SHOW LOW REGIONAL AIRPORT

ALP NARRATIVE REPORT

AIRPORT LAYOUT PLAN UPDATE
and
NARRATIVE REPORT

for

SHOW LOW REGIONAL AIRPORT
Show Low, Arizona

FINAL REPORT

Prepared for

The City of Show Low

by

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in association with
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December 2012

"The preparation of this document may have been supported, in part, through the Airport Improvement Program financial assistance from the Federal Aviation Administration as provided under Title 49, United States Code, section 47104. The contents do not necessarily reflect the official views or policy of the FAA. Acceptance of this report by the FAA does not in any way constitute a commitment on the part of the United States to participate in any development depicted therein nor does it indicate that the proposed development is environmentally acceptable in accordance with appropriate public laws."

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GLOSSARY OF TERMS

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ALP Narrative Report

AIRPORT LAYOUT PLAN NARRATIVE REPORT

Show Low Regional Airport

The purpose of the airport layout plan (ALP) narrative report is to provide the City of Show Low, the Arizona Department of Transportation (ADOT) - Aeronautics Group, and the Federal Aviation Administration (FAA) with a clear vision of necessary airport improvements over the next 20 years. This document will focus on the facility changes and development direction of the airport that has occurred since the previous master plan was completed in 2003.

The report will also include an updated ALP drawing set, which is a drawing of the airport that shows the current and future conditions. Included with this set are updated departure surface drawings for each runway end that may support air carrier operations and a layout of imaginary surfaces as defined by FAA standards.

AIRPORT PLANNING ROLE

Airport planning exists on many levels: national, state, and local. Each level has a different emphasis and purpose. On the national level, Show Low Regional Airport is included in the *National Plan of Integrated Airport Systems* (NPIAS). This federal plan identifies 3,356 existing airports which are considered significant to the national air transportation system. The NPIAS is published and used by the FAA in administering the Airport Improvement Program (AIP) which is the source of federal funds for airport improvement projects across the country. The AIP program is funded exclusively by user fees and user taxes, such as those on fuel and airline tickets. The 2009-2013 NPIAS estimates $49.7 billion is needed for airport development across the country over the next five years. An airport must be included in the NPIAS to be eligible for federal funding assistance through the AIP.

Show Low Municipal Airport is classified as a non-primary commercial service airport within the NPIAS.

The NPIAS supports the FAA's strategic goals for safety, system efficiency, and environmental compatibility by identifying specific airport improvements. The current issue of the NPIAS identifies approximately $5.3 million in development needs over the next five years for Show Low Regional Airport. This figure is not a guarantee of federal funding; instead, this figure represents development needs as presented to the FAA in the annual airport capital improvement program.

Airports that apply for and accept AIP grants must provide grant assurances. These assurances include maintaining the airport facility safely and efficiently in accordance with specific conditions. The duration of the assurances depends on the type of airport, the useful life of the facility being developed, and other factors. Typically, the useful life for an airport development project is a minimum of 20 years. Therefore, when an airport accepts AIP grants, they are obligated to maintain that facility in accordance with FAA standards for at least that long.

At the state level, the airport is included in the *Arizona State Airports System Plan* (SASP). The purpose of the SASP is to ensure that the state has an adequate and efficient system of airports to serve its aviation needs well into the 21st century. The SASP defines the role of each airport in the state's aviation system and establishes funding needs.

The airport master plan is the primary local planning document. The master plan is intended to provide a 20-year vision for airport development based on aviation demand forecasts. Forecasts beyond five years become less reliable. The most recent forecasts were completed in the 2003 Airport Master Plan. As a result, this is an appropriate time to update these forecasts and revisit the development assumptions from that plan. This document is intended to bridge the gap between the timeframe needed for a full update to the existing airport master plan.

AIRPORT HISTORY AND ADMINISTRATION

Show Low Regional Airport was dedicated in 1946 as the result of a U.S. Forest Service Special Use Permit. Operations began with a dirt runway and a small terminal. The airport is owned and operated by the City of Show Low. The city provides aircraft fueling and line services, in addition to maintaining the airport. The airport is staffed with five individuals from the Department of Public Works. The Airport Manager reports to the Director of Public Works.

The airport terminal is open 365 days a year and linemen are on duty year-round to provide aircraft fueling, in addition to many other services. Self-serve Jet A and 100LL AvGas aircraft fuel is also available 24/7 from two aboveground tanks located west of the terminal building.

SCHEDULED PASSENGER SERVICE

Show Low Regional Airport is included in the Essential Air Service (EAS) program. The EAS program is administered by the U.S. Department of Transportation to ensure smaller communities retain access to the national air transportation system. Under the EAS program, the air carrier providing scheduled air service to a

community is provided a monthly subsidy in return for providing a minimum level of service to a hub airport.

Currently, scheduled air service at Show Low Regional Airport is provided by Great Lakes Airlines, an independent regional airline and largest EAS provider in the U.S. Great Lakes has provided subsidized air service for Show Low under an EAS contract since 2004.

Operating the twin-engine Beech 1900D, they offer service between Show Low, Phoenix, Farmington, and Denver seven days per week, with roundtrip flights daily. Great Lakes is a code-share partner with United and Frontier Airlines and from Phoenix or Denver, passengers can connect to any of the major airlines operating from these airports.

AIRPORT SETTING AND ACCESS

The City of Show Low is located in the southeastern portion of Navajo County at the intersection of U.S. Highway 60 and State Highway 77. Highway 77 connects Show Low with Interstate 40, the Town of Snowflake, and the City of Holbrook to the north. To the south, Highway 260 provides access to the towns of Pinetop-Lakeside and Hon Dah. U.S. Highway 60 connects with Springerville and Eager to the east, and Carrizo and Globe to the southwest. The city is surrounded by the Apache Sitgreaves National Forest and White Mountain Apache Reservation.

Show Low Regional Airport is located at the intersection of U.S. Highway 60 and State Highway 77 on the eastern side of Show Low, approximately two miles from downtown. Airport Road, which provides access to the airport, is accessed via U.S. Highway 60. The location of Show Low Regional Airport tin its regional setting is depicted on **Exhibit A**.

CLIMATE

Weather conditions are important to the planning and development of an airport. Temperature is an important factor in determining runway length requirements, while wind direction and speed are used to determine optimum runway orientation. The need for navigational aids and lighting is determined by the percentage of time that visibility is impaired due to cloud coverage or other conditions.

The Show Low region experiences a moderate winter, followed by a cool spring and summer. July is the hottest month, with an average daily maximum temperature of 86.1 degrees Fahrenheit (^{o} F). January is the coldest month, with an average daily maximum temperature of 45.7^{o}F. The average precipitation in Show Low is nearly 20 inches, while annual snowfall is 23 inches. **Table A** summarizes monthly climatic data for the City of Show Low.

TABLE A
Climate Conditions
Show Low, Arizona

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Avg. High Temp (^{o}F)	45.7	50.7	56.6	64.4	74.0	83.8	86.1	82.9	78.1	67.7	56.0	46.3
Avg. Low Temp (^{o}F)	20.7	24.3	29.0	34.4	42.3	51.0	57.7	56.0	49.8	38.4	28.4	21.4
Average Precipitation (in.)	1.18	1.22	1.25	0.68	0.64	0.43	2.32	3.08	1.61	1.57	1.27	1.77
Average Snow Fall (in.)	5.1	4.3	4.8	1.8	0.0	0.0	0.0	0.0	0.0	0.4	1.9	4.7
% VFR Weather*	90.9	93.1	95.9	98.8	98.9	99.8	99.3	99.3	99.6	99.2	97.8	91.2

Source: Western Regional Climate Center (12/1/1965 – 12/31/2009).
*Visual Flight Rule (VFR) weather exists when visibility is $\geq$ 3 miles and cloud heights are above 1,000 feet above ground level (AGL).

AIRPORT SERVICE AREA

Defining a service area for an airport can be useful in the forecasting process. Once a general service area is identified, various statistical comparisons can be made for projecting aviation demand. For example, in rural areas, where there may be one airport in each county, the service area could reasonably be defined as the entire county. This would facilitate comparisons to county population and employment for forecasting purposes.

In regions where there are many airports, the definition of the service area is not as simple. Aircraft owners in areas with more airports have more choices when it comes to basing their aircraft. The most common reason aircraft owners cite for choosing an airport at which to base their aircraft is convenience to home or work. Other reasons may include the capability of the runway system, availability of hangar space, and the services available. Therefore, the primary limiting factor to defining an airport service area is the proximity of other airports that provide a similar or greater level of service.

The service area generally represents where most, but not all, based aircraft will come from. It is not unusual for some based aircraft to be registered outside the county or even outside the state. In regions with several airports in relatively close proximity, service areas will likely overlap to some extent.

A review of public-use airports within 35 nautical miles of Show Low Regional Airport has been made to identify and distinguish the type of air service provided in the region. Information pertaining to each airport was obtained from FAA 5010 reports. **Table B** identifies the major characteristics of each airport.

TABLE B
Public-Use Airports Near Show Low Regional Airport

Airport Name	Distance (nm)	NPIAS* Role	Longest Runway	Based Aircraft	Annual Operations	Instrument Approaches
Taylor Airport	13 NNW	GA	7,000'	36	3,800'	Yes
Cibecue Airport	27 SW	GA	4,200'	None	20	No
Whiteriver Airport	27 S	GA	6,350'	None	3,900'	No
St. Johns Industrial Airpark	35 ENE	GA	5,322'	6	14,200'	Yes
Springerville Municipal Airport	35 ESE	GA	8,422'	21	4,500'	No
Flagstaff Pulliam Airport	97 WNW	Non-Hub Primary	8,800'	135	41,200'	Yes

Source: FAA 5010 Form.
*National Plan of Integrated Airport Systems.

Taylor Airport (owned by the Town of Taylor) is located approximately 13 nautical miles north-northwest of Show Low Regional Airport. The airport is served by a single 7,000-foot runway. There is no airport traffic control tower (ATCT) at the airport. One published instrument approach is available at Taylor Airport and 36 aircraft are based there. The airport has an average of 73 operations per week. Services available include aircraft tiedowns, fuel sales (100LL), and minor aircraft maintenance.

Cibecue Airport (owned by the White Mountain Apache Tribe) is located ap-

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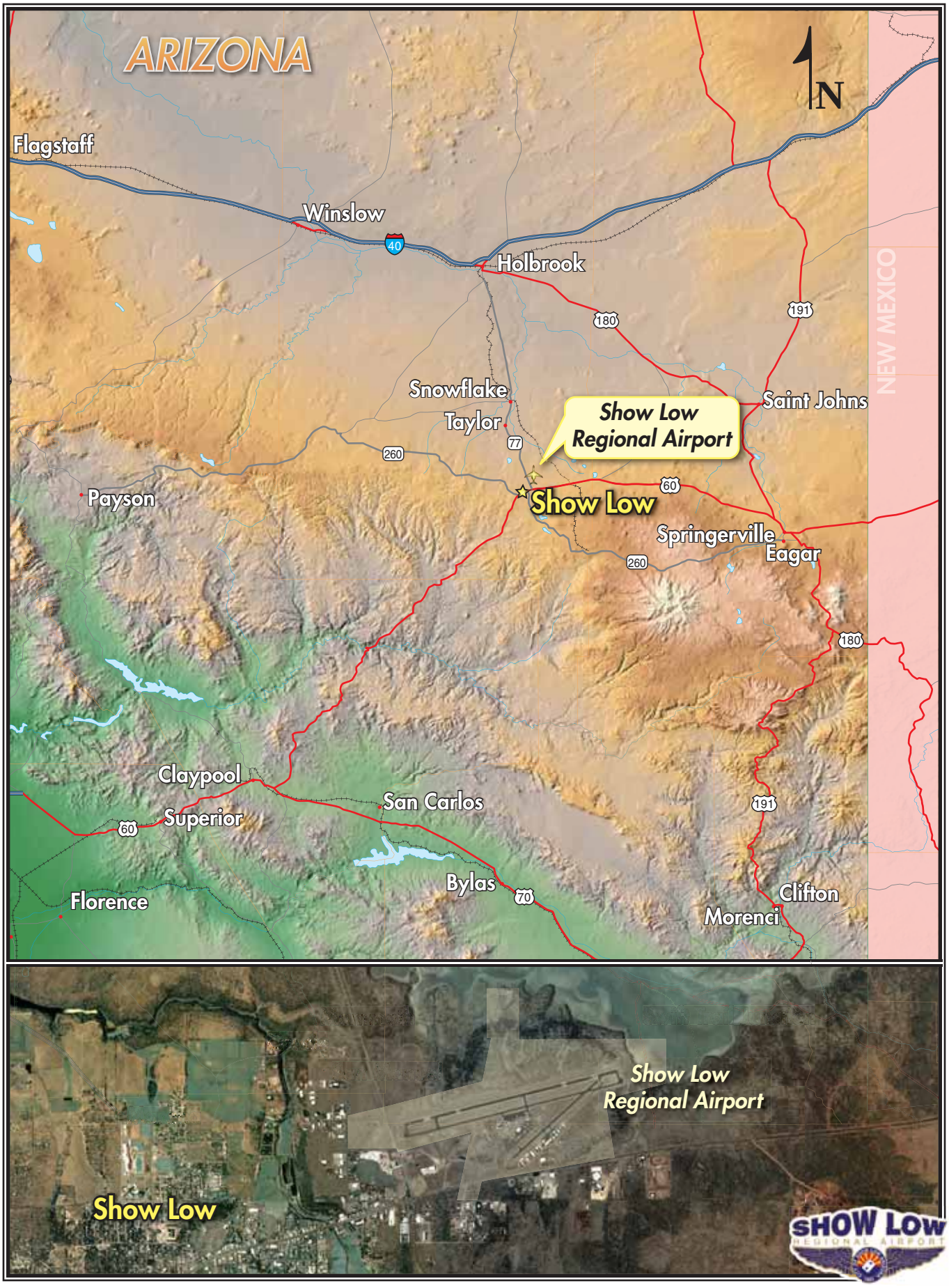

Exhibit A
LOCATION MAP

proximately 27 nautical miles southwest of Show Low Regional Airport. The airport is served by a single 4,200-foot runway. There is no ATCT at the airport and there are no published instrument approaches available. No aircraft are based at Cibecue Airport. The airport has an average of 20 operations per year, all of which are performed by transient aircraft. No services are available at the airport.

Whiteriver Airport (owned by the White Mountain Apache Tribe) is located approximately 27 nautical miles south of Show Low Regional Airport. The airport is served by a single 6,350-foot runway. There is no ATCT at the airport and there are no published instrument approaches available. No aircraft are based at Whiteriver Airport. The airport has an average of 75 operations per week, all of which are performed by transient aircraft. No services are available at the airport.

St. Johns Industrial Air Park (owned by the City of St. Johns) is located approximately 35 nautical miles east-northeast of Show Low Regional Airport. The airport is served by a single 5,322-foot runway. There is no ATCT at the airport. Three published instrument approach are available at St. Johns Industrial Air Park and six aircraft are based at the airport. The airport has an average of 39 operations per day. Services available include aircraft hangars and tiedowns, fuel sales (100LL & Jet A), and minor aircraft maintenance.

Springerville Municipal Airport (owned by the Town of Springerville) is located approximately 35 nautical miles east-southeast of Show Low Regional Airport. The airport is served by a single 8,422-foot runway. There is no ATCT at the airport and there are no published instrument approaches available. There are 21 aircraft based at Springerville Municipal Airport. The airport has an average of 86 operations per week. Services available include aircraft tiedowns and fuel sales (100LL & Jet A).

Located approximately 97 miles west-northwest of Show Low Regional Airport, **Flagstaff Pulliam Airport** is the next nearest commercial service airport. Flagstaff Pulliam Airport is served by an ATCT and has a single 8,800-foot runway. Approximately 135 aircraft are based at the airport and numerous instrument approaches are approved for use into the airport. The airport has an average of 113 operations per day. One major fixed base operator (FBO) is located on the airfield that provides a full array of general aviation services.

LOCATION OF BASED AIRCRAFT

When discussing the general aviation service area, the main component is the airport's ability to attract based aircraft. Almost universally, aircraft owners choose to base at an airport nearer their home or business. Convenience is the most common reason for basing in close proximity.

Exhibit B depicts based aircraft at Show Low Regional Airport by the registered aircraft owner's address. This data was compiled from the based aircraft N-Numbers, which were provided by the airport. As shown on the exhibit, the majority of the aircraft based at Show Low Regional Airport are from registered aircraft owners living within 20 miles of the airport.

AREA LAND USE

Land use surrounding an airport is a critical consideration. It is important for the

operator of an airport, particularly a governmental body, to protect the airport environment for the safe operations of aircraft and for the safety of people and property on the ground. Several land use planning agencies and ordinances have some jurisdiction over the airport environment.

Land uses surrounding Show Low Regional Airport are varied and include a mix of open space and industrial development. As depicted on **Exhibit C**, the airport is bounded by U.S. Forest Service land to the north, west, and east. Land south of the airport is either undeveloped or industrial in nature. To the southwest, areas of industrial and commercial development provide a buffer between the airport and residential land uses.

HEIGHT AND HAZARD ZONING

Height and hazard zoning in the vicinity of the airport is regulated by Article 16-2, *Airport Zoning*, of the Show Low City Code. Specific zones, based on the 14 CFR Part 77 airspace plan, have been established in order to regulate the height of objects in the vicinity of the airport.

AIRPORT FACILITIES

Airport facilities can be functionally classified into two broad categories: airside and landside. The airside category includes those facilities directly associated with aircraft operations. The landside category includes those facilities necessary to provide a safe transition from surface to air transportation and support aircraft servicing, storage, maintenance, and operational safety.

AIRSIDE FACILITIES

Airside facilities include runways, taxiways, airfield lighting, and navigational aids. Airside facilities are identified on **Exhibit C**. **Table C** summarizes airside facility data at Show Low Regional Airport.

Runway/Taxiway System

Show Low Regional Airport is served by two intersecting asphalt runways. Runway 6-24, the primary runway, measures 7,200 feet long, 100 feet wide, and is oriented in an east-west manner. The Runway 6 threshold is displaced by 700 feet in order to avoid electrical lines, which parallel the west side of Highway 77.

Runway 6-24 has pavement strength of 35,000 pounds single wheel type landing gear (S) and 60,000 pounds dual wheel type landing gear (D). S refers to the design of certain aircraft landing gear which has a single wheel on each main landing gear strut. D refers to certain aircraft landing gear which has two wheels on each main landing gear strut. The difference in runway end elevations for Runway 6-24 is only 0.6 feet, which results in a near zero percent runway gradient (elevation difference between runway high and low points divided by the length of the runway).

Runway 3-21, the secondary runway, measures 3,937 feet long and 60 feet wide. The strength rating for Runway 3-21 is 12,500 pounds S. The runway slopes downward from the southwest to the northeast, resulting in a runway gradient of 0.3 percent.

