services from local hospitals.

3.3.2 Airport Buildings

Existing permanent structures on the airport consist of an operations building (approximately 1,500 square feet) of block construction, which contains the operations room, pilot waiting area, restrooms, and miscellaneous equipment, including weather gauges and the unicom. A large hangar of metal-shed construction serves as the FBO's maintenance area and headquarters. A series of five private hangars, which are in poor condition, are located at the south end of the airport.

3.3.3 Crash, Fire and Rescue (CFR)

Currently, there is no CFR capability located on the airport site. This service is provided by the City of Parker's Fire Department, located within a 5-minute drive of the airport. One possible drawback with this arrangement is that the fire department is located on the south side of the railroad tracks, which means that CFR service could be delayed for longer periods of time if access is blocked by a passing train. *Buckskin FD*
10 minutes from Airport (upriver)

3.3.4 Access

The principal mode of transportation to Parker is by highway. Arizona Highway 72 and State Highway 95 both pass through Parker, and California Highway 62 connects to State Highway 95. Interstate 40 is 54 miles north and Interstate 10 is 35 miles south of Parker. The primary access route to the Airport is Arizona or State Highway 95. Other modes of surface transportation include bus service and railroad freight service to Parker and taxi service from Parker to the Airport. The Airport access road is a two-lane, paved road.

3.4 OTHER AIRPORT CHARACTERISTICS

3.4.1 Drainage

There is some evidence of poor drainage on the south end of the Airport site. This area, which shows signs of standing water, is slightly depressed below the surrounding terrain and lies in a natural watercourse which allows drainage to the east and southeast. Agricultural operations conducted on adjacent land tends to increase soil moisture contents and raise the groundwater level. Therefore, the capacity of the soil to absorb moisture during an intense rainfall is diminished, and more water must either accumulate on the surface or flow off onto adjacent low-lying areas.

3.4.2 Utilities

Water for the Airport complex is supplied through the Parker Municipal Water System. Current needs are met by the existing system; however, fire hydrants should be installed when firefighting equipment is acquired, and the system should be tested to ensure that adequate pressure is available at the volumes required for firefighting operations.

A septic tank and leach line system, located near the northwest corner of the operations building, is presently used for Airport sewage disposal. This system should be adequate for anticipated needs during the planning period. However, if extensive agricultural chemical spraying operations are conducted from the Airport in the future, provisions should be made for disposal of washwater and other related wastes.

3.5 AIRSPACE CHARACTERISTICS

Airspace characteristics have a significant impact upon the planning process for Avi Suquilla Airport. These characteristics are addressed first from the standpoint of the overall region, then from the perspectives of the Parker area, and finally, from the perspective of the Airport itself.

A regional analysis of airspace conditions includes a study of special-use airspace which consists of that airspace wherein activities must be confined because of their nature, or wherein limitations are imposed upon aircraft operations that are not a part of those activities, or both. These prohibited areas include:

- Restricted Areas
- Warning Area
- Military Operations Areas
- Alert Area
- Controlled Firing Areas
- Parachute Jump Aircraft Operations
- Military Training Routes
- Airport Traffic Areas
- Airport Advisory Area
- Temporary Flight Restriction (NOTAM's)

The prohibited areas regionally associated with Avi Suquilla Airport are Military Operation Areas (MOAs). MOAs consist of airspace of defined vertical and lateral limits established for the purpose of separating certain military training activities from Instrument Flight Rules (IFR) traffic. Whenever an MOA is being used, nonparticipating IFR traffic may be cleared through an MOA if IFR separation can be provided by Air Traffic Control (ATC). Otherwise, ATC will reroute or restrict nonparticipating IFR traffic.

Most military training activities require acrobatic or abrupt flight maneuvers. Therefore, military pilots conducting flights in Department of Defense aircraft within a designated and active MOA are exempt from the provisions of FAR 91.71(c) and (d) which prohibit acrobatic flight within federal airways and control zones.

Pilots operating under Visual Flight Rules (VFR) should exercise extreme caution while flying within an MOA when military exercises are being conducted. Information regarding activity in MOAs may be obtained from any Flight Service Station (FSS) within 100 miles of the area. Prior to flying through an MOA, FAA recommends that the pilot contact the

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controlling agency for traffic advisors. The south end of the runway at Avi Suquilla Airport is less than 1 mile north of the northern boundary of the Quail MOA. However, the Quail MOA begins at 10,000 feet msl and continues upward to the floor of the positive control area at 18,000 feet msl.

Two other MOAs are located near Parker; the Turtle MOA approximately 10 miles north-northwest at the nearest point, and Gladden 1 Alpha MOA, about 16 miles northeast.

Other controlled airspace associated with the Airport are the federal airways. A federal airway is an imaginary corridor which is based on a centerline that extends from one navigational aid (Navaid) or intersection to another Navaid specified for that airway. The centerline is shown on aeronautic charts along with the magnetic course and the airway's identity. Each airway includes airspace within parallel boundary lines which are normally 4 nautical miles each side of the centerline extending from 1,200 feet above ground level (unless a higher altitude is indicated) upward to, but not including, 18,000 feet msl. In as much as a federal airway is controlled airspace, VFR flight within the airway requires distinct weather minimums. Acrobatic flight is not permitted in an airway or control zone.

The airway most closely associated with Avi Suquilla Airport is Victor 135 located west of the Airport in a north-south fashion as described by the Blythe, Parker, and Needles VORTACs. Victor 135 has a designated ceiling of 9,000 feet msl south of Parker VORTAC, and 10,000 feet msl between the Parker and Needles VORTACs.

Nav aids, Radio Communication, Radar Coverage--The Parker VORTAC is located approximately 25 miles west of Avi Suquilla Airport and serves as the fix establishing a published circling approach to the Airport.

CRIT-Air operates the field unicom on a frequency of 122.8 MHZ. There are no other aircraft radio communications or radar coverage in the Parker area.

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3.6 METEOROLOGICAL CONDITIONS

Meteorological conditions have a direct impact on the operational characteristics of an airport. These conditions determine the directions in which aircraft operations may be conducted, the frequency of use for each operational configuration, and the instrumentation required to assist aircraft in landing and departing.

3.6.1 Local Climatological Data

The Parker area climate is similar to that of the southwest United States, with an arid desert-type climate. The annual average daily maximum temperature for the Parker area is 88.3°F with the annual average daily minimum 56.5°F. Similar to other desert areas, the Parker area exhibits a small amount of precipitation with an annual average precipitation of 3.82 inches.

High daily average temperatures for the year occur in July with a mean of 108.6°F and the daily minimum temperature occurs in January during which time the average is 37.1°F. The mean monthly and mean annual temperatures along with the average total precipitation for the Parker area are shown in Table 3-1.

3.6.2 Runway Wind Coverage

Wind direction and speed determine the desired alignment and configuration of the runway system. Aircraft land and take off into the wind and, therefore, can tolerate only a limited variation of crosswind component (the percentage of wind perpendicular to the runway centerline).

A wind observation program was conducted at Avi Suquilla Airport between October 1979 and March 31, 1980. Wind data was obtained from the Blythe and Needles observation stations; however, poor correlation between either of these stations and the data obtained from observations at Avi Suquilla Airport make it difficult to develop an accurate wind rose for the Airport. The orientation of the existing Runway 01/19 was based primarily on pilot experience. Analysis of available Parker wind data tends to confirm this orientation.

Table 3-1. Weather--Parker, Arizona Area

Month	Average Temperature (°F)		Average Total Precipitation (inches)
	Daily Max.	Daily Min.	
January	67.3	37.1	0.53
February	72.9	41.7	0.32
March	78.7	46.6	0.52
April	87.0	53.6	0.22
May	95.3	61.9	0.03
June	103.3	69.6	0.01
July	108.6	78.8	0.30
August	106.7	78.2	0.56
September	102.5	70.2	0.26
October	91.4	57.8	0.29
November	77.5	44.9	0.32
December	68.3	38.1	0.46
YEAR	88.3	56.5	3.82

Average Total Snow, Sleet and Hail Annually: Trace

FAA has recommended that airports have adequate runways to provide for coverage of 95 percent of all wind directions under stipulated crosswind components depending upon aircraft size and configuration. In general, all large aircraft can be adequately controlled with crosswind components of 15 miles (13 knots) or less, while small light aircraft should be restricted to 12 miles per hour (10.5 knots) or less.

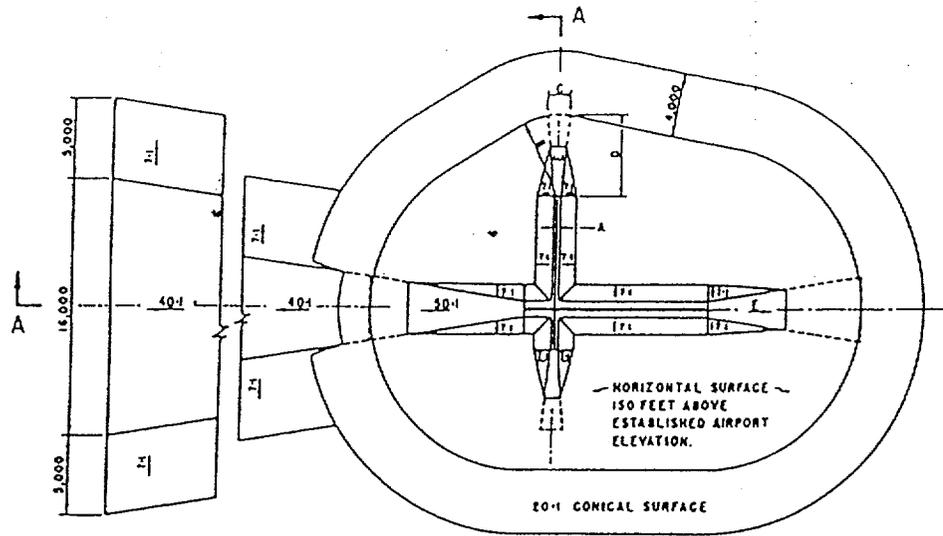
According to the wind rose produced by R. B. Williams and Associates, Inc. in 1980, the current runway orientation provides a 95.8-percent wind coverage for a 12.5-mph crosswind component.