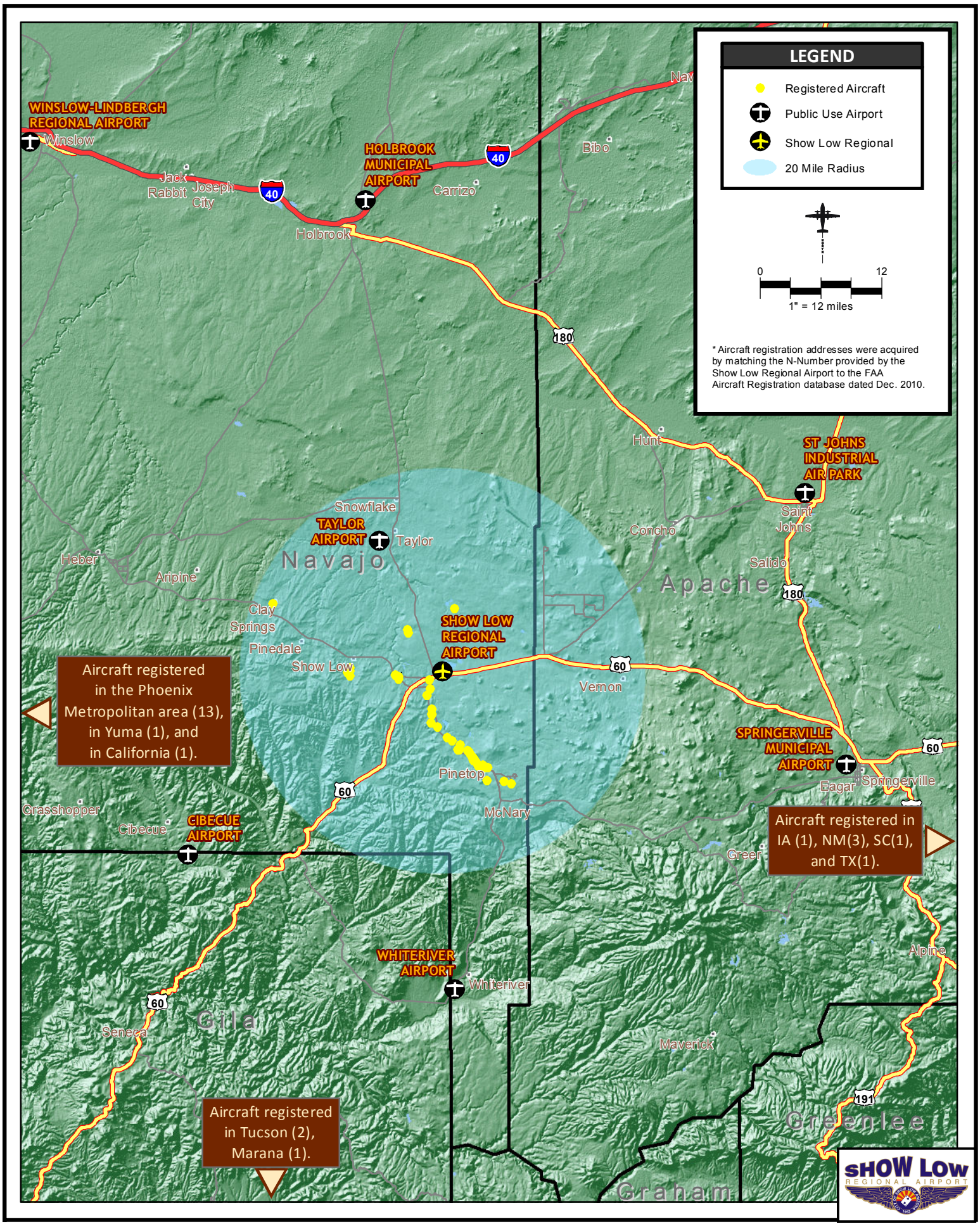

Exhibit B
LOCATION OF REGISTERED AIRCRAFT

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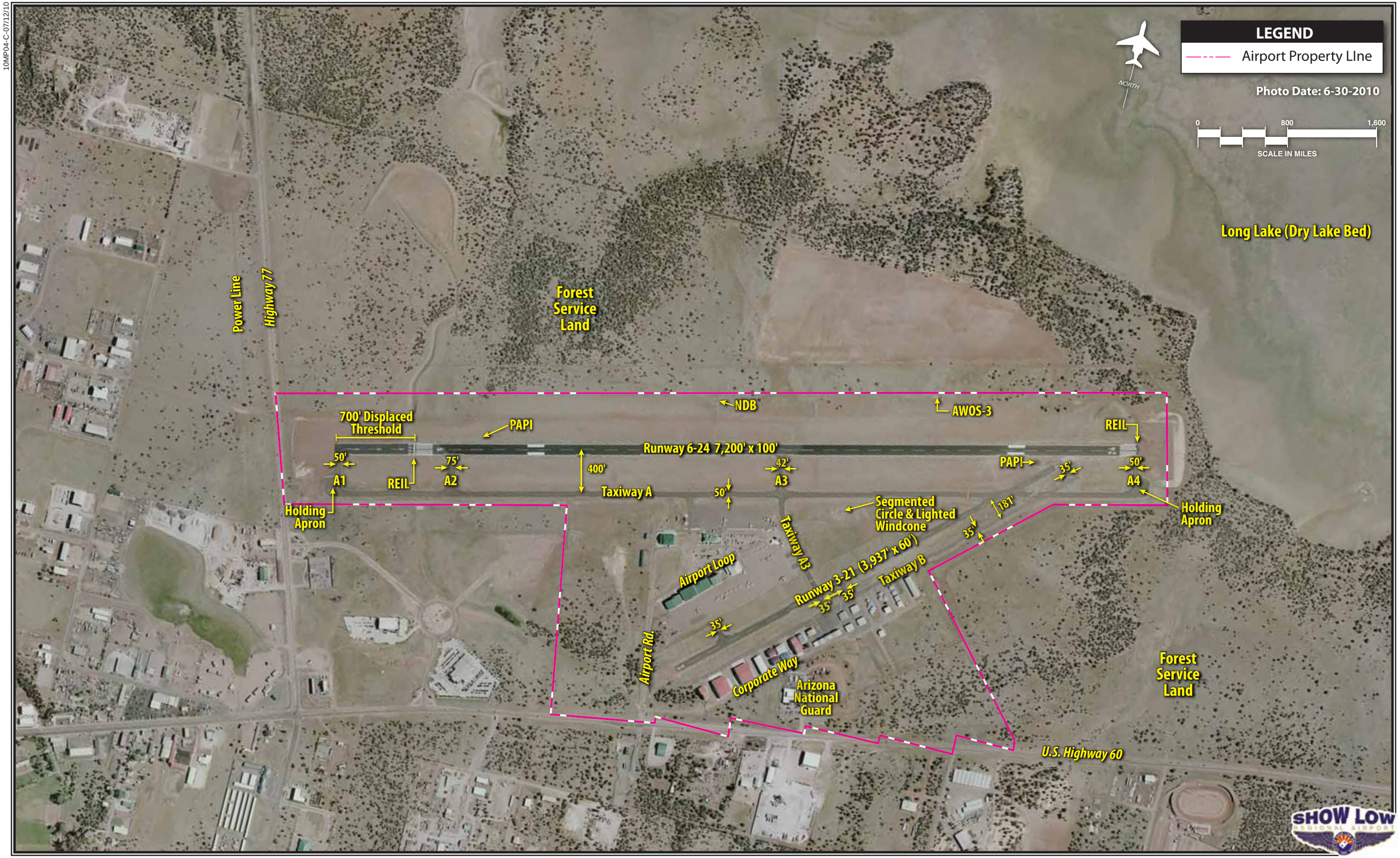

Exhibit C
EXISTING AIRFIELD FACILITIES

TABLE C
Airside Facilities Data
Show Low Regional Airport

	Runway 6-24	Runway 3-21
Runway Length Runway Width	7,200' 100'	3,937' 60'
Threshold Displacement	700' (Runway 6)	None
Runway Surface Material Condition	Asphalt Good	Asphalt Good
Pavement Markings	Non-Precision	Basic
Runway Load-Bearing Strength (lbs.) Single Wheel Type Landing Gear (S) Dual Wheel Type Landing Gear (D)	 35,000 60,000	 12,500 --
Runway Lighting	MIRL (Runway 6-24) Delineators (Runway 3-21)	
Taxiway Lighting	MITL (Runway 6-24) Delineators (Runway 3-21)	
Approach Aids	PAPI-2L (Runway 6-24) REIL (Runway 6-24)	
Instrument Approach Procedures	RNAV - GPS (Runway 24) NDB-A	
Weather or Navigational Aids	AWOS-3 Segmented Circle & Lighted Wind Cone Rotating Beacon	

AWOS – Automated Weather Observation System
GPS – Global Positioning System
MIRL – Medium Intensity Runway Lighting
MITL – Medium Intensity Taxiway Lighting
NDB – Non-Directional Beacon
PAPI – Precision Approach Path Indicator
REIL – Runway End Identification Lights
RNAV – Area Navigation

Source: *Airport Facility Directory; Southwest U.S.* (June 3, 2010).

Runway 6-24 is served by full length parallel Taxiway A, which is located 400 feet south of the runway centerline. Taxiway A has four connecting taxiways (A1 through A4). Taxiway A and its associated connecting taxiways have a width of at least 50 feet. Runway 3-21 is served by full length pa-rallel Taxiway B, which is located 181 feet southeast of the runway centerline. Taxiway B has five connecting taxiways. Taxiway B and its associated connecting taxiways have a width of at least 30 feet.

Pavement Markings

Pavement markings aid in the movement of aircraft along airport surfaces and identify closed or hazardous areas on the airport. The basic markings on Runway 3-21 identify the runway centerline and designation. The non-precision markings on Runway 6-24 identify the runway designations, centerline, touchdown point, and aircraft holding positions. Markings at the end of Runway 6 identify the displaced threshold, which is not available for landings.

Taxiway and apron centerline markings are provided to assist pilots in maintaining proper clearance from pavement edges and objects near the taxiway/taxilane edges. Pavement markings also identify aircraft tiedown positions and aircraft holding positions.

Pavement Condition

As a condition of receiving federal funds for the development of the airport, the FAA requires the airport sponsor receiving and/or requesting federal funds for pavement improvement projects to implement a pavement maintenance management program. Part of the pavement maintenance management program is to develop a Pavement Condition Index (PCI) rating. The rating is based on the guidelines contained in FAA Advisory Circular 150/5380-6, *Guidelines and Procedures for Maintenance of Airport Pavements*.

The PCI procedure was developed to collect data that would provide engineers and managers with a numerical value indicating overall pavement conditions and that would reflect both pavement structural integrity and operational surface condition. A PCI survey is performed by measuring the amount and severity of certain distresses (defects) observed within a pavement sample unit.

On May 19, 2006, a pavement inspection was conducted at Show Low Regional Airport by the Arizona Department of Transportation. Runway 3-21 received a PCI rating of 100 out of a possible 100 and was found to be in excellent condition with no distress observed. Runway 6-24 and Taxiway A received PCI ratings of 92 and were also considered to be in excellent condition, with small amounts of longitudinal/transverse (L&T) cracking, raveling, and weathering. The northernmost portion of Taxiway B (from the hangar area northeast to the intersection with Taxiway A) was found to be in fair condition, with a PCI rating of 60. Taxiway B was observed to have substantial amounts of block cracking, along with smaller quantities of alligator cracking throughout the pavement area. The airport has three distinct apron areas: the north/air carrier apron adjacent to the terminal building, the center apron, and the south apron. The north/air carrier apron was found to have a PCI rating of 94, while the center apron had a PCI rating of 99. The south apron had PCI ratings ranging from 100 at the south end, 68 in the center, and nine at the far northeast end of the apron.

Since this pavement survey was conducted four years ago, it can be assumed that regular use and weathering has degraded the airport pavements to some degree. In association with the recent project to improve the Runway 6-24 runway safety area (RSA), the runway received a seal coat and new striping.

Airfield Lighting

Airfield lighting systems extend an airport's usefulness into periods of darkness and/or poor visibility. A variety of lighting systems are installed at the airport for this purpose. These lighting systems, categorized by function, are summarized as follows:

Identification Lighting: The location of the airport at night is universally identified by a rotating beacon. The rotating beacon projects two beams of light, one white and one green, 180 degrees apart. The rotating beacon at Show Low Regional

Airport is located atop a metal tower adjacent to the center apron.

Runway and Taxiway Lighting: Runway and taxiway lighting utilizes light fixtures placed near the edge of the pavement to define the lateral limits of the pavement. This lighting is essential for safe operations during night and/or times of low visibility in order to maintain safe and efficient access to and from the runway and aircraft parking areas.

Runway 6-24 is equipped with medium intensity runway lighting (MIRL). These are lights set atop a fixture that is approximately 30 inches above the ground. The light fixtures are frangible, meaning that if one is struck by an object, such as an aircraft wheel, they can easily break away, thus limiting the potential damage to an aircraft.

Runway 3-21 is equipped with runway edge delineators. Delineators are colored reflective markers resembling lighting units. These reflective markers serve the same purpose as runway edge lighting, but are illuminated by the landing lights of the aircraft.

Medium intensity taxiway lighting (MITL) is installed along Taxiway A and its associated connecting taxiways (A1, A2, A4, and A5). These lights are mounted on the same type of structure as runway lights.

Visual Approach Lighting: Approaches to both ends of Runway 6-24 are aided by the presence of precision approach path indicator lights (PAPI-2L), which provide visual approach slope guidance. PAPIs consist of a system of lights located at various distances from the runway threshold, which when interpreted by the pilot, give them an indication of being above, below, or on the correct descent path to the runway. Runway 3-21 does not have visual approach lighting.

Runway End Identification Lights (REILs): A REIL system has been installed at each end of Runway 6-24. REILs provide rapid and positive identification of the approach ends of a runway. A REIL consists of two synchronized flashing lights, located laterally on each side of the runway threshold, facing the approaching aircraft.

Airfield Signs: Airfield identification signs assist pilots in identifying their location on the airfield and direct them to their desired location. Lighted airfield signs are located on Runway 6-24, Taxiway A, aircraft hold positions, taxiway intersections, and at the intersection of the connecting taxiways and runways.

Pilot-Controlled Lighting: With the pilot-controlled lighting (PCL) system, pilots can turn on the airfield lights from their aircraft through a series of clicks of their radio transmitter. The Runway 6-24 MIRL and Taxiway A MITL systems are capable of being activated via PCL.

Weather Facilities

The airport is equipped with a lighted wind cone, which provides pilots with information about wind conditions, and a segmented circle, which provides traffic pattern information to pilots. The lighted wind cone and segmented circle are located south of Taxiway A, at midfield. Three additional wind cones are located near the end of Runway 3, Runway 6, and Runway 24.

Show Low Regional Airport is also equipped with an Automated Weather Observation System (AWOS-3). An AWOS automatically records weather conditions

such as wind speed, wind gusts, wind direction, temperature, dew point, altimeter setting, and density altitude. In addition, the AWOS-3 will record visibility, precipitation, and cloud height. This information is then transmitted at regular intervals to the NADIN system, which enables remote access to local weather data by telephone, aircraft radio, and websites. The AWOS-3 is located north of Runway 6-24 at midfield.

Navigational Aids

Navigational aids are electronic devices that transmit radio frequencies, which pilots of properly equipped aircraft can translate into point-to-point guidance and position information. The types of electronic navigational aids available for aircraft operating in the vicinity of Show Low Regional Airport include the nondirectional beacon (NDB), the very high frequency omnidirectional range (VOR) facility, and the global positioning system (GPS).

The NDB transmits nondirectional signals whereby the pilot of an aircraft, equipped with direction-finding equipment, can determine their bearing to and from the radio beacon in order to track to the beacon station. An NDB is located on the airfield at Show Low Regional Airport.

A VOR, in general, provides azimuth readings to pilots of properly equipped aircraft transmitting a radio signal at every degree to provide 360 individual navigational courses. Frequently, distance measuring equipment (DME) is combined with a VOR facility (VOR/DME) to provide distance as well as direction information to the pilot. Military tactical air navigation aids (TACANs) and civil VORs are commonly combined to form a VORTAC. The VORTAC provides distance and direction information to both civil and military pilots. The St. Johns VORTAC, located approximately 44 nautical miles northeast of the airport, can be utilized by pilots flying to or from the airport.

GPS is an additional navigational aid for pilots. GPS was initially developed by the United States Department of Defense for military navigation around the world. GPS differs from VOR in that pilots are not required to navigate using a specific ground-based facility. GPS uses satellites placed in orbit around the earth that transmit electronic radio signals, which pilots of properly equipped aircraft use to determine altitude, speed, and other navigational information. With GPS, pilots can navigate directly to any airport in the country and are not required to navigate using a ground-based navigational facility.

Instrument Approach Procedures

Instrument approach procedures are a series of predetermined maneuvers established by the FAA using electronic navigational aids that assist pilots in locating and landing at an airport during low visibility and cloud ceiling conditions.

Visibility minimums define the horizontal distance that the pilot must be able to see to complete the approach. Cloud ceilings define the lowest level a cloud layer (defined in feet above the ground) can be situated for a pilot to complete the approach. If the observed visibility or cloud ceilings are below the prescribed minimums, the pilot cannot complete the instrument approach. There are currently two published instrument approaches to Show Low Regional Airport.

Runway 24 is served by an area navigation (RNAV) GPS approach. Utilizing this approach with the localizer performance and vertical guidance (LPV) provides minimums of 300-foot cloud ceilings and ¾-mile visibility.

The Runway 24 GPS approach can also be utilized as a circling approach, which allows pilots to land on any active runway at the airport. While providing flexibility for the pilot to land on the runway most closely aligned with the prevailing wind, a circling approach will have higher visibility minimums in order to provide pilots with sufficient visibility and ground clearance to navigate visually from the approach to the desired runway end for landing.

An NDB approach is also available at the airport. The minimum cloud ceiling is 1,200 feet and the visibility minimum varies as a function of the aircraft approach speed.

LANDSIDE FACILITIES

Landside facilities are the ground-based facilities that support the aircraft and pilot/passenger handling functions. These facilities typically include the terminal building, aircraft storage/maintenance hangars, aircraft parking aprons, and support facilities such as fuel storage, automobile parking, roadway access, and aircraft rescue and firefighting. Landside facilities are identified on **Exhibit D**.

Terminal Building

Commercial airline and general aviation terminal functions are provided in a single terminal located south of the air carrier apron. This 6,300 square-foot building was constructed in 1999 and replaced the old terminal, which is located just east of the new terminal location.

A layout of the existing terminal building is presented on **Exhibit E**. Several FBO functions are available in the terminal building. For general aviation activities, the terminal includes general office space, a conference room, airport administration, and vending.

Specialty Operators

Businesses at Show Low Regional Airport include two aircraft repair shops, two air cargo handlers, multiple air ambulance companies, three rental car companies, and the Transportation Security Administration, which provides security screening for all Great Lakes Airlines flights.

Aircraft Storage Facilities

General aviation facilities at Show Low Regional Airport have been developed along the southeast side of the airfield and are depicted on **Exhibit D**. As shown on the exhibit, several types of hangars are available at the airport. Conventional, executive, and box hangars provide multiple aircraft storage, while T-hangars and port-a-port hangars provide individual aircraft storage. The majority of the hangars at Show Low Regional Airport are privately owned and are built on ground leased from the City.

Aircraft Parking Aprons

As depicted on **Exhibit D**, there are four aircraft aprons provided at Show Low Regional Airport. These apron areas are re-

ferred to as the air carrier, north, central, and south apron areas.

The air carrier apron is located adjacent to the terminal building and totals approximately 8,300 square yards for aircraft parking and circulation taxilanes. Located adjacent to the air carrier apron, the north apron provides approximately 9,700 square yards of space for aircraft tiedowns, parking, and circulation. There are a total of 12 aircraft parking spaces on the north apron.

The central apron is located north of Runway 3-21 and south of the terminal building. This apron encompasses approximately 37,100 square yards and provides 123 aircraft tiedown positions.

The south apron provides taxilane access for the series of aircraft storage hangars located in this area. This apron totals approximately 3,000 square yards and provides six aircraft tiedown positions.

Fuel Storage Facilities

The City of Show Low owns and operates all fuel storage and dispensing facilities at the airport. All fuel storage is in compliance with Arizona Department of Environmental Quality (ADEQ) regulations.

Self-service AvGas and Jet A fuel are available from two aboveground fuel tanks (12,000 gallons each) located west of the terminal building. Fuel trucks are also provided for aircraft refueling.

Aircraft Rescue and Firefighting/ Snow Removal Equipment

The FAA mandates aircraft rescue and firefighting (ARFF) operations at all U.S. airports that serve scheduled passenger air carriers. An index is assigned to each FAA Part 139 certificate holder based on a combination of the air carrier aircraft length and the average number of daily departures. This index determines the required number of ARFF vehicles and extinguishing agents.

Show Low Fire Department Station 3, which is located on Airport Loop, west of the terminal building, is an Index A facility. Their equipment includes one engine, a type 6 brush truck, the ARFF apparatus, a foam truck, a rescue truck, and a 3,600-gallon water tender. Station 3 runs three shifts with four personnel per shift, which rotate every 24 hours.

The airport is also equipped with an ARFF training device, which is located on the south side of the airfield. It is a propane-fueled device which the airport staff uses to practice on for ARFF response.

The airport's snow removal equipment is also located in the ARFF building. Their equipment includes a powered snow blower and multiple trucks equipped with snow plows.

Automobile Parking

Automobile parking at Show Low Regional Airport totals approximately 171 spaces. Public parking for the terminal building is located south of the terminal and totals 62 spaces. East of the terminal is a long term parking area, providing an additional 92 spaces for airport tenants and users who wish to leave a vehicle at the airport for extended periods of time. A fee is charged for vehicles left in the long term parking area.

10MP04-D-07/12/10

Exhibit D
EXISTING LANDSIDE FACILITIES

02MP01-E-07/20/10

LEGEND	
AREA	SQUARE FOOTAGE
Baggage Claim	125
Airline Operations/Ticketing	435
Circulation/Public Lobby	2,304
Departure Area	927
Airport Administration	999
Maintenance/Mechanical	177
Office Space	544
Restrooms	288
Airline Support Offices	304
Concessions	220
Total:	6,323

0 15 30
SCALE IN FEET

NORTH

Hold Room
Airline Office
Ticketing Counter
Baggage Makeup
Fixed Bag Claim
TSA Screening Device
Lobby
Advertising Board
Manager's Office
Closet
Admin./ Unicom
Conference Room
Pilot Briefing Room
Patio
Line Equipment Storage
Planter
Planter
Planter
Potential Lease Space
Men's Restroom
TSA
TSA
Office
Mech. & Janitor
Pilot Lounge
Women's Restroom
Mech.
Mech.

SHOW LOW REGIONAL AIRPORT

Exhibit E
TERMINAL BUILDING FLOORPLAN

Eleven spaces, located west of the terminal, are designated for employee parking. Six parking spaces are located in front of the old terminal building. **Exhibit D** identifies the various automobile parking areas at Show Low Regional Airport.

AIRSPACE CHARACTERISTICS

To ensure a safe and efficient airspace environment for all aspects of aviation, the FAA has established an airspace structure that regulates and establishes procedures for aircraft using the National Airspace System. The U.S. airspace structure provides two basic categories of airspace, controlled and uncontrolled, and identifies them as Classes A, B, C, D, E, and G. All aircraft operating within Classes A, B, C, and D airspace must be in contact with the air traffic control facility responsible for that particular airspace. Class E airspace is controlled airspace that encompasses all instrument approach procedures and low-altitude federal airways. Only aircraft conducting instrument flights are required to be in contact with air traffic control when operating in Class E airspace. Aircraft conducting visual flights in Class E airspace are not required to be in radio communications with air traffic control facilities. Visual flight can only be conducted if minimum visibility and cloud ceilings exist. Class G airspace is uncontrolled airspace that does not require contact with an air traffic control facility.

Airspace in the vicinity of Show Low Regional Airport is depicted on **Exhibit F**. Class E airspace surrounds the airport, with the floor beginning at 700 feet above the surface and extending to 18,000 feet mean sea level (MSL).

A number of Victor Airways are present near Show Low Regional Airport. Victor Airways are corridors of airspace eight miles wide that extend upward from 1,200 feet above ground level (AGL) to 18,000 feet MSL and extend between VOR navigational facilities. The Victor Airways in the vicinity of the airport emanate from the St. Johns VOR.

SPECIAL USE AIRSPACE

Exhibit F also depicts three Military Operations Areas (MOAs) south of Show Low Regional Airport, including the Outlaw, Jackal, and Reserve MOAs. MOAs define airspace where a high level of military activity is conducted and are intended to segregate military and civilian aircraft. While civilian aircraft operations are not restricted in MOAs, civilian aircraft are cautioned to be alert for military aircraft during the periods the MOAs are active and at the specified altitudes.

As identified on the exhibit, the IR 320 and IR 112 Military Training Routes (MTRs) are located near Show Low Regional Airport. These routes are used by military aircraft for training activity and commonly operate at speeds in excess of 250 knots, at altitudes above 10,000 feet MSL. While civilian aircraft are not restricted in the vicinity of these routes, civilian aircraft are cautioned to remain alert for high speed military jet activity.

Arizona is also home to numerous national parks, forests, and wildlife areas. Because the government regards these areas as noise-sensitive, many of their boundaries are marked on aeronautical charts. Pilots are requested to maintain a minimum altitude of 2,000 feet AGL when over these areas.

AIR TRAFFIC CONTROL

There is no ATCT at Show Low Regional Airport; therefore, no formal terminal air traffic control services are available for aircraft landing or departing the airport. Aircraft operating in the vicinity of the airport are not required to file any type of flight plan or to contact any air traffic control facility unless they are entering airspace where contact is mandatory. The common traffic advisory frequency (CTAF) is used by pilots to obtain airport information and advise other aircraft of their position in the traffic pattern and their intentions.

Show Low Regional Airport is located within the jurisdiction of the Albuquerque Air Route Traffic Control Center (ARTCC). The Prescott Flight Service Station (FSS) provides additional weather data and other pertinent information to pilots on the ground and enroute.

LOCAL OPERATING PROCEDURES

Show Low Regional Airport is situated at 6,415 feet MSL. The traffic pattern altitude for all aircraft at the airport is 800 feet above airfield elevation (7,215 feet MSL). Runways 6 and 21 utilize a left-hand traffic pattern, while Runways 3 and 24 utilize a right-hand traffic pattern. By utilizing a left-hand traffic pattern for one runway end and a right-hand traffic pattern for the opposite end, all aircraft operations are maintained on one side of each runway.

SOCIOECONOMIC CHARACTERISTICS

Socioeconomic characteristics are collected and examined to derive an understanding of the dynamics of growth within the study area. This information assists in determining aviation service level requirements, as well as forecasting the number of based aircraft and aircraft activity at the airport. Aviation forecasts are typically related to the population base, economic strength of the region, and the ability of the region to sustain a strong economic base over an extended period of time.

POPULATION

Historical population totals, which were obtained from the U.S. Census Bureau, are presented in **Table D**. According to the U.S. Census Bureau, the State of Arizona had more than 5.1 million residents in 2000. This is an increase of nearly 1.5 million residents since 1990, which represents an average annual growth rate of 4.4 percent. Much of Arizona's population is concentrated in limited areas around major cities.

The population for Navajo County and the City of Show Low was also examined. Navajo County only represents a small portion of Arizona's overall population and historically, the rate of population growth has been somewhat less than that experienced statewide. The city's growth rate, on the other hand, has outpaced both the county and the state for the past

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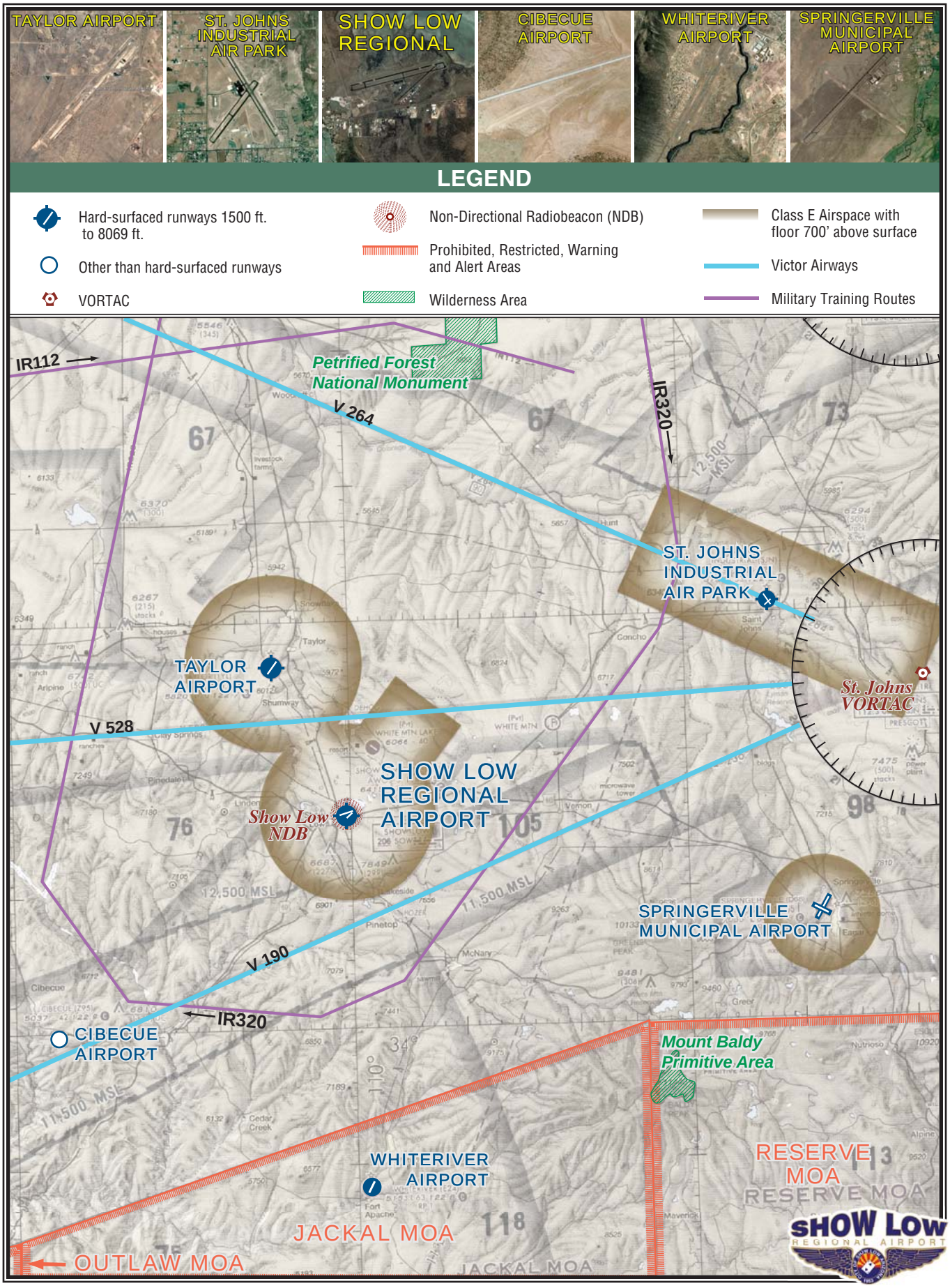

Exhibit F
AIRSPACE VICINITY MAP

two decades. Between 1990 and 2000, Show Low's population grew at an average annual rate of 4.4 percent. Since 2000, this growth rate has decreased to 3.4 percent annually. The annual growth rates of both the county and the state have also decreased in the past decade, falling to 1.0 percent and 2.2 percent, respectively.

TABLE D
Historical Population

Area	1990	2000	2010	Avg. Annual Growth Rate (1990-2000)	Avg. Annual Growth Rate (2000-2010)
Show Low	5,019	7,695	10,700	4.4%	3.4%
Navajo Co.	77,700	97,500	107,400	2.3%	1.0%
Arizona	3,665,000	5,131,000	6,392,000	3.4%	2.2%

Source: U.S. Census Bureau.

Population projections for the forecast period are presented in **Table E**. These projections were obtained from the Arizona Department of Commerce, Population Statistics Unit. According to the study, Navajo County's population is projected to grow at an average annual rate of 2.2 percent over the planning period, totaling approximately 165,600 residents by 2030. Arizona's population is expected to grow at a slightly higher rate (2.4 percent) during the same period, totaling approximately 10.3 million residents by 2030. Population projections for individual cities in Arizona were not available.

TABLE E
Forecast Population

Area	2010	2015	2020	2030	Avg. Annual Growth Rate (2010-2030)
Navajo Co.	107,400	135,700	147,000	165,600	2.2%
Arizona	6,392,000	7,916,000	8,780,000	10,348,000	2.4%

Source: Arizona Department of Commerce, Population Statistics Unit (2006).

EMPLOYMENT

Analysis of a community's employment base can provide valuable insight to the overall well-being of the community. In most cases, the community makeup and health is significantly impacted by the availability of jobs, variety of employment opportunities, and types of wages provided by local employers. Civilian labor force data, which was obtained from the Arizona Workforce Informer and the U.S. Bureau of Labor Statistics, is presented in **Table F**.

As shown in the table, Arizona and the United States currently have similar unemployment rates of 10.0 percent and 9.6 percent, respectively. Meanwhile, the county's current unemployment rate is at an all time high of 15.7 percent. This high unemployment rate can mainly be attributed to the current economic crisis.

TABLE F
Civilian Labor Force Data

	1990	2000	2010
Navajo County			
Civilian Labor Force	26,800	34,200	42,100
Employment	23,800	31,700	35,500
Unemployment	3,000	2,500	6,600
Unemployment Rate	11.2%	7.3%	15.7%
State of Arizona			
Civilian Labor Force	1,806,300	2,505,300	3,176,200
Employment	1,707,300	2,404,900	2,860,000
Unemployment	99,000	100,400	316,200
Unemployment Rate	5.5%	4.0%	10.0%
United States			
Civilian Labor Force	125,840,000	142,583,000	153,889,000
Employment	118,793,000	136,891,000	139,064,000
Unemployment	7,047,000	5,692,000	14,825,000
Unemployment Rate	5.6%	4.0%	9.6%

Source: Arizona Workforce Informer; U.S. Bureau of Labor Statistics.

Table G presents the major employers in Navajo County, several of which utilize Show Low Regional Airport. This list was compiled from the Arizona Department of Commerce. The county's principal industries include government, trade, transportation and utilities, education and health services, and construction.

Government entities employ nearly one-third of the civilian labor force in Navajo County. Cattle and sheep ranching and hog and pig farming are the main agricultural industries in the county, with over two million acres of land dedicated to cattle ranching. Catalyst Paper is the largest manufacturing company in Navajo County, and is a major supplier of recycled newsprint.

TABLE G
Major Employers
Navajo County

Employer Name	Industry
Abitibi Consolidated, Inc. (Catalyst Paper)	Paper Mill
APS	Electric Services
Bashas'	Retail
Burlington Northern Santa Fe Railway	Railroad Operation
Holiday Inn	Hotels/Motels
Kayenta Boarding B.I.A. School	Education
Keams Canyon Indian Hospital	Medical
Navajo Government Executive Branch	Government
Navajo Tribal Utility Authority	Utilities
Safeway	Retail
Summit Healthcare	Hospital
Navopache Electric Cooperative, Inc.	Utilities
Northland Pioneer College	Colleges
Peabody Coal Co.	Coal/Mining
PFFJ, Inc.	Pork Production
Pinon Unified School District	Education
Tate's Auto Center	Auto Dealer
Wal-Mart Super Center	Retail
Western Moulding Co.	Millwork

Source: Arizona Department of Commerce (2008).
*Includes full-time and part-time employees.

FAA FORECASTS AND TRENDS

Each year, the FAA updates and publishes a national aviation forecast. Included in this publication are forecasts for passengers, airlines, air cargo, general aviation, and FAA workload measures. The forecasts are prepared to meet the budget and planning needs of the constituent units of the FAA and to provide information that can be used by state and local authorities, the aviation industry, and the general public.

The current edition when this chapter was prepared was FAA *Aerospace Forecast - Fiscal Years 2011-2031*, published in February 2011. The forecasts use the economic performance of the United States as an indicator of future aviation industry growth. Similar economic analyses are applied to the outlook for aviation growth in international markets.

ECONOMIC OUTLOOK

The FAA uses the most recent Administration forecasts to project domestic aviation demand. The National Bureau of Economic Research indicated that the U.S. officially entered a recession in December 2007. To help revive the economy, lawmakers enacted the American Recovery and Reinvestment Act (ARRA) in February 2009. This bill included a combination of individual tax cuts, investment incentives, aid to people directly hurt by the recession, state fiscal relief, and direct government investment spending. Following the enactment of this bill, the economy grew for the first time during the fourth quarter of FY 2009 (up 1.6 percent) and 2.2 percent for all of FY 2010.

The global economy is growing once again, reviving the demand for air travel. Profitability for the U.S. carriers will hinge on several factors, including a stable environment for fuel prices, an increase in demand for corporate air travel, the ability to pass along fare increases to leisure travels, and the generation of ancillary revenues.

NATIONAL TRENDS

Historically, aviation activity has closely followed the national economic outlook. Over the past decade the commercial air carrier industry has suffered several major setbacks, including the terror attacks of September 11th, concerns about international pandemics, airline bankruptcies, record high fuel prices, and the most significant economic downturn since the Great Depression. To lower operating costs during this volatile time, carriers eliminated unprofitable routes and grounded older, less fuel efficient aircraft. To increase operating revenues, carries began charging separately for services that were historically included in the price of a ticket (e.g. meal service, baggage fees), as well as for services that were not previously available (e.g. premium boarding and fare lock fees). The impact from these initiatives bolstered the industry to profitability for the first time since 2007.

The number of passengers traveling is forecast to continue to grow over the long term, demonstrating the value of air transportation. In fact, the level of activity and demand is expected to eclipse those published in last year's FAA forecast. The 2011 FAA forecast calls for one billion passengers to be flown in 2021,

two years earlier than projected in last year's forecast.

The economic downturn has also dampened the near-term prospects for the general aviation industry, but the long term outlook remains favorable. Growth in the demand for business aviation is expected to be driven by a growing economy. As the fleet grows, the number of general aviation hours flown is projected to increase an average of 2.2 percent a year through 2031.

COMMERCIAL AVIATION TRENDS

At the end of 2010, the U.S. commercial aviation industry consisted of 16 scheduled mainline air carriers, which use large passenger jets (over 90 seats) and 64 scheduled regional carriers, which use smaller piston, turboprop, and regional jet aircraft (up to 90 seats).

Industry restructuring and consolidation was a distinct trend over the past year, with operations at Northwest Airlines being folded into Delta Airlines and operations at Midwest Airlines being folded into Frontier Airlines. Also announced during 2010 was the merger of Continental Airlines with United Airlines, the merger of Southwest Airlines with Air Tran, and the acquisition of ExpressJet by SkyWest Airlines.

After a challenging 2009, commercial air carriers posted improvement to traffic results during 2010. For the year, mainline carrier passenger growth was up 0.1 percent while passenger growth for the regional carriers was up 5.0 percent. In the domestic market, mainline passengers fell for the seventh time in ten years (down 0.7 percent), while mainline passengers in international markets posted strong growth (up 5.2 percent).

System capacity is projected to grow 4.5 percent in 2011. In the domestic market, mainline carrier capacity is forecast to grow for the first time in three years (2.8 percent), while capacity for the regional carriers grows at a faster pace (3.8 percent). In the international sector, capacity is forecast to increase in all markets (Asian, Latin and Pacific), while mainline carrier system capacity grows 4.6 percent and regional carrier capacity grows 3.8 percent.

Exhibit G depicts the history and projected growth in U.S. passenger enplanements (both domestically and internationally) for commercial air carriers and regionals/commuters. Domestic enplanements are projected to grow 3.0 percent in 2011, following a 0.7 percent increase in 2010. Over the entire forecast period, domestic enplanements are projected to grow at an average annual rate of 2.6 percent, with mainline carriers growing more slowly than regional carriers. Total passenger traffic between the United States and the rest of the world is estimated to total 149.6 million in CY 2010, 1.4 percent higher than in 2009. Passenger demand is expected to strengthen in 2011 (up 3.1 percent) and accelerate in 2012 (up 5.7 percent) as the world economic recovery solidifies.

Flights will continue to remain crowded, with load factor projected to grow moderately during the early years of the forecast period and then tapering during the mid to latter years to 83.7 percent by 2031 (up 2.9 points). Passenger trip length is forecast to increase by more than 235 miles over the forecast period, averaging 1,342 miles by 2031. This represents an annual increase of 11.3 miles.

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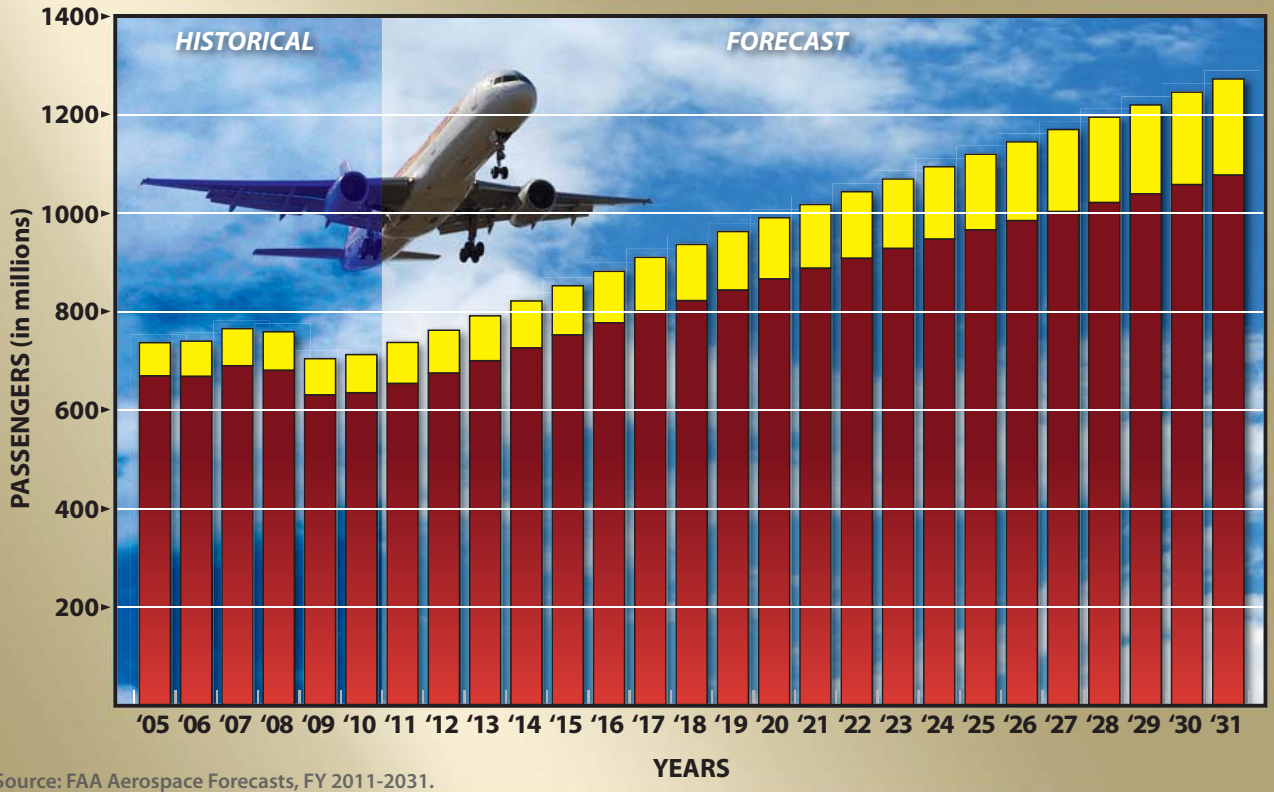
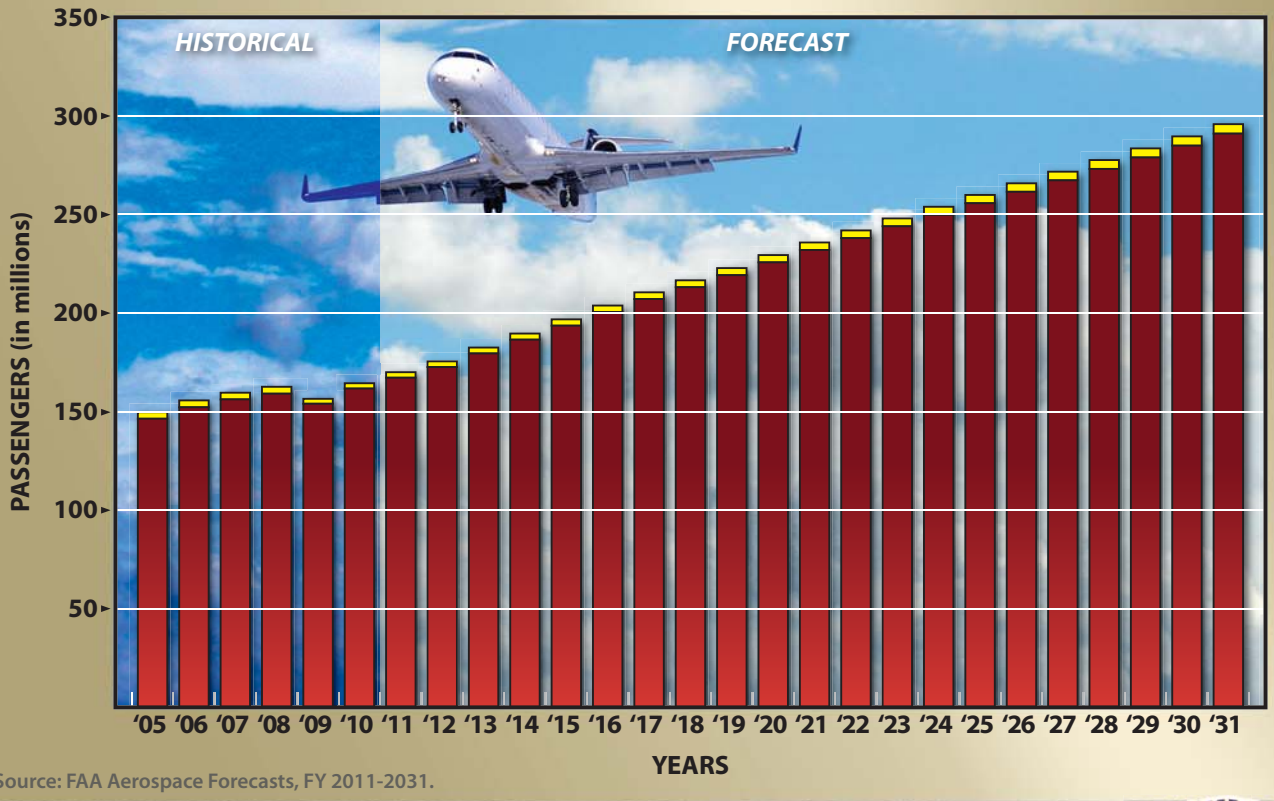
U.S. SCHEDULED COMMERCIAL AIR CARRIER PASSENGER ENPLANEMENTS



Source: FAA Aerospace Forecasts, FY 2011-2031.

U.S. REGIONAL / COMMUTER SCHEDULED PASSENGER ENPLANEMENTS



Source: FAA Aerospace Forecasts, FY 2011-2031.

Domestic International

SHOW LOW REGIONAL AIRPORT

Exhibit G
U.S. COMMERCIAL AIR CARRIER AND
REGIONAL/COMMUTER FORECASTS

GENERAL AVIATION TRENDS

In the seven years prior to the events of September 11, 2001, the U.S. civil aviation industry experienced unprecedented growth in demand and profits. The impacts to the economy and aviation industry from the events of 9/11 were immediate and significant. The economic climate and aviation industry had been recovering until early 2008 when it became clear that an economic downturn was underway.

Despite signs of an economic recovery since then, the general aviation industry experienced a difficult 2010. **Table H** presents historical data of general aviation aircraft shipments and billings. Based on figures released by the General Aviation Manufacturers Association (GAMA), U.S. manufacturer shipments declined for the third straight year in 2010, down an estimated 22.1 percent since 2007. Billings also declined between 2008 and 2009. However, they experienced a slight increase (1.2 percent) in 2010, which can be attributed to the shipment of more sophisticated aircraft.