3.7 AIRPORT IMAGINARY SURFACES

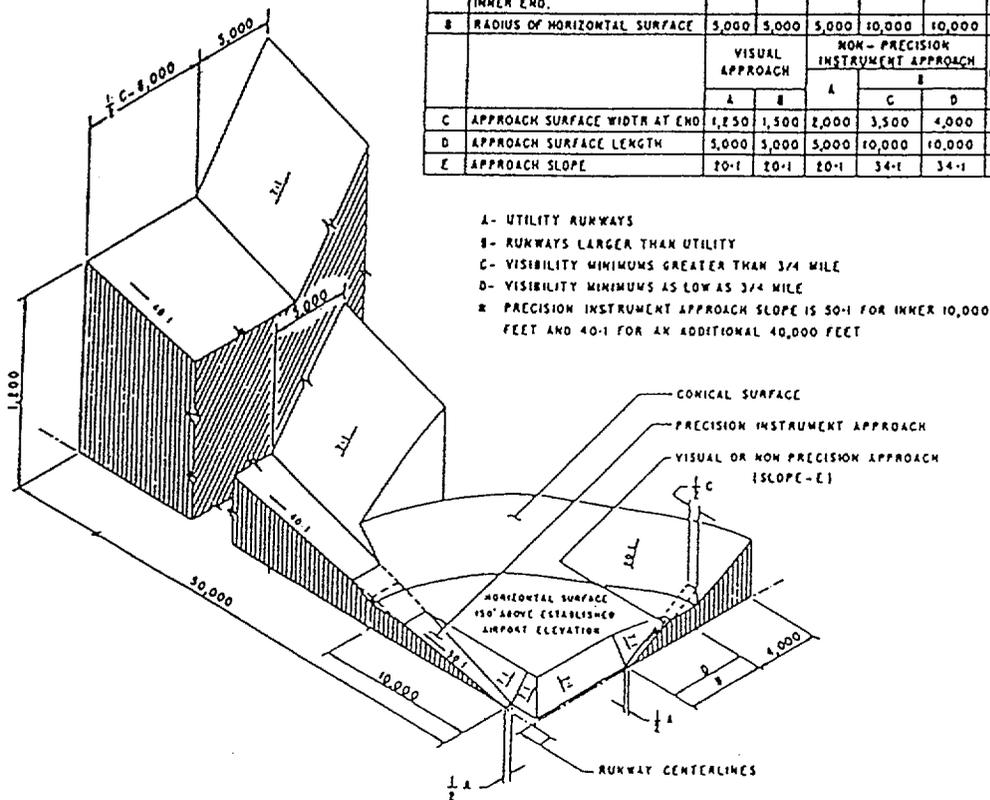
This section is a descriptive analysis of airport imaginary surfaces as applied to Avi Suquilla Airport. Federal Aviation Regulations (FAR) Part 77 establishes several "imaginary surfaces" of varying dimensions that are used as a guide to provide a safe operating environment for aviation. These surfaces, which are typical for civilian airports, are shown in Figure 3-3. The primary, horizontal, transitional, and conical surfaces identified in FAR Part 77 are applied to each runway at both existing and new airports on the basis of the type of approach procedure available or planned for that runway and the specific FAR Part 77 runway category criteria. The dimensional application of imaginary surfaces to the Avi Suquilla Airport relates to the data contained in FAR Part 77, and the FAA Airport Master Record (Form 5010-1).

3.7.1 Clear Zones

A clear zone is an area at ground level that provides for the safe, unobstructed passage of landing aircraft. The dimensions of a clear zone are determined by the approach surface dimensions of FAR Part 77 for the specific runway. The clear zone begins at the end of the primary surface, 200 feet from the end of the paved runways. FAR Part 77 runway categories and corresponding clear zone dimensions are provided in Table 3-2.