TABLE H
Annual General Aviation Airplane Shipments and Billings

Year	Single Engine	Multi-Engine	Turboprop	Jets	Total	Net Billings (in Millions)
2000	1,877	103	415	752	3,147	$13,496
2001	1,645	147	422	784	2,988	$13,868
2002	1,591	130	280	676	2,677	$11,778
2003	1,825	71	272	518	2,686	$9,998
2004	1,999	52	319	591	2,961	$11,918
2005	2,326	139	375	750	3,590	$15,156
2006	2,513	242	412	886	4,053	$18,815
2007	2,417	258	459	1,136	4,270	$21,826
2008	1,943	176	535	1,313	3,967	$24,766
2009	893	70	441	870	2,274	$19,465
2010	781	108	363	763	2,015	$19,705

Source: 2010 GAMA Statistical Databook & Industry Outlook.

Exhibit H depicts the FAA forecast for active general aviation aircraft. The FAA defines an active aircraft as one that flies at least one hour during the year. In 2010, there were an estimated 224,172 active general aviation aircraft in the United States. Forecasts project an average annual increase of 0.9 percent through 2031, resulting in 270,920 active aircraft. The more expensive and sophisticated turbine-powered fleet (including rotorcraft) is projected to grow at an average of 3.0 percent a year over the forecast period, with the turbine jet portion increasing at 4.2 percent annually.

Beginning in 2005, a new category of aircraft that was previously not included in the FAA's aircraft registry counts was created: "light sport" aircraft. At the end of 2009, a total of 6,547 aircraft were estimated to be in this category. The forecast assumes this fleet will increase by approximately 450 aircraft per year until 2013, tapering off to about 300 per year after that. A total of 13,870 light sport aircraft are projected by 2031.

After experiencing rapid growth during the past decade, the demand for business jet aircraft has slowed over the past two

years as a result of the recession. However, the forecast for the business jet market calls for robust growth in the long term, driven by higher corporate profits and continued concerns about safety/security and flight delays, as well as the increased attractiveness of business aviation relative to commercial air travel. It is expected that the business usage of general aviation aircraft will expand at a faster rate than that for personal/recreational use.

Aircraft utilization rates are projected to increase through the forecast period. The number of general aviation hours flown is projected to increase by 2.2 percent annually over the forecast period, with much of the long term increase reflected by strong growth in the rotorcraft and turbine jet category.

The total general aviation pilot population is projected to increase by 42,000 (0.4 percent annually) over the forecast period, reaching 527,660 by 2031. Commercial pilots are projected to increase from 123,705 in 2010 to 136,300 (0.5 percent annually) by 2031. The number of private pilots is projected to grow at an average annual rate of 0.3 percent over the forecast period to a total of 214,500 by 2031. In addition, the FAA is projecting a total of 12,850 sport pilots will be certified by the end of the forecast period. At the end of 2009, the number of sport pilot certificates issued totaled 3,682, which reflects a steady increase in this new "entry level" pilot certificate that was only created in 2005.

Another important aspect of general aviation, as well as the aviation industry as a whole, is student pilots. Student pilot numbers had been in decline for a number of years. However, in 2010 the FAA increased the validity of student pilot certificates from 36 to 60 months (for pilots under the age of 40). As a result of this, the number of student pilot certificates at the end of 2010 increased by 64.8 percent, or approximately 47,000 pilots, over the previous year. The total number of student pilots is forecast to increase 0.1 percent annually over the forecast period, increasing from 119,119 in 2010 to 120,600 by 2031.

RISKS TO THE FORECASTS

While the FAA is confident that its forecasts for aviation demand and activity can be achieved, this hinges on a number of factors, including the strength of the global economy, security (including the threat of international terrorism), and the level of oil prices. Higher oil prices could lead to further shifts in consumer spending away from aviation, dampening a recovery in air transport demand. In the long term, the FAA foresees a competitive and profitable industry characterized by increasing demand for air travel and airfares growing more slowly than inflation.

FORECASTS OF AVIATION DEMAND

An important factor in facility planning involves a definition of demand that may reasonably be expected to occur during the useful life of the facility's key components. For Show Low Regional Airport, this involves projecting potential aviation demand for a 20-year timeframe. In this report, forecasts of annual enplaned passengers, annual operations, enplaned air cargo, based aircraft, and based aircraft fleet mix will serve as the basis for facility planning.

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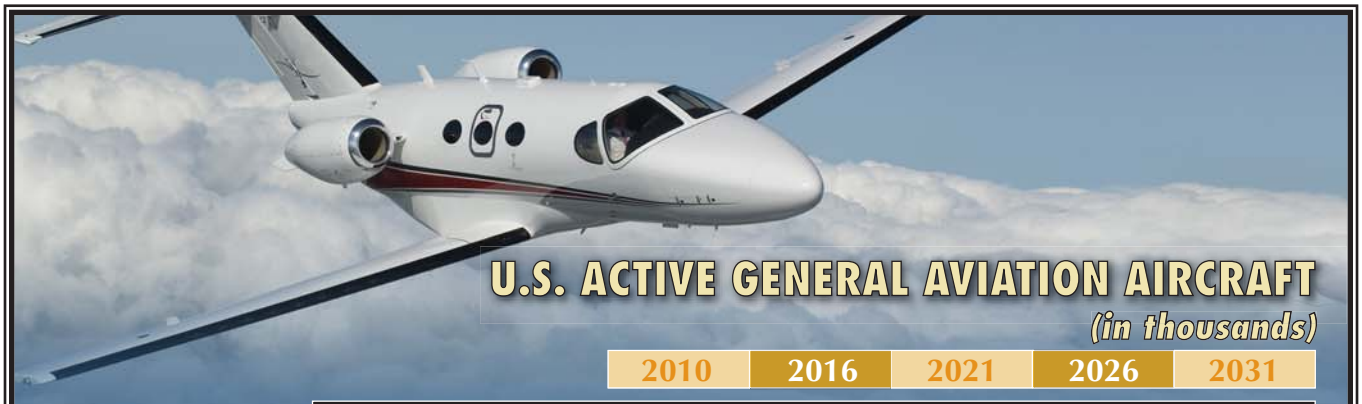
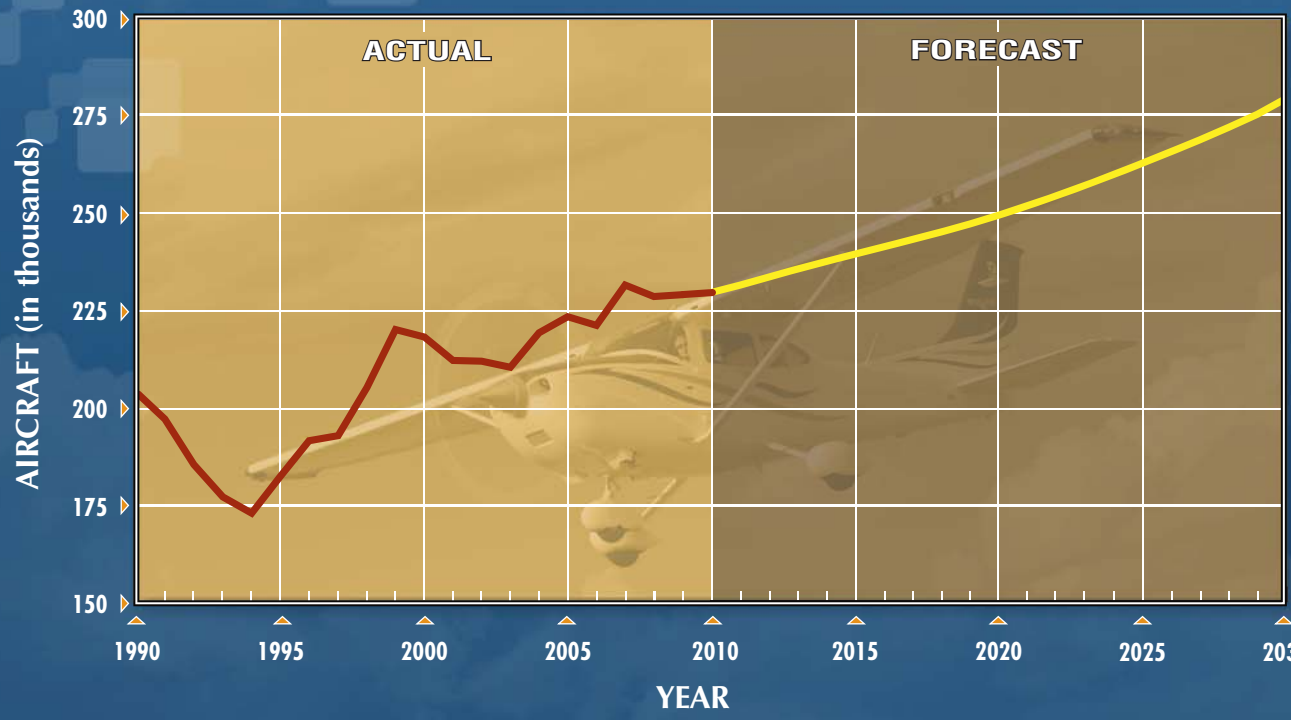


U.S. ACTIVE GENERAL AVIATION AIRCRAFT

(in thousands)

	2010	2016	2021	2026	2031
FIXED WING					
PISTON					
Single Engine	139.8	136.5	137.3	141.2	147.7
Multi-Engine	16.3	15.5	14.8	14.2	13.6
TURBINE					
Turboprop	9.2	10.0	10.7	11.4	12.3
Turbojet	11.7	14.7	18.2	22.4	27.4
ROTORCRAFT					
Piston	3.6	4.3	5.0	5.8	6.6
Turbine	6.6	7.6	8.6	9.7	10.8
EXPERIMENTAL	24.6	27.2	29.1	31.1	33.0
SPORT AIRCRAFT	7.0	9.4	10.9	12.4	13.9
OTHER	5.5	5.5	5.4	5.4	5.4
TOTAL	224.2	230.7	240.4	253.5	270.9



Source: FAA Aerospace Forecasts, Fiscal Years 2011-2031.

Notes: An active aircraft is one that has a current registration and was flown at least one hour during the calendar year.

SHOW LOW REGIONAL AIRPORT

Exhibit H
U.S. ACTIVE GENERAL AVIATION
AIRCRAFT FORECASTS

The resulting forecast may be used for several purposes, including facility needs assessments, airfield capacity evaluation, and environmental evaluations. The forecasts will be reviewed and approved by the FAA to ensure that they are reasonable projections of aviation activity. The intent is to permit the City of Show Low to make the necessary planning adjustments to ensure the facility meets projected demands in an efficient and cost-effective manner.

Because aviation activity can be affected by many influences at the local, regional, and national levels, it is important to remember that forecasts are to serve only as guidelines, and planning must remain flexible enough to respond to unforeseen facility needs.

FORECASTING APPROACH

The development of aviation forecasts proceeds through both analytical and judgmental processes. A series of mathematical relationships is tested to establish statistical logic and rationale for projected growth. However, the judgment of the forecast analyst, based upon professional experience, knowledge of the aviation industry, and assessment of the local situation is important in the final determination of the preferred forecast. The most reliable approach to estimating aviation demand is through the utilization of more than one analytical technique. Methodologies frequently considered include trend line/time-series projections, correlation/regression analysis, and market share analysis.

Trend line/time-series projections are probably the simplest and most familiar of the forecasting techniques. By fitting growth curves to historical data, then extending them into the future, a basic trend line projection is produced. A basic assumption of this technique is that outside factors will continue to affect aviation demand in much the same manner as in the past. As broad as this assumption may be, the trend line projection does serve as a reliable benchmark for comparing other projections.

Correlation analysis provides a measure of direct relationship between two separate sets of historic data. Should there be a reasonable correlation between the data sets, further evaluation using regression analysis may be employed.

Regression analysis measures statistical relationships between dependent and independent variables, yielding a "correlation coefficient." The correlation coefficient (Pearson's "r") measures association between the changes in the dependent variable and the independent variable(s). If the "r^2" value (coefficient determination) is greater than 0.95, it indicates good predictive reliability. A value less than 0.95 may be used, but with the understanding that the predictive reliability is lower.

Market share analysis involves a historical review of the airport activity as a percentage, or share, of a larger regional, state, or national aviation market. A historical market share trend is determined, providing an expected market share for the future. These shares are then multiplied by the forecasts of the larger geographical area to produce a market share projection. This method has the same limitations as trend line projections, but can provide a useful check on the validity of other forecasting techniques.

It is important to note that one should not assume a high level of confidence in forecasts that extend beyond five years. Facility and financial planning usually require at least a 10-year preview since it often takes more than five years to complete a

major facility development program. However, it is important to use forecasts which do not overestimate revenue-generating capabilities or understate demand for facilities needed to meet public (user) needs.

SCHEDULED PASSENGER SERVICE

As previously mentioned, scheduled air service at Show Low Regional Airport is provided by Great Lakes Airlines, which has provided subsidized air service for Show Low under an EAS contract since 2004.

Great Lakes Airlines operates the twin-engine Beech 1900D and offers service between Show Low, Phoenix, Farmington, and Denver seven days per week, with roundtrip flights daily.

To determine the types and sizes of facilities necessary to properly accommodate present and future airline activity, two elements of air service must be forecast: annual enplaned passengers and annual aircraft operations. Of these, the number of annual enplaned passengers is the most basic indicator of demand for commercial service activity. From a forecast of annual enplanements, operations and peak period activity can be projected based on the specific characteristics of passenger demand at Show Low Regional Airport.

Passenger Enplanements

Historical passenger enplanements and the annual percentage change are presented in **Table J**. Historical enplanement data was obtained from the FAA's *Air Carrier Activity Information System* (ACAIS) for the years 2000-2004 and from airport records for the years 2005-2010. As shown in the table, while passenger enplanements at Show Low Regional Airport have fluctuated over the past decade, overall the number of enplanements in 2010 is down only slightly to the number reported in 2000.

TABLE J
Historical Passenger Enplanements
Show Low Regional Airport

Year	Total Enplanements	Annual % Change
2000	4,059	-
2001	3,035	-25.2%
2002	4,907	61.7%
2003	3,968	-19.1%
2004	4,895	23.4%
2005	4,860	-0.7%
2006	6,286	29.3%
2007	8,840	40.6%
2008	5,324	-39.8%
2009	4,447	-16.5%
2010	3,644	-18.1%

Source: ACAIS (2000-2004), Airport Records (2005-2010).

Due to this fluctuation in the number of enplanements since 2000, time-series and regression analyses yielded correlation coefficients too low to have any predictive reliability. Therefore, none of the time-series or regression analyses were carried forward in this study.

The first forecast method used to project passenger enplanements examined the airport's historical market share of U.S. domestic regional enplanements. National forecasts of U.S. domestic regional enplanements are compiled each year by the FAA. The most recent publication, FAA *Aerospace Forecasts, Fiscal Years 2011-2031*, was released in February 2011.

As shown in **Table K**, due to the airport's fluctuation in enplanements between 2000 and 2010, the market share of U.S. domestic regional passenger enplanements has also fluctuated. A constant market share projection was first developed. This projection applies the air-

port's current market share (0.002%) to the forecasted U.S. domestic regional enplanements. This constant ratio projection yields 6,400 annual enplanements by the year 2030. A decreasing market share projection was also developed to represent the recent historical trend at Show Low Regional Airport. This decreasing market share projection results in 2,800 annual enplanements by the end of the planning period.

A second method used to forecast enplanements examined the ratio between the number of reported enplanements at Show Low Regional Airport and the population of Navajo County. This ratio of enplanements to population is referred to as the travel propensity factor (TPF) and is also presented in **Table K**. As shown in the table, the TPF has fluctuated since 2000. Both a constant and decreasing TPF projection was developed to represent the current and historical trend at the airport and yields 5,600 and 3,000 annual enplanements respectively by the end of the planning period.

TABLE K
Passenger Enplanements Forecasts
Show Low Regional Airport

Year	Show Low Enplanements	U.S. Domestic Regional Enplanements (Millions)	% of U.S. Domestic Regional Enplanements	Navajo Co. Population	Travel Propensity Factor
2000	4,059	79.7	0.005%	97,500	0.042
2001	3,035	80.4	0.004%	99,800	0.030
2002	4,907	88.6	0.006%	101,600	0.048
2003	3,968	105.0	0.004%	103,900	0.038
2004	4,895	125.9	0.004%	107,200	0.046
2005	4,860	146.4	0.003%	110,000	0.044
2006	6,286	152.2	0.004%	113,500	0.055
2007	8,840	156.2	0.006%	113,800	0.078
2008	5,324	159.1	0.003%	114,800	0.046
2009	4,447	154.0	0.003%	115,400	0.039
2010	3,644	161.7	0.002%	107,400	0.034
Constant Market Share Projection of U.S. Domestic Regional Enplanements					
2015	4,400	193.6	0.002%		
2020	5,100	225.7	0.002%		
2030	6,400	284.9	0.002%		
Decreasing Market Share Projection of U.S. Domestic Regional Enplanements					
2015	1,900	193.6	0.001%		
2020	2,300	225.7	0.001%		
2030	2,800	284.9	0.001%		
Constant Travel Propensity Factor Projection (Navajo County)					
2015	4,600			135,700	0.034
2020	5,000			147,000	0.034
2030	5,600			165,600	0.034
Decreasing Travel Propensity Factor Projection (Navajo County)					
2015	4,100			135,700	0.030
2020	3,800			147,000	0.026
2030	3,000			165,600	0.018

Source: Historical Passenger Enplanements – ACAIS (2000-2004), Airport Records (2005-2010); Historical and Forecast U.S. Domestic Regional Enplanements - FAA *Aerospace Forecasts, Fiscal Years 2011-2031* (February 2011); Historical Population – U.S. Census Bureau; Forecast Population – *Arizona Department of Commerce, Population Statistics Unit (2006)*.

Previous forecasts of passenger enplanements were also examined for this study. Forecasts included in the *2003 Airport Master Plan* used 2000 as the base year, with a reported 4,059 enplanements and project 13,000 annual enplanements by the year 2025. This represents an average annual growth rate of 4.8 percent. The *2008 Arizona State Airport Systems Plan* (SASP) estimated 7,700 enplanements in 2008 and projects 11,200 annual enplanements by 2030, which represents a 1.7 percent annual growth rate.

The FAA *Terminal Area Forecast* (TAF) was also examined. The FAA TAF presents enplanement projections for all commercial service airports in the United States. The most recent FAA TAF was published in December 2010 and used an estimate of 3,368 for that base year. The FAA TAF projects annual enplanements to remain static through the planning period.

For planning purposes, a mid-range forecast is generally chosen if it provides a reasonable growth rate. The selected planning forecast is an aver-age of the four newly developed forecasts and yields 4,500 annual enplanements by 2030. This represents an average annual growth rate of 1.1 percent. **Table L** and **Exhibit J** summarize the passenger enplanement forecasts for Show Low Regional Airport.

TABLE L
Summary of Passenger Enplanement Forecasts
Show Low Regional Airport

	2010	2015	2020	2030
2003 Airport Master Plan		9,000	11,000	N/A
2008 Arizona State Airports System Plan		8,500[1]	9,300[1]	11,200
2010 FAA Terminal Area Forecast		3,368	3,368	3,368
Market Share of U.S. Domestic Regional Enplanements				
Constant Market Share Projection		4,400	5,100	6,400
Decreasing Market Share Projection		1,900	2,300	2,800
Travel Propensity Factor (Navajo County)				
Constant TPF Projection		4,600	5,000	5,600
Decreasing TPF Projection		4,100	3,800	3,000
Selected Planning Forecast (1.1% AAGR)	**3,644**	**3,800**	**4,100**	**4,500**

Interpolated[1]

Fleet Mix and Operations Forecast

The fleet mix defines a number of key parameters in airport planning, including critical aircraft, stage length capabilities, and terminal gate configurations. Changes in equipment, airframes, and engines have always had a significant impact on airlines and airport planning. There are many on-going programs by the manufacturers to improve performance characteristics. These programs are focusing on improvements in fuel efficiency, noise suppression, and the reduction of air emissions.

As previously mentioned, Great Lakes Airlines provides service at Show Low Regional Airport. Great Lakes currently operates the 19-seat Beech 1900D, an aircraft in the B-II design category. Nationally, Great Lakes' current fleet includes six of the 30-passenger EMB 120 and 29 of the 19-passenger Beech 1900D. They are the largest single operator of the Beech 1900D in the world.

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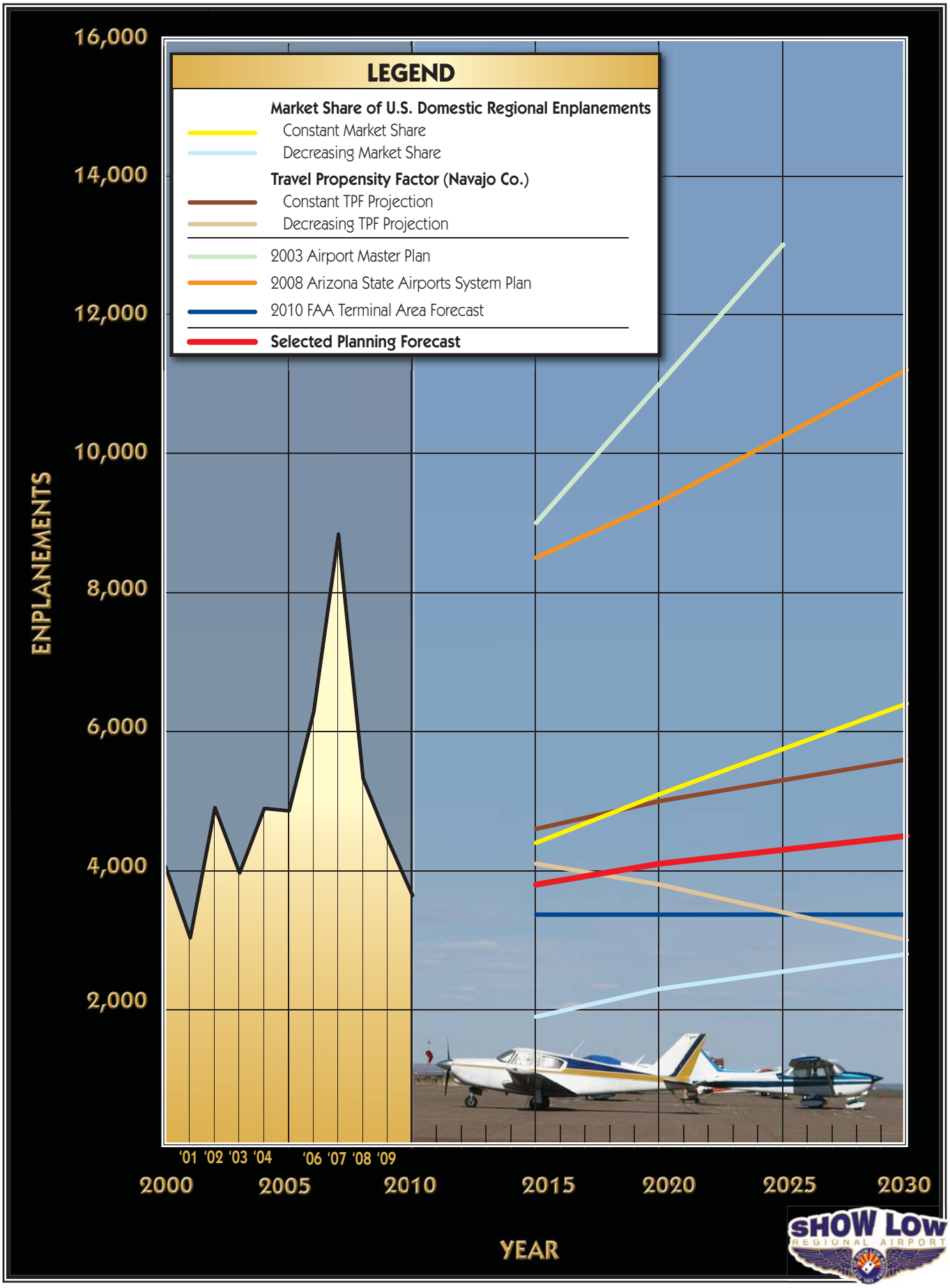

Exhibit J
PASSENGER
ENPLANEMENTS FORECASTS

Regional airlines are continuing to transition to regional jets and turboprops with greater seating capacity. A review of Great Lakes Airlines did not indicate any future orders for aircraft. It is expected that Great Lakes will continue to operate the Beech 1900D at Show Low Regional Airport, while the addition of the EMB 120 is also possible during the planning period.

The fleet mix projections have been used to calculate the average seats per departure, which, after applying an average load factor, were used to project annual departures. Annual operations were then calculated based on the projected boarding load factors.

Based on the current airline schedule, there are approximately 1,500 annual airline operations at Show Low Regional Airport. Airline operations are forecast to drop to 1,000 in the short term and remain static through the end of the planning period. **Table M** summarizes the fleet mix operations forecast for the scheduled airline operations at Show Low Regional Airport.

TABLE M
Airline Fleet Mix and Operations Forecast
Show Low Regional Airport

		FORECAST		
Fleet Mix Seating Capacity	**2010**	**2015**	**2020**	**2030**
< 20 seats (Beech 1900D)	100%	95%	90%	85%
20-50 seats (EMB 120)	0%	5%	10%	15%
Totals	100%	100%	100%	100%
Average Seats per Departure	19	20	20	21
Boarding Load Factor	31%	35%	38%	45%
Enplanements per Departure	6	7	8	9
Annual Enplanements	3,644	3,800	4,100	4,500
Annual Departures	750	500	500	500
Annual Operations	**1,500**	**1,000**	**1,000**	**1,000**

As a comparison, previous forecasts of airline operations were also examined for this study. Forecasts included in the *2003 Airport Master Plan* used a base number of 1,750 airline operations in 2000 and projects 3,400 annual airline operations by 2025. This represents an average annual growth rate of 2.7 percent. The 2008 Arizona SASP used an estimated number of 1,400 airline operations in 2008 and projects this number to remain constant through 2030.

The most recent FAA TAF, which was published in December 2010, was also examined. The FAA TAF used a base year of 2010, with an estimated 936 airline operations. The FAA TAF shows a flat line forecast through 2030.

AIR CARGO

Air cargo service at Show Low Regional Airport is provided by Ameriflight and Shundiin Services Company. Ameriflight is the largest FAA Part 135 cargo carrier in the U.S. They operate scheduled and contract cargo services to destinations in 30 U.S. states, Canada, Mexico, and the Caribbean. Ameriflight operates directly from the ramp at Show Low Regional Air-

port. Shundiin, which supplies air and ground transportation services, operates out of the old terminal at the east end of the airfield. Both Ameriflight and Shundiin operate two flights per day, five days a week. In addition, Ameriflight also operates one flight on Saturdays.

Enplaned Air Cargo

Historical enplaned air cargo totals at the airport are presented in **Table N**. As shown in the table, enplaned air cargo at Show Low Regional Airport has remained fairly static since 2006, fluctuating little. A market share analysis examined the airport's air cargo volumes in relation to the revenue-ton-miles (RTMs) of domestic all-cargo carriers in the U.S. As shown in the table, the airport's market share has remained constant at 0.002% since 2006.

Based on this historical trend at the airport, a constant market share projection was developed to determine forecasts of enplaned air cargo. This constant market share projection results in 428,800 pounds of air cargo by 2030, which represents an annual average growth rate of 2.9 percent.

TABLE N
Market Share of U.S. Domestic Cargo – Revenue Ton Miles (RTMs)
Show Low Regional Airport

Year	Show Low Enplaned Air Cargo (lbs.)	U.S. Domestic All-Cargo Carrier RTMs (millions)	Show Low Market Share
2006	226,687	12,481.2	0.002%
2007	309,723	12,795.2	0.002%
2008	299,338	12,257.7	0.002%
2009	250,512	10,226.1	0.002%
2010	241,676	11,225.3	0.002%
Constant Market Share Projection			
2015	301,000	13,979.6	0.002%
2020	340,600	15,821.5	0.002%
2030	428,800	19,916.9	0.002%

Source: Historical Enplaned Air Cargo - Airport Records; Historical & Forecast Domestic All-Cargo Carrier RTMs - FAA *Aerospace Forecasts, Fiscal Years 2011-2030*1(February 2011).

Air Cargo Operations

Historical air cargo operations for Show Low Regional Airport were obtained from airport records and are presented in **Table P**. As shown in the table, air cargo operations at the airport have fluctuated very little since 2005. Because of this, operations were forecast as a constant for the planning period. This constant is an average of the activity experienced between 2005 and 2010, which results in 1,100 annual air cargo operations through the planning period.

TABLE P
Air Cargo Operations Forecasts
Show Low Regional Airport

Year	Air Cargo Operations
2005	1,077
2006	1,102
2007	1,113
2008	1,087
2009	1,083
2010	1,144
Avg.	*1,100*
Forecasts	
2015	1,100
2020	1,100
2030	1,100

Source: Airport Records.

Air Cargo Fleet Mix

Two types of aircraft have historically been used for cargo activity at Show Low Regional Airport: the Hawker Beechcraft 99 and the Piper Navajo Chieftain. Both of these aircraft fall within Airport Reference Code A-I. It is expected that these aircraft will continue to operate at Show Low Regional Airport through the planning period.

AIR TAXI OPERATIONS

Historical air taxi operations for Show Low Regional Airport were also obtained from airport records and are presented in **Table Q**. As shown in the table, air taxi operations at the airport have fluctuated from a high of 5,902 in 2008 to a low of 1,028 in 2010. Due to these fluctuations, an average of air taxi operations over the past six years was used as the basis for the forecasts. This equates to 3,200 annual operations, which is projected to remain constant through the planning period.

TABLE Q
Air Taxi Operations Forecasts
Show Low Regional Airport

Year	Air Taxi Operations
2005	2,100
2006	2,558
2007	4,250
2008	5,902
2009	3,485
2010	1,028
Avg.	*3,200*
Forecasts	
2015	3,200
2020	3,200
2030	3,200

Source: Airport Records.

BASED AIRCRAFT

The number of based aircraft is the most basic indicator of general aviation demand. By first developing a forecast of based aircraft, the growth of aviation activities at the airport can be projected. Aircraft basing at the airport is somewhat dependent upon the nature and degree of aircraft ownership in the local service area. As a result, aircraft registrations in the area were reviewed and forecast first.

Registered Aircraft Forecasts

Table R outlines the historic registered aircraft in Navajo County since 2000. This information was obtained from records of the FAA's Aircraft Registry. According to the FAA, there were 165 aircraft registered in Navajo County in 2000. This number has since increased, with 203 registered aircraft reported in the county in 2010. This represents an annual average growth rate of 2.1 percent. There are no recently prepared forecasts of registered aircraft to examine and compare. As a result, a projection of county registrations was developed for this study.

TABLE R
Historical Registered Aircraft
Navajo County

Year	Registered Aircraft	Annual % Change
2000	165	-
2001	154	-6.7%
2002	154	0.0%
2003	138	-10.4%
2004	150	8.7%
2005	167	11.3%
2006	179	7.2%
2007	200	11.7%
2008	198	-1.0%
2009	216	9.1%
2010	203	2.1%

Source: FAA Aircraft Registry.

Due to the fluctuation in the number of registered aircraft over the past ten years, time-series and regression analyses yielded correlation coefficients too low to have any predictive reliability. Therefore, none of the time-series or regression analyses were carried forward in this study, and other methods were used to provide projections of registered aircraft.

The first method considered the county's market share of U.S. active general aviation aircraft. This market share analysis compared the county's aircraft ownership trends versus national aircraft ownership trends. As evidenced in **Table S**, the county's share of U.S. active general aviation aircraft has fluctuated between a low of 0.066% in 2003 to a high of 0.096% in 2009. The county's market share was at 0.091% in 2010. A constant market share projection of 0.091% was applied to the forecast years and yields 242 registered aircraft in Navajo County by 2030. An increasing ratio projection was also developed to reflect the overall historical trend in the county and yields 323 registered aircraft in Navajo County by 2030.

TABLE S
Registered Aircraft Forecasts
Navajo County

Year	Navajo Co. Registered Aircraft	U.S. Active GA Aircraft	% of U.S. Active GA Aircraft	Navajo Co. Population	AC Per 1,000 Residents
2000	165	217,500	0.076%	97,500	1.69
2001	154	211,500	0.073%	99,800	1.54
2002	154	211,300	0.073%	101,600	1.52
2003	138	209,600	0.066%	103,900	1.33
2004	150	219,300	0.068%	107,200	1.40
2005	167	224,400	0.074%	110,000	1.52
2006	179	221,900	0.081%	113,500	1.58
2007	200	231,600	0.086%	113,800	1.76
2008	198	228,700	0.087%	114,800	1.72
2009	216	223,900	0.096%	115,400	1.87
2010	203	224,200	0.091%	107,400	1.89
Constant Market Share Projection of U.S. Active GA Aircraft					
2015	207	229,100	0.091%		
2020	215	237,800	0.091%		
2030	242	267,100	0.091%		
Increasing Market Share Projection of U.S. Active GA Aircraft					
2015	227	229,100	0.099%		
2020	252	237,800	0.106%		
2030	323	267,100	0.121%		
Constant Ratio Projection Per 1,000 Residents (Navajo County)					
2015	256			135,700	1.89
2020	278			147,000	1.89
2030	313			165,600	1.89
Increasing Ratio Projection Per 1,000 Residents (Navajo County)					
2015	270			135,700	1.99
2020	307			147,000	2.09
2030	379			165,600	2.29

Source: Historical Registered Aircraft – FAA; Historical and Forecast U.S. Active GA Aircraft - FAA *Aerospace Forecasts, Fiscal Years 2011-2031* (February 2011); Historical Population – U.S. Census Bureau; Forecast Population – *Arizona Department of Commerce, Population Statistics Unit (2006)*.

The population of Navajo County has also been used as a comparison with registered aircraft in the county. This forecast method examines historical registered aircraft as a ratio of 1,000 residents in Navajo County. As shown in **Table S**, the county's share of U.S. active general aviation aircraft has fluctuated between a low of 1.33 aircraft per 1,000 residents in 2003 to a high of 1.89 in 2010. A constant market share projection of 1.89 was applied to the forecast years and yields 313 registered aircraft in Navajo County by 2030. An increasing ratio projection was also developed to reflect the overall historical trend and yields 379 registered aircraft in Navajo County by 2030.

Another forecast method examined the historical growth rate of registered aircraft in Navajo County. As previously mentioned, registered aircraft grew at an average annual rate of 2.1 percent between 2000 and 2010. This growth rate was applied to the forecast years and yields 314 registered aircraft in the county by the year 2030.

Table T and **Exhibit K** summarize the registered aircraft forecasts for Navajo County. The selected planning forecast, which is presented in **Table T**, is an average of the five newly developed forecasts and results in 310 registered aircraft in Navajo County by 2030. This is an increase of 107 aircraft in the county over the planning period, which represents an average annual growth rate of 2.1 percent.

TABLE T
Summary of Registered Aircraft Forecasts
Navajo County

	2010	2015	2020	2030
Market Share of U.S. Active GA Aircraft				
Constant Market Share Projection		207	215	242
Increasing Market Share Projection		227	252	323
Registered Aircraft Per 1,000 Residents (Navajo Co.)				
Constant Ratio Projection		256	278	313
Increasing Ration Projection		270	307	379
2.1 % Historical Growth Rate (2000-2010)		225	250	314
Selected Planning Forecast (2.1% AAGR)	**203**	**240**	**260**	**310**

Based Aircraft Forecasts

According to airport records, there were 57 aircraft based at Show Low Regional Airport in 2001. Airport records at the end of 2010 indicated 67 based aircraft. This represents an average annual growth rate of 1.8 percent. Historical annualized based aircraft totals between 2000 and 2010 were not available for this study; therefore, time-series and regression analyses could not be performed.

The based aircraft forecast is a function of the registered aircraft forecast completed above. **Table U** presents the airport's based aircraft market share of registered aircraft in Navajo County. As shown in the table, the 67 based aircraft at Show Low Regional Airport in 2010 accounted for 33 percent of the aircraft registered in Navajo County. A constant market share projection was developed and yields 102 based aircraft by 2030. A decreasing market share forecast was also developed to represent the overall historical trend and yields 84 based aircraft by 2030.

TABLE U
Based Aircraft Market Share Forecast
Show Low Regional Airport

Year	Show Low Based Aircraft	Navajo County Registered Aircraft	Market Share of Reg. AC
2001	57	154	37%
2010	67	203	33%
Constant Market Share Projection of Registered Aircraft (Navajo County)			
2015	79	240	33%
2020	86	260	33%
2030	102	310	33%
Decreasing Market Share Projection of Registered Aircraft (Navajo County)			
2015	74	240	31%
2020	75	260	29%
2030	84	310	27%

Source: Historical Based Aircraft – Airport Records; Historical Registered Aircraft – FAA.

An additional forecast method examined the historical growth rate of registered aircraft in Navajo County. As previously mentioned, based aircraft grew at an average annual rate of 1.8 percent between 2001 and 2010. This growth rate was applied to the forecast years and yields 96 based aircraft by the year 2030.

Previous forecasts of based aircraft were also examined for this study. Forecasts included in the *2003 Airport Master Plan* used a base number of 57 based aircraft in 2001 and projects 110 based aircraft by 2025. This represents an average annual growth rate of 2.8 percent. The 2008 Arizona SASP used a base number of 66 based aircraft in 2007 and projects 105 based aircraft at the airport by 2030, which represents a 2.0 percent annual growth rate.

The most recent FAA TAF, which was published in December 2010, was also examined. The FAA TAF used a base year of 2009, with an estimated 43 based aircraft. The FAA TAF shows a flat line forecast through 2030.

Table V and **Exhibit L** summarize the based aircraft forecasts for Show Low Regional Airport. The selected planning forecast is an average of the three new forecasts developed by Coffman Associates. This forecast yields 95 based aircraft at Show Low Regional Airport by 2030, which represents a 1.8 percent average annual growth rate.

TABLE V
Summary of Based Aircraft Forecasts
Show Low Regional Airport

	2010	2015	2020	2030
2003 Airport Master Plan		90	100	N/A
2008 Arizona State Airports System Plan		78[1]	84[1]	105
2010 FAA Terminal Area Forecast		43	43	43
Market Share of Reg. Aircraft (Navajo Co.)				
Constant Market Share Projection		79	86	102
Decreasing Market Share Projection		74	75	84
1.8% Historical Growth Rate (2001-2010)		73	80	96
Selected Planning Forecast (1.8% AAGR)	**67**	**75**	**80**	**95**

[1]Interpolated

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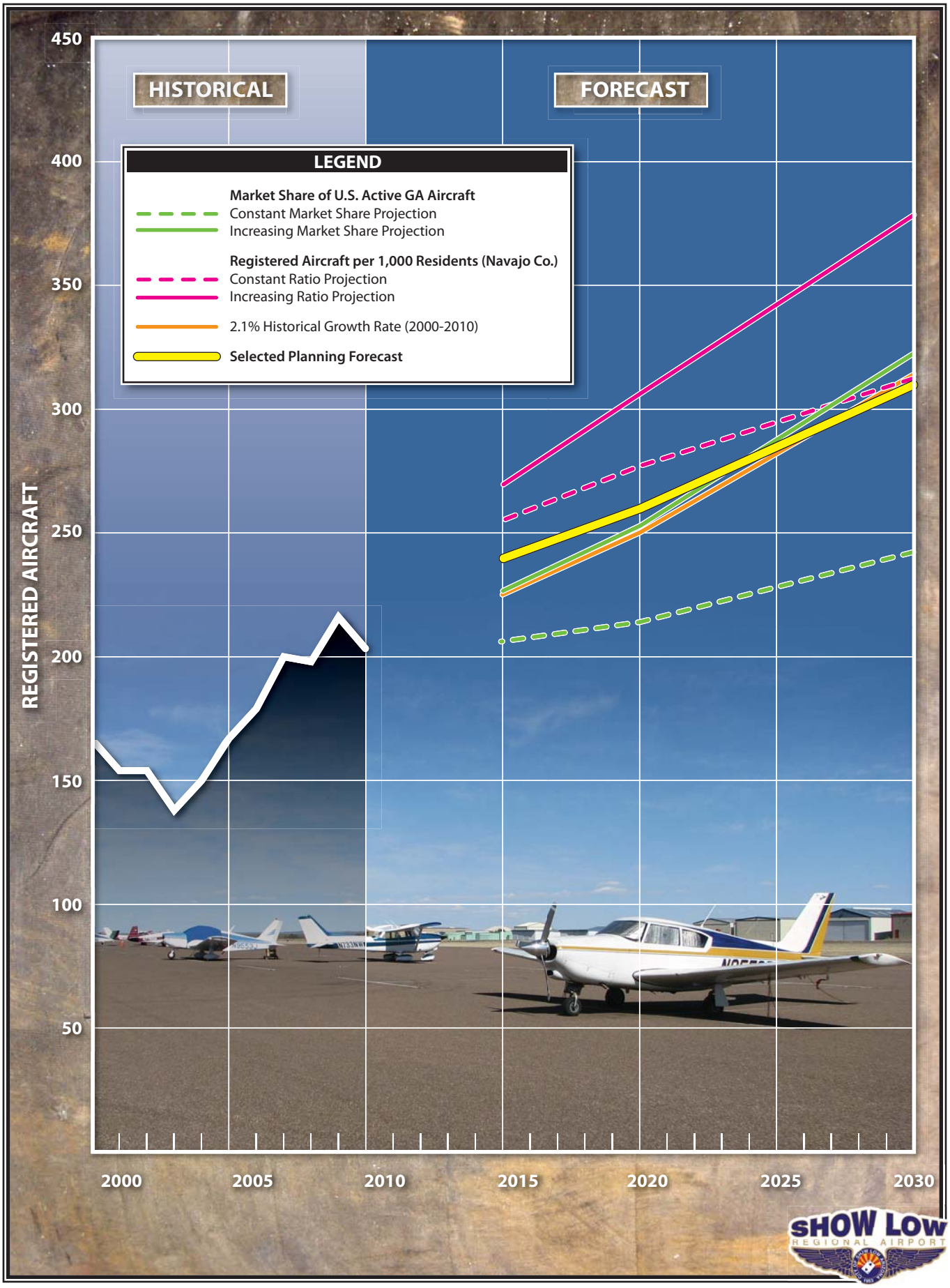

Exhibit K
REGISTERED AIRCRAFT FORECASTS
NAVAJO COUNTY

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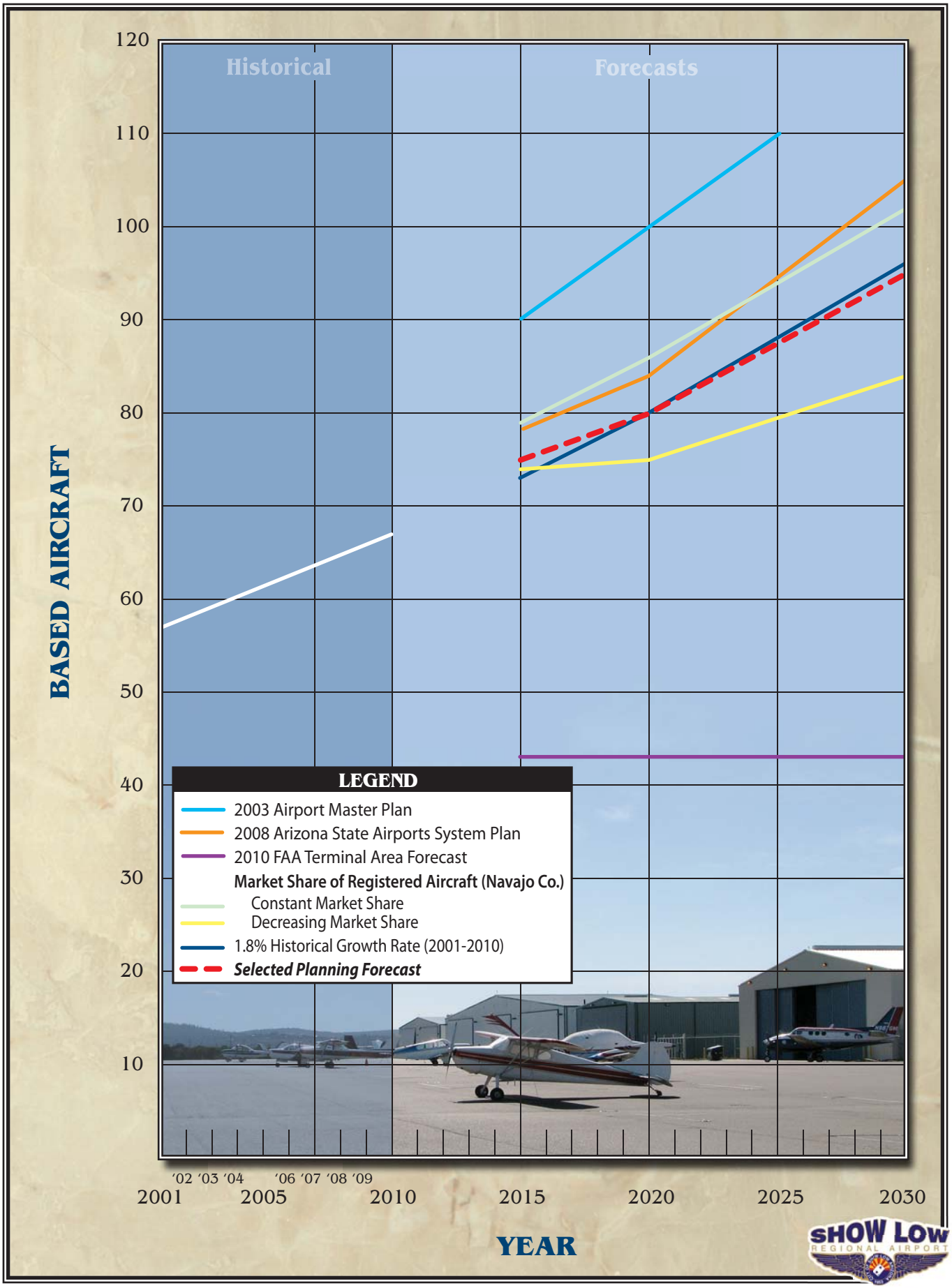

Exhibit L
BASED AIRCRAFT FORECASTS

It is important to note that the actual percentage of area-wide aircraft that base at Show Low Regional Airport in the future will depend on availability of hangars, rental rates, and services offered by airport businesses.