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



- A- UTILITY RUNWAYS
- B- RUNWAYS LARGER THAN UTILITY
- C- VISIBILITY MINIMUMS GREATER THAN 3/4 MILE
- D- VISIBILITY MINIMUMS AS LOW AS 3/4 MILE
- * PRECISION INSTRUMENT APPROACH SLOPE IS 50:1 FOR INNER 10,000 FEET AND 40:1 FOR AN ADDITIONAL 40,000 FEET

Figure 3-3
TYPICAL IMAGINARY SURFACES
FOR CIVILIAN AIRPORTS

AVI SUQUILLA
AIRPORT MASTER PLAN

SOURCE: FAA PART 77, 1975

Table 3-2. Avi Suquilla Airport FAR Part 77 Existing Runway Category and Clear Zone Dimensions

Runway Number	Runway Type FAA Part 77 Category	Clear Zone Dimensions		
		Width		Length (ft.)
		Inner (ft.)	Outer (ft.)	
01	Utility Runway with a Visual Approach	250	450	1,000
19	Utility Runway with a Visual Approach	250	450	1,000

Sources: FAA Advisory Circular 150/5300-4B, Change 7, 1983.
RS&H, 1985.

3.7.2 Horizontal Surface

The horizontal surface is classified as a "secondary" surface normally considered necessary for the safe and efficient operation of aircraft in the vicinity of an airport. As specified in FAR Part 77, the horizontal surface is a horizontal plane 150 feet above the established airport elevation. The perimeter is constructed by arcs of specified radii from the center of each end of the primary surface of each runway. The radius of each arc is 5,000 feet for runways designated as utility or visual and 10,000 feet for runways designated as transport or instrument. A radius of 5,000 feet presently applies to Avi Suquilla Airport.

3.7.3 Conical

The conical surface extends outward and upward from the periphery of the horizontal surface at a slope of 20:1 for a horizontal distance of 4,000 feet.

3.7.4 Primary Surface

The primary surface is an imaginary surface of specific width, which is longitudinally centered on a runway. Primary surfaces extend 200 feet beyond each end of paved surface runways. The elevation of any point on the primary surface is the same as the elevation of the nearest point on the runway centerline. The width of the primary surface at Avi Suquilla Airport is 250 feet.

3.7.5 Approach Surface

The approach surface is longitudinally centered on the extended runway centerline and extends outward and upward from each end of the primary surface. An approach surface is applied to each end of the runway based upon the type of approach available or planned for that runway. The inner edge of the surface is the same width as the primary surface. It expands uniformly to a width corresponding to the FAA Part 77 runway classification criteria. The approach surface for Runway 01 and Runway 19 at Avi Suquilla Airport measures 1,250 feet at its outer limit and extends for a horizontal distance of 5,000 feet at a slope of

20:1. There exists a published instrument approach off of Parker VORTAC with circling minimums; however, a circling approach is considered a visual approach due to the fact that the approach course is not aligned with a particular runway. Therefore, the dimensions of the approach surface conform to the visual approach criteria as established in FAR Part 77.

3.7.6 Transition Surface

The transition surfaces extend outward and upward at right angles to the runway centerline from the sides of the primary and approach surfaces at a slope of 7:1. These surfaces are directly related to the building restriction line guidance set forth by the FAA.

3.7.7 Obstacle Free Zone (OFZ)

As established in FAA's Advisory Circular 150/5300-4B, Chapter 6, these areas are composed of the runway OFZ, the approach OFZ and the inner-transitional surface OFZ. Since the latter two OFZ areas apply to airports with approach lighting systems and precision instrument runways, respectively, only the runway OFZ is applicable to Avi Suquilla Airport.

The runway OFZ is almost identical to FAR Part 77's primary surface insofar as it represents the volume of space longitudinally centered on the runway. It also extends 200 feet beyond each end of the runway. For Avi Suquilla Airport, the width of its runway OFZ is 250 feet under the Airport's present configuration.

Similar to FAA's interpretation of FAR Part 77, the OFZ must be free of all objects, except Navaids, and clear of all parked vehicles and aircraft during the operation of other aircraft.

3.8 OBJECTS AFFECTING NAVIGABLE AIRSPACE

The obstruction criteria contained in FAR Part 77 apply to existing and proposed manmade objects, objects of natural growth, and terrain. These criteria indicate the "critical" areas in the vicinity of airports which should be kept free of obstruction. "Secondary" areas may contain

obstructions if they are determined to be nonhazardous by an aeronautical study, and if they are marked and lighted as specified in the aeronautical study determination.

By nature of their location, airfield Nav aids, lighting, and visual aids may constitute obstructions, but these objects do not violate FAR Part 77 requirements, as they are essential to the operation of the airport.