Based Aircraft Fleet Mix

While the total number of general aviation aircraft based at Show Low Regional Airport is projected to increase, it is also important to know the type of aircraft expected to base at the airport. This will ensure the planning of proper facilities in the future. According to airport records, the current mix of aircraft based at the airport consists of 60 single engine aircraft, five multi-engine aircraft, and two turbo-props. The current mix includes aircraft that fall within the A-I, B-I, and B-II Design Group.

The forecast mix of based aircraft was determined by comparing existing and forecast U.S. general aviation fleet trends to the fleet mix at Show Low Regional Airport. The national trend in general aviation is toward a greater percentage of larger, more sophisticated aircraft as part of the national fleet. While an increase in single engine aircraft can be expected, their percentage of the total fleet mix will likely decrease. Meanwhile, the percentage of multi-engine aircraft is projected to increase by more than six percent by the end of the planning period, while the percentage of turboprops is expected to increase by approximately six percent. It could also be expected that Show Low Regional Airport's based aircraft mix will include some jets in the future. The fleet mix projections for Show Low Regional Airport are presented in **Table W**.

TABLE W
Based Aircraft Fleet Mix
Show Low Regional Airport

Year	Total	Single Engine	Multi-Engine	Turboprops	Jets
2010	67	60	5	2	0
2010	100.0%	89.5%	7.5%	3.0%	0.0%
2015	75	63	7	4	1
2020	80	65	9	5	1
2030	95	71	13	9	2
Change	+28	+11	+8	+7	+2
2015	100.0%	84.0%	10.0%	5.0%	1.0%
2020	100.0%	81.0%	11.0%	6.0%	2.0%
2030	100.0%	75.0%	14.0%	9.0%	2.0%

Source: Historical Based Aircraft – Airport Records.

GENERAL AVIATION OPERATIONS

General aviation operations are classified as either local or itinerant. A local operation is a take-off or landing performed by an aircraft that operates within sight of the airport, or which executes simulated approaches or touch-and-go operations at the airport. Itinerant operations are those performed by aircraft with a specific origin or destination away from the airport. Generally, local operations are characterized by training operations. Typically, itinerant operations increase with business and commercial use, since

business aircraft are not typically used for large scale training activities.

Previous forecasts were first examined. The 2003 Airport Master Plan used a base year of 2001, with an estimated 9,800 general aviation operations. The 2003 plan projects 25,600 annual general aviation operations by 2025, which represents a 4.1 percent annual growth rate. The 2008 Arizona SASP used a base year of 2007, with an estimated 40,060 general aviation operations. The 2008 Arizona SASP projects 62,600 annual general aviation operations by 2030, which represents a 2.0 percent annual growth rate.

The 2010 FAA TAF estimated 11,179 annual general aviation operations at Show Low Regional Airport for that year. The FAA TAF shows a flat line forecast through 2030. However, without an airport traffic control tower, these operational numbers reflect only a rough estimate of operational activity.

When tower reports are not available, the FAA Statistics and Forecast Branch recommends using the *Model for Estimating General Aviation Operations at Non-Towered Airports* (July 2001). This report develops and presents a regression model for estimating general aviation (GA) operations at non-towered airports. Independent variables used in the equation include airport characteristics (i.e., number of based aircraft, number of flight schools, population totals, and geographic location).

Applying this equation yields an initial annual general aviation operations total of 25,000. This equates to 373 operations per based aircraft, which is consistent for similar airports of this size.

From this base number of 25,000, a constant projection of 373 operations per based aircraft was developed. This forecast yields 35,500 annual general aviation operations by 2030, which represents an average annual growth rate of 1.8 percent. It was estimated that the operational split is 40 percent itinerant and 60 percent local and will remain so through the planning period. **Table X** presents the general aviation operations forecast for Show Low Regional Airport.

TABLE X
General Aviation Operations Forecasts
Show Low Regional Airport

Year	Based Aircraft	Itinerant Operations	Local Operations	Total Operations	Ops Per Based Aircraft
2010	67	10,000	15,000	25,000[1]	373
Constant Ratio Projection					
2015	75	11,200	16,800	28,000	373
2020	80	12,000	17,900	29,900	373
2030	95	14,200	21,300	35,500	373

[1]2010 Estimate of operations – Derived from *Model for Estimating General Aviation Operations at Non-Towered Airports, Equation #15*, FAA Statistics and Forecast Branch (July 2001).

PEAKING CHARACTERISTICS

Many airport facility needs are related to the level of activity during peak periods. The periods used in developing facility requirements for this study are as follows:

- **Peak Month –** The calendar month when peak activity occurs.

- **Design Day –** The average day in the peak month. This indicator is derived by dividing the peak month activity by the number of days in the month.

- **Busy Day –** The busy day of a typical week in the peak month.

- **Design Hour –** The peak hour within the design day.

It is important to realize that only the peak month is an absolute peak within the year. Each of the other periods will be exceeded at various times during the year. However, each provides reasonable planning standards that can be applied without overbuilding or being too restrictive.

Airline Peaks

Monthly airport records were not available; therefore, it was estimated that the peak month of passenger enplanements accounted for 10 percent of total enplanements. The design hour enplanements were estimated at 65 percent of the design day (average day in peak month) based upon the current airline schedule and load factors.

The peak month for airline operations was also estimated at 10 percent of total annual airline operations. Based upon Great Lakes' schedule at Show Low Regional Airport, the peak hour (50.0%) represents a single aircraft landing and departing within the same hour. This percentage has been applied to the forecasts of design hour operations at Show Low Regional Airport. Airline peaking characteristics are summarized in **Table Y**.

TABLE Y
Peak Period Forecasts
Show Low Regional Airport

		FORECASTS		
	2010	2015	2020	2030
Airline Enplanements				
Annual	3,644	3,800	4,100	4,500
Peak Month (10.0%)	364	380	410	450
Design Day	12	13	14	15
Design Hour (65.0%)	8	8	9	10
Airline Operations				
Annual	1,500	1,000	1,000	1,000
Peak Month (10.0%)	150	100	100	100
Design Day	5	3	3	3
Design Hour (50.0%)	2	1	1	1
General Aviation Operations				
Annual	25,000	28,000	29,900	35,500
Peak Month (12.0%)	3,000	3,360	3,590	4,260
Design Day	100	112	120	142
Busy Day	125	140	150	178
Design Hour (15.0%)	15	17	18	21

General Aviation Peaks

Typically, the peak month for general aviation operations represents between 10 and 12 percent of the airport's annual operations. For this analysis, the peak month was estimated at 12 percent of annual operations, which equates to 3,000 operations. Forecasts of peak month activity have been developed by applying this percentage to the forecasts of annual operations.

Design day operations were calculated by dividing the total number of operations in the peak month by the number of days in the month. The design hour is projected as 15 percent of the design day operations. Busy day operations were calculated at 15 percent busier than the design day activity. **Table Y** summarizes the general aviation peak activity forecasts.

This section has provided forecasts for each sector of aviation demand anticipated over the planning period. A summary of the aviation forecasts developed for Show Low Regional Airport is presented on **Exhibit M**.

In the following section, existing components of the airport are evaluated so that the capacities of the overall system are identified. Once identified, the existing capacity is compared to the planning horizon milestones to determine where deficiencies currently exist or may be expected to materialize in the future. Once deficiencies in a component are identified, a more specific determination of the appropriate sizing and timing of the new facilities can be made.

AIRFIELD REQUIREMENTS

Airfield requirements include the need for those facilities related to the arrival and departure of aircraft. The adequacy of existing airfield facilities at Show Low Regional Airport has been analyzed from a number of perspectives, including airfield design standards, imaginary surfaces, runway use, runway length, runway pavement strength, airfield lighting, navigational aids, and pavement markings.

AIRFIELD DESIGN STANDARDS

The FAA has established a coding system to relate airport design criteria to the operational and physical characteristics of aircraft expected to use the airport. This code, the airport reference code (ARC), has two components. The first component, depicted by a letter, is the aircraft approach speed (operational characteristic). The second component, depicted by a Roman numeral, is the airplane design group (ADG) and relates to aircraft wingspan (physical characteristic). Generally, aircraft approach speed applies to runways and runway-related facilities, while aircraft wingspan primarily relates to separation criteria involving taxiways, taxilanes, and landside facilities.

According to FAA Advisory Circular (AC) 150/5300-13, *Airport Design*, an aircraft's approach category is based upon 1.3 times its stall speed in landing configuration at that aircraft's maximum certificated weight. The five approach categories used in airport planning are as follows:

Category A: Speed less than 91 knots.

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	BASE YEAR	2015	2020	2030
ANNUAL ENPLANEMENTS				
Airport Total	3,644	3,800	4,100	4,500
ENPLANED AIR CARGO				
Airport Total (in pounds)	241,676	301,000	340,600	428,800
ANNUAL OPERATIONS				
Itinerant				
Air Carrier	1,500	1,000	1,000	1,000
Air Taxi	1,028	3,200	3,200	3,200
Air Cargo	1,144	1,100	1,100	1,100
General Aviation	10,000	11,200	12,000	14,200
Total Itinerant	**13,672**	**16,500**	**17,300**	**19,500**
Local				
General Aviation	15,000	16,800	17,900	21,300
Total Local	**15,000**	**16,800**	**17,900**	**21,300**
Total Operations	***28,672***	***33,300***	***35,200***	***40,800***
BASED AIRCRAFT				
Single Engine	60	63	65	71
Multi-Engine	5	7	9	13
Turboprops	2	4	5	9
Jets	0	1	1	2
Total Based Aircraft	***67***	***75***	***80***	***95***

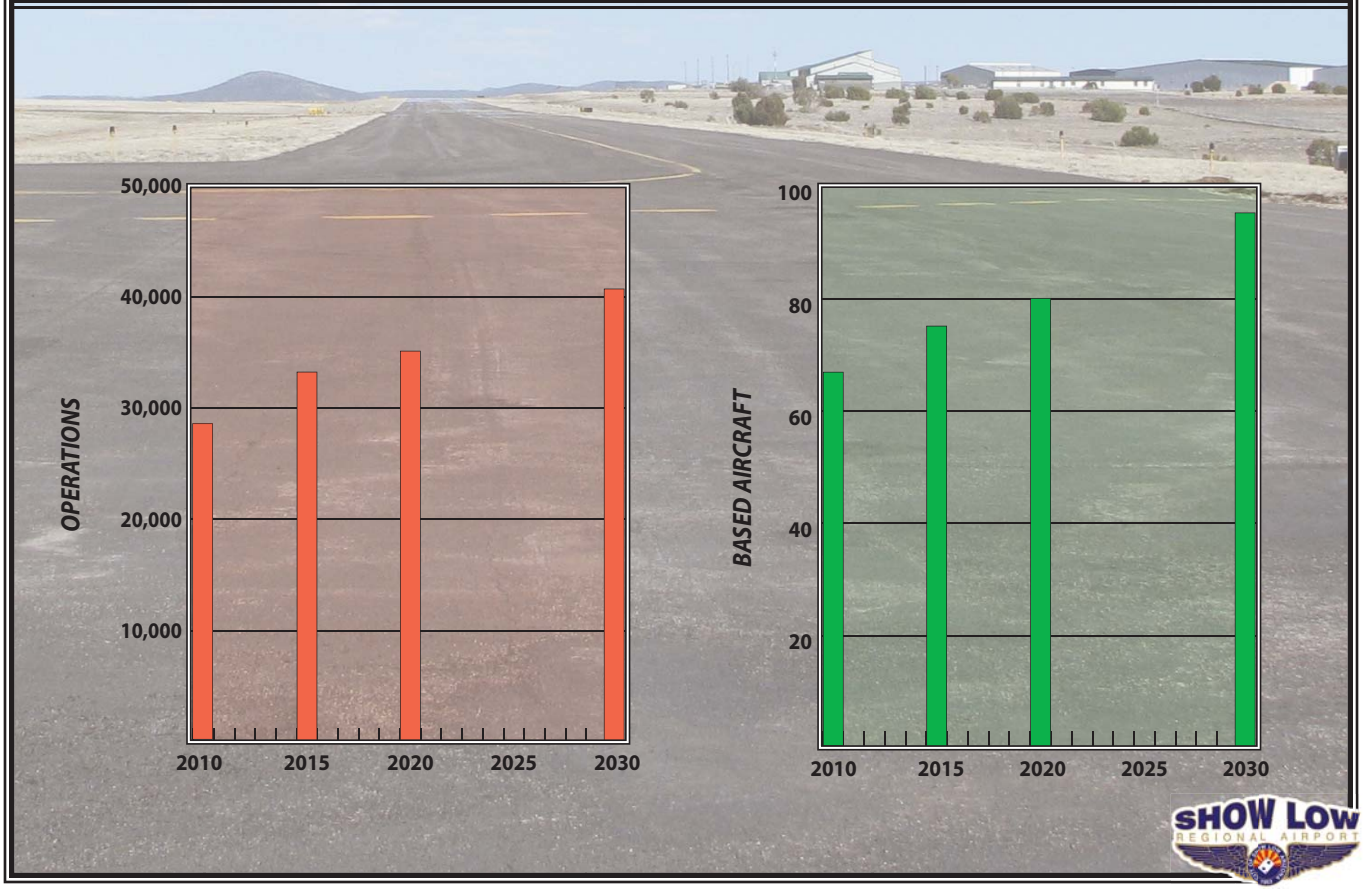

Exhibit M
FORECAST SUMMARY

Category B: Speed 91 knots or more, but less than 121 knots.

Category C: Speed 121 knots or more, but less than 141 knots.

Category D: Speed 141 knots or more, but less than 166 knots.

Category E: Speed greater than 166 knots.

The ADG is based upon the aircraft's wingspan and tail height. The six ADGs used in airport planning are as follows:

Group I: Up to but not including 49 feet wingspan or tail height up to but not including 20 feet.

Group II: 49 feet up to but not including 79 feet wingspan or tail height from 20 up to but not including 30 feet.

Group III: 79 feet up to but not including 118 feet wingspan or tail height from 30 up to but not including 45 feet.

Group IV: 118 feet up to but not including 171 feet wingspan or tail height from 45 up to but not including 60 feet.

Group V: 171 feet up to but not including 214 feet wingspan or tail height from 60 up to but not including 66 feet.

Group VI: 214 feet up to but not including 262 feet wingspan or tail height from 66 up to but not including 80 feet.

In order to determine facility requirements, an ARC should first be determined, and then appropriate airport design criteria can be applied. This begins with a review of the type of aircraft using and expected to use Show Low Regional Airport. **Exhibit N** provides a listing of typical aircraft and their associated ARC.

Show Low Regional Airport is currently used by a wide variety of aircraft, ranging from aircraft used for scheduled airline service to general aviation recreational aircraft and general aviation business aircraft. The airport is also used by a limited number of helicopters in support of aerial firefighting activities, which varies by fire season. However, helicopters are not included in this determination as they are not assigned an ARC.

CRITICAL AIRCRAFT

The most important aircraft characteristic in airfield planning are the approach speed, wingspan, and tail height of the critical design aircraft anticipated to use the airport now or in the future. The critical design aircraft is defined as the most demanding category of aircraft which makes 500 or more annual operations at the airport. Planning for future aircraft use is of particular importance since design standards are used to plan separation distances between facilities. These standards must be determined now, since the relocation of these facilities will likely be extremely expensive at a later date.

Commercial and Cargo Aircraft

The primary aircraft used for scheduled airline service at Show Low Regional Airport for the past several years has been the 19-seat Beechcraft 1900D, which is operated by Great Lakes Airlines. This twin-engine turboprop falls within ARC B-II and is the most widely used 19-seat turboprop regional aircraft across the country. The airline fleet mix forecast al-

so indicated that Show Low Regional Airport could support the use of a larger aircraft in the future, such as the EMB 120. This is a 30-seat twin-engine turboprop aircraft that falls within ARC B-II. Both the 1900D and EMB 120 are currently out of production. Most of the newer turboprops being used in commercial service fall within the ARC C-II category.

Cargo services at Show Low Regional Airport are currently provided by the Hawker Beechcraft 99 and Piper Navajo Chieftain. Both of these aircraft are twin-engine turboprops that fall within ARC B-I. It is expected that air cargo service at the airport will continue to be provided by these aircraft, or a similar aircraft, through the planning period.

General Aviation

General aviation aircraft operating at Show Low Regional Airport include small single and multi-engine aircraft, which fall within approach categories A and B and ADG I, and business turboprop and jet aircraft, which fall within approach categories B, C, and D, and ADGs I and II. The majority of based aircraft fall within ARCs A-I and B-I. Representative aircraft at Show Low Regional Airport include the Cessna 421 and the Beechcraft Bonanza.

A wide range of transient business jets also operate at the airport. These include aircraft within the Cessna Citation family of business jets, Gulfstream business jets, Learjets, and Dassault Falcon jet aircraft.

When compared with the single and multi-engine piston aircraft and business turboprop aircraft, business jets are the most demanding general aviation aircraft to operate at the airport. This is due to their longer wing span, higher approach speed, and higher landing and takeoff weights. Therefore, business jet aircraft comprise the critical design aircraft for the general aviation segment of activity at Show Low Regional Airport. Currently, the critical business jets operating at the airport fall within ARC C-II and C-III. It is expected that activity within Approach Category C will increase in the future.

Critical Design Aircraft Conclusion

For planning purposes, business jets within approach category C and ADG III define the airport's critical aircraft. Business jets are expected to comprise the critical design aircraft through the planning period and will continue to place the airport in ARC C-III. Runway 6-24 provides the greatest length at the airport and presently serves as the primary runway for large aircraft. This runway should continue to plan for ARC C-III requirements.

AIRPORT IMAGINARY SURFACES

The FAA has established several imaginary surfaces to protect aircraft operational areas and keep them free from obstructions that could affect the safe operation of aircraft. These include the runway safety area (RSA), object free area (OFA), obstacle free zone (OFZ), and runway protection zone (RPZ).

The RSA is "a defined surface surrounding the runway prepared or suitable for reducing the risk of damage to airplanes in the event of an undershoot, overshoot, or an excursion from the runway." An object free area is an area on the ground centered on the runway, taxiway, or centerline, provided to enhance the safety of aircraft operations, except for objects that

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A-I

- Beech Baron 55
- **Beech Bonanza**
- Cessna 150
- Cessna 172
- Cessna Citation Mustang
- Eclipse 500
- Piper Archer
- Piper Seneca

B-I *less than 12,500 lbs.*

- Beech Baron 58
- Beech King Air 100
- Cessna 402
- **Cessna 421**
- Piper Navajo
- Piper Cheyenne
- Swearingen Metroliner
- Cessna Citation I

B-II *less than 12,500 lbs.*

- **Super King Air 200**
- Cessna 441
- DHC Twin Otter

B-I, B-II *over 12,500 lbs.*

- Super King Air 350
- Beech 1900
- Jetstream 31
- Falcon 10, 20, 50
- Falcon 200, 900
- **Citation II**, III, IV, V
- Saab 340
- Embraer 120

A-III, B-III

- DHC Dash 7
- **DHC Dash 8**
- DC-3
- Convair 580
- Fairchild F-27
- ATR 72
- ATP

C-I, D-I

- Beech 400
- **Lear 25, 31, 35, 45, 55, 60**
- Israeli Westwind
- HS 125-400, 700

C-II, D-II

- Cessna Citation III, VI, VIII, X
- **Gulfstream II, III, IV**
- Canadair 600
- ERJ-135, 140, 145
- CRJ-200/700
- Embraer Regional Jet
- Lockheed JetStar

C-III, D-III

- ERJ-170, 190
- CRJ 700, 900
- Boeing Business Jet
- **B 737-300 Series**
- MD-80, DC-9
- Q-400
- A319, A320
- Gulfstream V
- Global Express

C-IV, D-IV

- **B-757**
- B-767
- C-130
- DC-8-70
- MD-11

D-V

- **B-747** Series
- B-777

Note: Aircraft pictured is identified in bold type.

SHOW LOW REGIONAL AIRPORT

Exhibit N
AIRPORT REFERENCE CODES

need to be located in the OFA for air navigation or aircraft ground maneuvering purposes. An obstacle free zone is a volume of airspace that is required to be clear of objects, except for frangible items required for navigation of aircraft. It is centered along the runway and extended runway centerline. The RPZ is defined as an area off the runway end to enhance the protection of people and property on the ground. The RPZ is trapezoidal in shape and centered about the extended runway centerline. The dimensions of an RPZ are a function of the runway ARC and approach visibility minimums.

Presented in **Table Z** are the FAA runway design standards as they apply to Show Low Regional Airport. Presently Runway 6-24 does not fully meet ARC C-III RSA or OFA design standards. The RSA extends beyond the existing airport property line on each end of the runway and does not meet grade requirements. Both the RSA and OFA are obstructed by perimeter fencing. The RSA and OFA on the Runway 6 end are also obstructed by State Highway 77. The Runway 6 threshold has been displaced 700 feet to provide for RSA and OFA during landing.

TABLE Z
Airfield Safety Area Dimensional Standards
Show Low Regional Airport

	FAA Standards		
Airport Reference Code	**C-III (≥1 mile vis)**	**B-II (≥1 mile vis)**	**B-I (small aircraft)**
Status	Existing Runway 6-24	Ultimate Runway 18-36	Existing Runway 3-21
Runway Width	100’	75’	60’
Runway Centerline To:			
Holding Position	250’	200’	125’
Parallel Taxiway Centerline	400’	240’	150’
Aircraft Parking Area	500’	250’	125’
Runway Safety Area (RSA)			
Width	500’	150’	120’
Length Prior to Landing Threshold	600’	300’	240’
Length Beyond Runway End	1,000’	300’	240’
Runway Object Free Area (OFA)			
Width	800’	500’	250’
Length Beyond Runway End	1,000’	300’	240’
Runway Obstacle Free Zone (OFZ)			
Width	400’	400’	250’
Length Beyond Runway End	200’	200’	200’
Runway Protection Zone (RPZ)			
Inner Width	500’	500’	250’
Outer Width	1,010’	700’	450’
Length	1,700’	1,000'	1,000’

Source: FAA AC 150/5300-13, *Airport Design*.

The FAA has placed a higher significance on maintaining adequate RSAs at all airports. On October 1, 1999, the FAA established Order 5200.8, *Runway Safety Area Program*. The order states that all RSAs at federally-obligated airports shall conform to the standards contained in Advisory Circular 150/5300-13, *Airport Design*, to the extent practicable. The recommended development concept will examine the requirements needed to meet future RSA and OFA standards.

The existing RPZs on both runways extend beyond the existing airport property. The recommended development concept will examine future RPZ acquisition needs.

AIRFIELD REQUIREMENTS

As indicated earlier, airfield facilities include those facilities that are related to the arrival, departure, and ground movement of aircraft. These components include:

- Runways
- Taxiways
- Airfield Lighting, Marking, and Signage
- Navigational Approach Aids

RUNWAYS

The adequacy of the existing runway system at Show Low Regional Airport has been analyzed from a number of perspectives, including runway orientation, runway length, pavement strength, width, and adherence to safety area standards. From this information, requirements for runway improvements were determined for the airport.

Runway Orientation

Runway use is normally dictated by wind conditions. The direction of take-offs and landings are generally determined by the speed and direction of the wind. For the operational safety and efficiency of an airport, it is desirable for the principal runway of an airport's runway system to be oriented as close as possible to the direction of the prevailing wind. This reduces the impact of crosswind components during landing or takeoff.

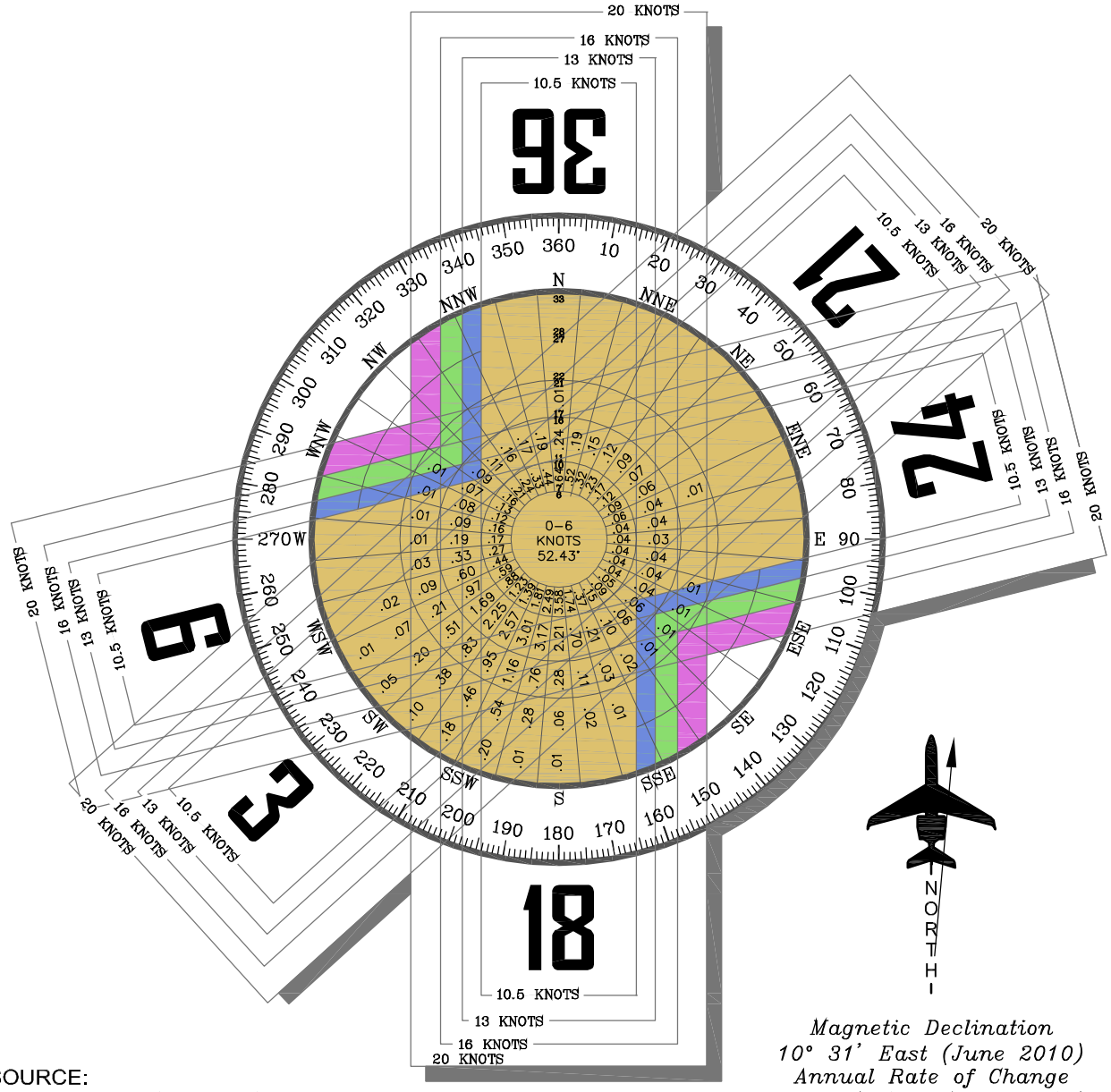
Show Low Regional Airport is currently served by primary Runway 6-24, which is oriented in an east-west direction, and Runway 3-21, which is oriented in a northeast-southwest direction. FAA design standards specify that additional runway configurations are needed when the primary runway configuration provides less than 95 percent wind coverage at specific crosswind components. The 95 percent wind coverage is computed on the basis of crosswinds not exceeding 10.5 knots for small aircraft weighing less than 12,500 pounds and from 13 to 20 knots for aircraft weighing over 12,500 pounds.

Using the most current wind data specific to Show Low Regional Airport, a new analysis has been completed. **Exhibit P** presents the wind rose for the airport and summarizes wind coverage based on this data. As shown in the table on the exhibit, Runway 6-24 does not provide minimum coverage for the airport, only providing 79.06% coverage for the 10.5 knot crosswind component and 87.61% coverage for the 13 knot crosswind component. Similarly, Runway 3-21 provides less than 95% coverage for the 10.5 crosswind component. Combined, Runways 6-24 and 3-21 provide only 93.6% coverage for the 10.5 knot crosswind component.

Based upon this analysis, a new runway orientation is needed to provide the 95 percent wind coverage requirement for the 10.5 knot crosswind component that is not currently provided by the combined coverage of the existing runways. As recommended in the previous master plan, a new runway (Runway 18-36) oriented in a north-south direction is proposed at Show Low Regional Airport. As depicted on the exhibit, the proposed Runway 18-36 combined with Runway 6-24 would provide 96.95% and 98.86% wind cover-

ALL WEATHER WIND COVERAGE

Runways	10.5 Knots	13 Knots	16 Knots	20 Knots
Runway 3–21	*93.05%*	*97.26%*	*99.28%*	*99.86%*
Runway 6–24	*79.06%*	*87.61%*	*95.17%*	*98.25%*
Runway 18–36	*91.11%*	*95.56%*	*98.50%*	*99.62%*
Runway 3–21/6–24	*93.60%*	*97.63%*	*99.39%*	*99.89%*
Runway 6–24/18–36	*96.95%*	*98.86%*	*99.68%*	*99.96%*



Magnetic Declination
10° 31' East (June 2010)
Annual Rate of Change
00° 06' West (June 2010)

SOURCE:
NOAA National Climatic Center
Asheville, North Carolina
Show Low Regional Airport
Show Low, Arizona

OBSERVATIONS:
140,431 All Weather Observations
May 2000–May 2010

SHOW LOW REGIONAL AIRPORT

Exhibit P
WINDROSE

Coffman Associates R:\CAD\Hopkins\D\MP\Showlow (SOW)\Exhibits\SOW Wind Rose.dwg Printed Date: 8-04-10 11:27:05 AM Dhopkins

age for the 10.5 knot and 13 knot crosswind components, respectively. Therefore, a new north-south runway, when combined with a closure of Runway 3-21, would meet FAA requirements.

Runway Length

Runway length requirements have been developed using FAA Advisory Circular (AC) 150/5325-4B, *Runway Length Requirements for Airport Design*. This program groups general aviation aircraft by category and by anticipated stage length needs. Local site specific data for elevation, temperature, and runway gradient are used in the calculations. **Table AA** summarizes the FAA's generalized recommended runway lengths for Show Low Regional Airport.

TABLE AA
Runway Length Requirements
Show Low Regional Airport

AIRPORT AND RUNWAY DATA	
Airport elevation	6,415 feet
Mean daily maximum temperature of the hottest month	86.0° F
Maximum difference in runway centerline elevation	1 foot
Length of haul for airplanes of more than 60,000 pounds	500 miles
RUNWAY LENGTHS RECOMMENDED FOR AIRPORT DESIGN	
Small airplanes with less than 10 passenger seats	
95 percent of these small airplanes	7,700 feet
100 percent of these small airplanes	7,700 feet
Small airplanes with 10 or more passenger seats	7,700 feet
Large airplanes of 60,000 pounds or less	
75 percent of these large airplanes at 60 percent useful load	7,000 feet
75 percent of these large airplanes at 90 percent useful load	8,500 feet
100 percent of these large airplanes at 60 percent useful load	11,000 feet
100 percent of these large airplanes at 90 percent useful load	11,000 feet
Airplanes of more than 60,000 pounds	7,300 feet

Reference: FAA AC 150/5325-4B, *Runway Length Requirements for Airport Design.*

Based upon the FAA's design length requirements, local conditions call for a runway length of at least 7,700 feet. This would accommodate 100 percent of small airplanes, including those with 10 or more passenger seats and over 75 percent of large airplanes at 60 percent useful load. Only when a specific aircraft is identified as having more than 500 annual itinerant operations that require greater length than the "75 percent of large airplanes at 60 percent useful load" category will greater runway lengths be considered.

Runway length requirements for various business jets operating at Show Low Regional Airport were also examined. The required take-off and landing lengths for maximum load and range (adjusted for temperature and elevation) for several of the business aircraft currently utilizing the airport are presented in **Table BB**. In addition to commercial service aircraft, several of the airport's based aircraft are also presented in the table. The takeoff distance requirements reflect maximum gross weight for the aircraft. For situa-

tions when the runway length requirement exceeds the available runway length at the given design temperature, aircraft operators reduce payload or stage length.

TABLE BB
Runway Length Requirements – Individual Aircraft Performance

Aircraft Type	Required Take-off Length (feet)	Required Landing Length (feet)
Commercial Aircraft		
Beech 1900D[1]	6,920	5,810
Beech 99[2]	4,500	3,770
Bombardier Q400	7,700	8,790
Embraer Brasilia 120	9,280	9,430
Piper PA-31 Navajo Chieftain[2]	1,690	2,320
Saab 340	6,160	7,070
Business Jet Aircraft		
Beech 900XP	9,000	5,520
Beech King Air E90*	2,820	2,140
Cessna 340	2,930	1,600
Cessna 421*	3,660	2,180
Cessna 510 Citation Mustang	5,640	4,960
Cessna 525 Citation CJ1	5,890	5,390
Cessna 550 Citation Bravo	6,100	6,200
Diamond DA42	2,890	2,520
Gulfstream III	9,150	6,790
Learjet 31A	6,350	5,980
Learjet 35A	9,010	5,310
Learjet 45	7,990	5,540
Learjet 60	9,880	7,120
Mooney M20F*	1,600	1,630
Piper PA-28-181 Archer II*	1,590	1,930
Piper PA-32RT-300 Lance II*	2,560	2,190

Note: Individual aircraft performance characteristics with distances adjusted for temperature and elevation (6,415 ft. MSL and 86.0 ºF), maximum load and range.
[1]In Service
[2]In Service Cargo
*Aircraft based at Show Low Regional Airport.

Given that business jet aircraft do not necessarily need to operate at maximum gross weight from Show Low Regional Airport, and the moderate temperatures throughout most of the year that allow greater fuel loading than in the summer months, a runway length of 7,700 feet would be sufficient for meeting shorter flight distance requirements for typical business jets. This length will adequately serve the Beech 1900D (on current stage lengths), which is currently operated by Great Lakes.

However, long term facility planning should consider an ultimate runway length of 8,600 feet on Runway 6-24. As shown in **Table AA**, a number of commercial and business jet aircraft currently operating at the airport (at maximum load and range) could be supported with this additional runway length.

A runway length of 5,500 feet is recommended for ultimate Runway 18-36. This length would accommodate 75 percent of small airplanes with less than 10 passen-

ger seats. It would also accommodate the majority of business jets in the B-II category and propeller aircraft currently operating at the airport. Aircraft requiring additional runway length would be adequately served by primary Runway 6-24. ARC B-II planning standards should be used in the ultimate design and construction of ultimate Runway 18-36.

Runway Width

Runway width is based upon the planning ARC for each runway. For ARC C-III, the FAA specifies a width of 100 feet. Runway 6-24 is 100 feet wide, meeting this requirement. For ARC B-I serving small aircraft exclusively, the FAA specifies a width of 60 feet. Runway 3-21 is 60 feet wide, meeting this requirement. Design requirements for ARC B-II specify a width of 75 feet on ultimate Runway 18-36.

Runway Pavement Strength

The most important feature of airfield pavement is its ability to withstand repeated use by aircraft of significant weight on a regular basis. While the pavement strength rating is not the maximum weight limit, aircraft weighing more than the certified strength can only operate on the runway on an infrequent basis. Heavy aircraft operations can shorten the life span of airport pavements.

Runway 6-24 has a current strength rating of 35,000 pounds S and 60,000 pounds D. Consideration should be given to increasing the Runway 6-24 and associated taxiway pavement strength to 115,000 pounds D. Runway 3-21 has a current strength rating of 12,500 pounds S, limited to small aircraft exclusively. This will be sufficient through the planning period. Ultimate Runway 18-36 should be planned for pavement strengths of 30,000 pounds S and 60,000 pounds D.

TAXIWAYS

Taxiways are constructed primarily to facilitate aircraft movements to and from the runway system. Some taxiways are necessary simply to provide access between the aprons and the runways, whereas other taxiways become necessary as activity increases at an airport to provide safe and efficient use of the airfield.

Runway 6-24 is served by a full-length parallel taxiway (Taxiway A) and four connecting taxiways (A1, A2, A3, and A4). Two additional taxiways should be considered to improve airfield capacity. This would provide more exit opportunities for aircraft, thus reducing the amount of time that an aircraft occupies the runway after landing. Ultimate Runway 18-36 should be served by a full-length parallel taxiway and five connecting taxiways.

Runway 3-21 is served by a full-length parallel taxiway and five connecting taxiways. Since this runway is ultimately planned to be closed in the long term, there is not a need for improved access.

The FAA has established standards for taxiway width and runway/taxiway separation distances. Taxiway width is determined by the ADG of the most demanding aircraft. According to FAA design standards, the minimum taxiway width for ADG III is 50 feet. With the exception of Taxiway A3, all taxiways serving Runway 6-24 are presently 50 feet or wider. Taxiway A3 is 42 feet wide and should ultimately be widened to 50 feet. For ul-

timate Runway 18-36, which is planned for ADG II, all taxiways should be 35 feet wide. The taxiways serving Runway 3-21 are each 35 feet wide, meeting or exceeding width requirements.

Design standards for the separation distances between runways and parallel taxiways are based primarily on the ARC for that particular runway and the type of instrument approach capability. Taxiway A is located 400 feet north of Runway 6-24, which meets the FAA design standards for an ARC C-III runway. For ultimate Runway 18-36, ARC B-II design standards specify a separation distance of 240 feet between the taxiway and runway centerline.

Design standards for an ARC B-I runway specify a separation distance of 150 feet. Taxiway B is located 181 feet southeast of the runway centerline, which exceeds this requirement.

Holding aprons provide an area for aircraft to prepare for departure off the taxiway and allow aircraft that are ready for departure to bypass other aircraft. A holding apron is currently available on both ends of Runway 6-24. Facility planning should include developing holding aprons on both ends of ultimate Runway 18-36.

AIRFIELD MARKING, LIGHTING, AND SIGNAGE

Runway markings are designed according to the type of instrument approach available on the runway. FAA AC 150/5340-1J, *Marking of Paved Areas on Airports*, provides the guidance necessary to design an airport's markings.

Non-precision markings currently exist on Runway 6-24, while basic marking exist on Runway 3-21. These markings are sufficient and should be maintained. Non-precision markings should be planned for ultimate Runway 18-36.

Taxiway and apron areas also require marking. Yellow centerline stripes are currently painted on all taxiway surfaces at the airport to provide this guidance to pilots. The apron areas have centerline markings to indicate the alignment of taxilanes within these areas. Besides routine maintenance of the taxiway striping, these markings will be sufficient through the planning period.

Airport lighting systems provide critical guidance to pilots during nighttime and low-visibility operations. Runway 6-24 is presently equipped with medium intensity runway lighting (MIRL). This will be sufficient through the planning period. Runway 3-21 is not lighted and is equipped with only retro-reflective markers. Lighting is not required for this runway due to its limited use and plans to be ultimately closed. MIRL will be sufficient for ultimate Runway 18-36.

Effective ground movement of aircraft at night is enhanced by the availability of taxiway lighting. Presently, Taxiway A and its connecting taxiways are equipped with medium intensity taxiway lighting (MITL), which will be sufficient through the planning period. Taxiway B and its connecting taxiways are not lighted and are only equipped with retro-reflective markers. MITL should be planned for Taxiway B and its associated connecting taxiways, since these taxiways provide access to Runway 6-24 from the south apron area. MITL should be planned for all taxiways serving ultimate Runway 18-36.

Airfield signage provides another means of notifying pilots as to their location on the airport. A system of signs placed at several airfield intersections on the airport is the best method available to provide this guidance.

NAVIGATIONAL APPROACH AIDS

There are currently two published instrument approaches to Show Low Regional Airport: GPS Runway 24 and NDB-A. The GPS Runway 24 approach provides the airport with the lowest minimums. Utilizing this approach, a properly equipped aircraft can land at the airport with 500-foot cloud ceilings and one mile visibility for aircraft in approach categories A and B. This GPS approach can also be utilized as a circling approach. Visibility and cloud ceiling height increases for aircraft in approach category C. Minimums for the NDB-A approach include 1,200-foot cloud ceilings and 1¼ mile visibility for aircraft in approach category A. The cloud ceiling remains at 1,200 feet for aircraft in approach categories B and C, while visibility minimums increase for each approach category.

An upgrade to an instrument approach to Runway 24 is currently being undertaken. This approach, which is scheduled to be published in November 2010, will provide for approaches with lower ceiling and visibility minimums than presently allowed by the existing GPS approach.

Runway 3-21 is a visual-only runway and does not currently support instrument approach capability. This is sufficient since the runway is limited to use by small aircraft only and is recommended for closure in the long term. A non-precision approach should be planned for ultimate Runway 18-36.

To provide pilots with visual guidance information during landings to the runway, electronic visual approach aids are commonly provided at airports. Currently, there is a two-light precision approach path indicator (PAPI) on both ends of Runway 6-24. Upgrading to a four-light PAPI on both ends of the runway is recommended. A four-light PAPI is also recommended for ultimate Runway 18-36.

Runway End Identification Lights (REILs) provide the pilot with rapid and positive identification of the runway end. They consist of a set of synchronized flashing lights located laterally on each side of the runway centerline at the runway end. REILs are currently installed on both ends of Runway 6-24. They should also be planned for both ends of ultimate Runway 18-36.

WEATHER REPORTING FACILITIES

The airport is equipped with a lighted wind cone, which provides pilots with information about wind conditions, and a segmented circle, which provides pilots with traffic information. These facilities are required when the airport is not served by a 24-hour ATCT. The airport is also equipped with an Automated Weather Observation System (AWOS-3). The AWOS automatically records weather conditions such as wind speed, gusts, wind direction, temperature, dew point, altimeter setting, and density altitude. In addition, the AWOS-3 records visibility, precipitation, and cloud height. These facilities are sufficient and should be maintained in the future. A summary of the airside needs at Show Low Regional Airport is presented on **Exhibit Q**.

LANDSIDE REQUIREMENTS

Landside facilities are those necessary for the handling of aircraft and passengers while on the ground. These facilities provide the essential interface between the air and ground transportation modes. The capacities of the various components of each area were examined in relation to projected demand to identify future landside facility needs. This includes the terminal building and automobile parking, aircraft hangars, and aircraft parking.

TERMINAL AREA REQUIREMENTS

Components of the terminal area complex include the terminal apron, vehicle parking area, and the various functional elements within the terminal building. This section identifies the terminal area facilities required to meet the airport's needs throughout the planning period.

The requirements for the various terminal complex functional areas were determined with the guidance of FAA Advisory Circular 150/5360-13, *Planning and Design Guidelines for Airport Terminal Facilities* and FAA Advisory Circular 150/5360-9, *Planning and Design of Airport Terminal Facilities at Non-hub Locations*. The consultant's database for space requirements was also considered.

Facility requirements were developed for the planning period based upon the forecast enplanement levels. It should be noted that actual need for construction of facilities will be based upon enplanement levels rather than a forecast year. It is also important to note the impact that increased security is placing on facility requirements. Future requirements will include increased areas for the queuing of passengers and additional security screening equipment.

Exhibit R, which summarizes passenger terminal building functional area requirements for forecast enplanement levels, depicts the need for additional terminal area could be supported in the long term. The various functional areas of the terminal building are summarized as follows:

- **Ticketing -** includes estimates of the space necessary for the queuing of passengers at ticket counters, the linear footage of ticket counters, and the space necessary to accommodate baggage make-up and airline ticket offices.

- **Departure Facilities -** includes estimates of the space necessary for departure holdroom and the number of aircraft gate positions. Holdroom space and gate positions in excess of the requirements presented in the exhibit are frequently necessary to accommodate individual airline demands.

- **Baggage Claim -** includes estimates of the linear footage of baggage claim needed and space for passengers to claim baggage.

- **Rental Cars -** includes estimates of space necessary for the queuing of passengers at rental car counters, the space necessary for rental car offices, and the linear footage for rental car counters.

- **Concessions -** includes estimates of the space necessary to provide adequate concession services such as restaurant and retail facilities.

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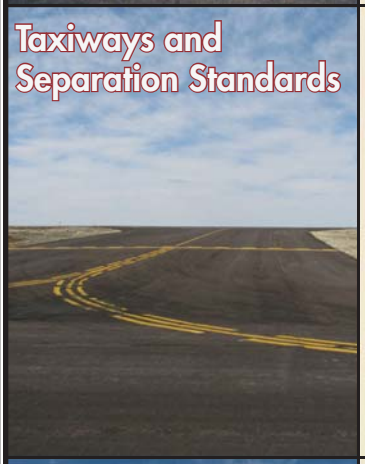
	Available	Short Term	Long Term
 **Runways and Design Standards**	**Runway 6-24** 7,200' x 100' 35,000 SWL • 60,000 DWL ARC C-III Non-Standard RSA, OFA **Runway 3-21** 3,937' x 60' 12,500 SWL ARC B-I (Small Aircraft Only)	**Runway 6-24** **7,700' x 100'** 35,000 SWL • 60,000 DWL ARC C-III **Improve To Meet Standards** **Runway 3-21** 3,937' x 60' 12,500 SWL ARC B-I (Small Aircraft Only)	**Runway 6-24** **8,600' x 100'** **60,000 SWL • 115,000 DWL** ARC C-III **Runway 3-21** Close **Runway 18-36** 5,500' x 75' 30,000 SWL • 60,000 DWL ARC B-II
 **Taxiways and Separation Standards**	**Runway 6-24** Full-Length Parallel Taxiway A - 50' wide (400' From Runway Centerline) Taxiway A1 - 50' wide Taxiway A2 - 75' wide Taxiway A3 - 42' wide Taxiway A4 - 50' wide **Runway 3-21** Full-Length Parallel Taxiway B - 35' wide (181' From Runway Centerline) Three Connecting Taxiways - 35' wide	**Runway 6-24** Full-Length Parallel Taxiway A - 50' wide (400' From Runway Centerline) Taxiway A1 - 50' wide Taxiway A2 - 75' wide **Taxiway A3 - 50' wide** Taxiway A4 - 50' wide Add Exit Taxiways **Runway 3-21** Full-Length Parallel Taxiway B - 35' wide (181' From Runway Centerline) Three Connecting Taxiways - 35' wide	**Runway 6-24** Full-Length Parallel Taxiway A - 50' wide (400' From Runway Centerline) Taxiway A1 - 50' wide Taxiway A2 - 75' wide Taxiway A3 - 50' wide Taxiway A4 - 50' wide **Runway 3-21** Retain taxiways for access to south apron area after closing runway **Runway 18-36** Full-Length Parallel Taxiway - 35' wide (240' From Runway Centerline) Exit Taxiways - 35' wide
 **Navigational Aids**	AWOS-3, ATIS **Runway 6-24** NDB-A or GPS Circling Approach PAPI-2L REILs	AWOS-3, ATIS **Runway 6-24** **Straight-In GPS Approach** **PAPI-4L** REILs	AWOS-3, ATIS **Runway 6-24** **Precision Approach** PAPI-4L REILs **Runway 18-36** Straight-In GPS Approach PAPI-4L REILs
 **Lighting and Marking**	Rotating Beacon, Lighted Wind Cone, Segmented Circle, Airfield Signage **Runway 6-24** MIRL, MITL Non-Precision Marking **Runway 3-21** Edge Reflectors Basic Runway Marking	Rotating Beacon, Lighted Wind Cone, Segmented Circle, Airfield Signage **Runway 6-24** MIRL, MITL Non-Precision Marking **Distance Remaining Signs** **Runway 3-21** Edge Reflectors Basic Runway Marking	Rotating Beacon, Lighted Wind Cone, Segmented Circle, Airfield Signage **Runway 6-24** MIRL, MITL PAPI-4L REILs Precision Marking Distance Remaining Signs **Consider MALSR** **Runway 3-21** (Runway Closed) **Runway 18-36** MIRL, MITL PAPI-4L REILs Non-Precision Marking Distance Remaining Signs

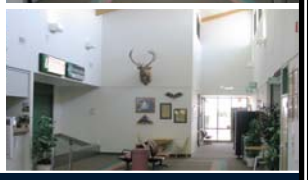
KEY

ARC - Airport Reference Code
ATIS - Automated Terminal Information Service
AWOS - Automated Weather Observation Station
DWL - Dual Wheel Landing Gear Aircraft
GPS - Global Positioning System
MALSR - Medium Intensity Approach Lighting System with Runway Alignment Indicator Light
MIRL - Medium Intensity Runway Edge Lighting
MITL - Medium Intensity Taxiway Edge Lighting
PAPI - Precision Approach Path Indicator
REIL - Runway End Identifier Lighting
SWL - Single Wheel Landing Gear Aircraft

SHOW LOW REGIONAL AIRPORT

Exhibit Q
AIRSIDE REQUIREMENTS

10MP04-R-7/28/10



	EXISTING	ENPLANEMENTS 3,800	4,100	4,500
TICKETING				
Counter Length (l.f.)	10	10	15	20
Counter Area (s.f.)	115	100	120	150
Ticket Lobby (s.f.)	100	100	150	230
Airline Operations/Bag Make-up (s.f.)	320	1,100	1,100	2,100
DEPARTURE FACILITIES				
Aircraft Gates	1	1	2	2
Holdroom Area (s.f.)	1,000	400	500	700
BAGGAGE CLAIM				
Claim Display (l.f.)	25	15	20	30
Claim Lobby Area (s.f.)	130	220	250	300
TERMINAL SERVICES				
Rental Car				
Counter Length (l.f.)	20	25	30	40
Office Area (s.f)	300	600	650	700
Lobby (s.f.)	100	100	150	200
Food/Beverage (s.f.)	220	300	350	400
Retail (s.f.)	0	50	70	100
Restrooms (s.f.)	300	400	450	550
PUBLIC LOBBY				
Greeting Lobby/Seating (s.f.)	1,100	500	700	1,100
Security Queuing Area (s.f.)	100	150	200	300
AIRPORT ADMINISTRATION				
Offices/Conference Room (s.f.)	1,500	1,000	1,000	1,000
TOTAL PROGRAMMED TERMINAL AREA (Excludes maintenance, storage, misc. areas).	6,300	5,600	6,000	7,400
AUTO PARKING				
Short Term/Long Term/Rental Car	109	63	90	135
Employee	11	7	10	15
Total Auto Parking	**120**	**70**	**100**	**150**

Source: 2003 Airport Master Plan and Coffman Associates Analysis

SHOW LOW REGIONAL AIRPORT

Exhibit R
PASSENGER TERMINAL
BUILDING REQUIREMENTS

- **Security Screening -** includes estimates of the amount of space required to accommodate passenger screening devices, the queuing of passengers, and security officers' office area.

- **Public Waiting Lobby -** includes estimates of the amount of space to accommodate arriving and departing passengers.

- **Terminal Area Automobile Parking -** space required for long-term and short-term public parking, employee parking, and rental car parking.

- **Terminal Curb Frontage** - includes estimates of the linear footage of curb required to accommodate the queuing of enplaning and deplaning passenger vehicles. At Show Low Regional Airport, the length of the terminal curb frontage is a function of the length of the terminal building.

Terminal Gate Capacity

Several methods for estimating the number of required aircraft gate positions were used to determine future gate requirements at the airport. Using figures 4.1- 4.4 in Advisory Circular 150/5360-13, these methods estimated the required number of gates based on peak hour utilization, daily utilization, and annual utilization. By examining airline flight schedules, peak hour operations were estimated at seven operations. Using these formulas, 10 and 20-year forecasts (of both low and high utilization) were determined. It was estimated that two gates will be needed at Show Low Regional Airport by the end of the planning period. However, the exact number will vary depending on the number of carriers and destinations.

GENERAL AVIATION REQUIREMENTS

Aircraft Storage Hangars

Utilization of hangar space varies as a function of local climate, security, and owner preferences. The trend in general aviation aircraft, whether single or multi-engine, is towards more sophisticated aircraft (and, consequently, more expensive aircraft); therefore, many aircraft owners prefer enclosed hangar space to outside tie-downs.

The demand for aircraft storage hangars is dependent upon the number and type of aircraft expected to be based at the airport in the future. For planning purposes, it is necessary to estimate hangar requirements based upon forecast operational activity. However, hangar development should be based upon actual demand trends and financial investment conditions.

While a majority of aircraft owners prefer enclosed aircraft storage, a number of based aircraft will still tie-down outside (due to the lack of hangar availability, hangar rental rates, and/or operational needs). Therefore, enclosed hangar facilities should not be planned for each based aircraft. At Show Low Regional Airport, the majority of based aircraft (approximately 90 percent) are currently stored in enclosed hangar facilities. It is estimated that the percentage of based aircraft stored in hangars will increase through the planning period.

Hangars are typically classified as either T-Hangars (individual spaces within a larger contiguous structure that allow privacy and individual access to their space) or executive/conventional hangars (small to very large units which accommodate multiple aircraft). For this analy-

sis, the Port-a-Port hangars have been grouped in the T-Hangar category, and the box hangars have been grouped in the conventional/executive hangar category.

Approximately 40 percent of the hangared aircraft at Show Low Regional Airport are currently stored in T-hangars and Port-a-Port hangars. The majority of aircraft currently stored in these hangars are single-engine. A planning standard of 1,200 square feet per based aircraft has been used to determine future requirements.

The remaining 60 percent of hangared aircraft are stored in conventional/executive and box hangars, which are designed for multiple aircraft storage. As the trend towards more sophisticated aircraft continues throughout the planning period, it is important to determine the need for more conventional/executive hangars. For executive/conventional hangars, a planning standard of 1,200 square feet was used for single-engine aircraft, while a planning standard of 3,000 square feet was used for multi-engine, jet, and helicopters. These planning standards recognize that some of the larger business jets require a greater amount of space.

Since portions of conventional/executive hangars are also used for aircraft maintenance and servicing, requirements for maintenance/service hangar area were estimated using a planning standard of approximately 15 percent of the total hangar space needs.

Future hangar requirements for the airport are summarized on **Exhibit S**. The exhibit depicts additional overall hangar area is not necessarily required throughout the planning period. However, various types of hangars could be supported by individual requirements and/or the replacement of existing hangars.

It should also be noted that these hangar requirements are general in nature based on the aviation demand forecasts. Actual need for hangar space will depend on the actual usage within hangars. The recommended development concept will examine the options available for hangar development at the airport and determine the best location for each type of hangar facility.

Building space requirements for the sorting and transfer of air cargo were also examined. As previously mentioned, both Ameriflight and Shundiin Services provide cargo service at Show Low Regional Airport. Because the air cargo sorting is handled in the general aviation areas, a planning standard of 800 pounds of enplaned air cargo per square foot was used to determine building requirements. This should be easily absorbed in the overall general aviation space needs, and therefore, additional air cargo sorting facilities are not anticipated.

Aircraft Parking Apron

A parking apron should provide for the number of locally based aircraft that are not stored in hangars, as well as for those aircraft used for air taxi and training activity. Parking should be provided for itinerant aircraft as well. As previously mentioned, approximately 90 percent of based aircraft at Show Low Regional Airport are currently stored in hangars, and that percentage is expected to increase through the planning period.

For planning purposes, 20 percent of the based aircraft total will be used to determine the parking apron requirements of

AIRCRAFT STORAGE HANGARS

	EXISTING SPACE AVAILABLE	SHORT TERM NEED	INTERMEDIATE NEED	LONG TERM NEED
Aircraft to be Hangared	53	69	76	93
Single-Engine	44	57	61	69
Multi-Engine, Turboprops, Jets	9	12	15	24
Hangar Area Requirements (s.f.)				
T-Hangar / Port-a-Port Area	27,000	33,100	36,500	44,700
Executive/Conventional/Box Hangar Area	166,100	71,300	81,700	110,200
Maintenance Area	N/A[1]	15,700	17,700	23,200
Total Hangar Area (s.f.)	**193,100**	**120,100**	**135,900**	**178,100**

[1] Currently included in executive/conventional/box hangar area.

AIRCRAFT PARKING APRON REQUIREMENTS

	EXISTING SPACE AVAILABLE	SHORT TERM NEED	INTERMEDIATE NEED	LONG TERM NEED
Single, Multi-engine Transient Aircraft Positions		10	11	13
Apron Area (s.y.)		8,000	8,800	10,400
Transient Business Jet Positions		2	3	4
Apron Area (s.y.)		3,200	4,800	6,400
Locally-Based Aircraft Positions		15	16	19
Apron Area (s.y.)		9,800	10,400	12,400
Total Positions	**141**	**27**	**30**	**36**
Total Apron Area (s.y.)	**49,800**	**21,000**	**24,000**	**29,200**

Note: Apron area requirements are for general aviation operations only. Additional apron area should be planned to accommodate air ambulance operators and aerial firefighting aircraft.

SHOW LOW REGIONAL AIRPORT

Exhibit S
GENERAL AVIATION
FACILITY REQUIREMENTS

local aircraft, due to some aircraft requiring both hangar storage and parking apron space. Since the majority of locally based aircraft are stored in hangars, the area requirement for parking of locally based aircraft is smaller than for transient aircraft. Therefore, a planning criterion of 650 square yards per aircraft was used to determine the apron requirements for local aircraft.

Transient aircraft parking needs must also be considered when determining apron requirements. Current apron area totals approximately 49,800 square yards, with a total of 141 aircraft positions. A planning criterion of 800 square yards was used for single and multi-engine itinerant aircraft and 1,600 square yards for itinerant jets. Total aircraft parking apron requirements are presented on **Exhibit S**. According to these recommendations, the existing apron areas should be sufficient through the planning period. However, additional apron area may be needed as new hangar areas are developed on the airport which are not contiguous with the existing apron areas.

Facility planning should also consider the development of additional aircraft parking areas to accommodate the numerous air ambulance operators and aerial firefighting aircraft that utilize Show Low Regional Airport.

FACILITY REQUIREMENTS SUMMARY

The intent of this section has been to outline the facilities required to meet potential aviation demands projected for Show Low Regional Airport for the planning horizon. The next step is to determine a direction of development which best meets these projected needs through a recommended development concept. The remainder of this report will be devoted to outlining this direction, its schedule, and its costs.

DEVELOPMENT CONCEPT

The previous section has identified several facility needs based upon forecasts of passengers, aircraft transitions in both the general aviation and commercial fleets, and commercial and general aviation operations. In this section, a recommended development concept will be examined.

Following an updated airport layout plan drawing, a capital improvement program will be developed. However, a final decision with regard to pursuing a particular development plan which meets the needs of airport users rests with the City of Show Low.

RECENT AIRPORT IMPROVEMENTS

Since the last master plan was completed in 2003, the City has pursued a number of airport improvement projects. Of significance was the construction of a new ARFF building, the installation of an AWOS and perimeter fencing, the acquisition of new snow removal equipment and a new ARFF vehicle, the improvement of airport drainage/signage, RSA improvements, and the acquiring of an easement for approaches.

INITIAL DEVELOPMENT CONSIDERATIONS

Upon completion of the facility needs evaluation, a number of airport develop-

ment considerations were outlined. These considerations, which have been grouped into airside and landside categories, have been summarized on **Exhibit T**.

While many of these development considerations are demand driven (e.g., based aircraft or peak hour demand levels), several are included to upgrade all-weather capabilities, improve airfield safety or efficiency of the airfield system, or to meet current design standards and remain as important considerations in the master planning process.

AIRFIELD CONSIDERATIONS

Airfield facilities are, by their very nature, a focal point of the airport complex. Because of their role, and the fact that they physically dominate a great deal of the airport's property, airfield facility needs are often the most critical factor in the determination of viable airport development alternatives. In particular, the runway system requires the greatest influence on the identification and development of other airport facilities. Furthermore, due to the number of aircraft operations, there are a number of FAA design criteria that must be considered when looking at airfield improvements.

RUNWAY 6-24

The facility requirements and runway length analysis indicated a potential need for greater runway length to better meet the needs of aircraft currently operating at the airport. **Exhibit U** depicts a proposed 1,400-foot extension to Runway 6-24, which was also recommended in the previous plan. An ultimate length of 8,600 feet would accommodate a number of commercial and business jet aircraft currently operating at the airport (at maximum load and range). However, the need for this extension would be aircraft-specific and would require justification.
A full-length parallel taxiway is also proposed on the north side of Runway 6-24. This 50-foot taxiway would be located 400 feet from the runway centerline to meet ARC C-III design standards. Additional entrance/exit taxiways are also depicted to improve traffic flow.

It is also recommended that the pavement strength rating on Runway 6-24 be increased from 60,000 pounds D to 115,000 pounds D. This would accommodate the full range of general aviation aircraft used at the airport in support of regional aerial firefighting.

Exhibit U also depicts the installation of an Engineered Material Arresting System (EMAS) on the Runway 6 end. This, along with a 350-foot displaced threshold, will allow the runway to meet the required 1,000 feet of RSA for departures on Runway 24 and the required 600 feet of RSA prior to the landing threshold.

ULTIMATE RUNWAY 18-36

The facility requirements and runway length analysis indicated a need for the addition of a crosswind runway in order to provide 95 percent wind coverage. **Exhibit U** depicts the development of ultimate Runway 18-36. This runway would be closely aligned with the prevailing winds and eliminate crosswind components, particularly for small aircraft.

This ultimate ARC B-II runway would measure 5,500 feet long and 75 feet wide. This length would accommodate 75 percent of small airplanes with less than 10 passenger seats, as well as the majority of

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AIRFIELD CONSIDERATIONS

- Provide an ultimate length of 8,600 feet on Runway 6-24.
- Upgrade to a precision approach on Runway 6-24.
- Install MALSRs and distance remaining signs to Runway 6-24 and increase runway pavement strength.
- Installation of EMAS on Runway 6 end.
- Widen Taxiway A3 to 50 feet.
- Construct Runway 18-36 (5,500′ x 75′) and parallel taxiway to meet FAA standards for crosswind component.
- Close Runway 3-21 (retain taxiways for access to south apron).
- Property acquisition for runway extension and construction of new runway.
- Avigation easements to meet RPZ standards on Runways 6-24 and 18-36.

LANDSIDE CONSIDERATIONS

- Expand passenger terminal building.
- Provide additional aircraft storage hangars to support individual needs and/or the replacement of existing hangars.
- Apron expansion east of terminal to support large aircraft parking and seasonal firefighting operations.
- Alternatives for future general aviation development on south side of Runway 6-24 and long term expansion potential on north side of runway (property acquisition needed).
- Opportunities for revenue enhancement on airport property.

SHOW LOW REGIONAL AIRPORT

Exhibit T
DEVELOPMENT CONSIDERATIONS

10MP04-U-05/29/11

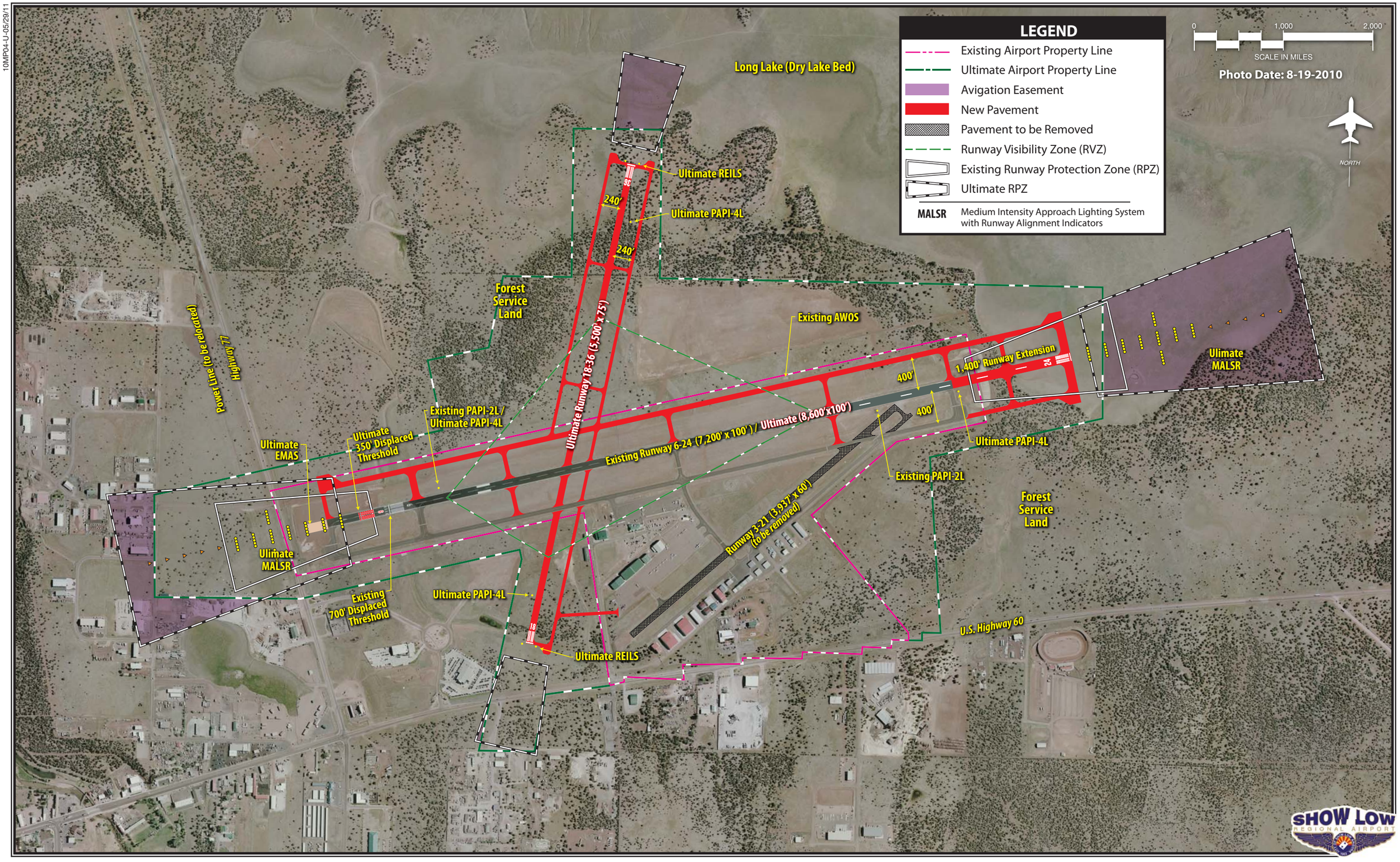


Exhibit U
RECOMMENDED AIRFIELD CONCEPT

ARC B-II aircraft currently operating at the airport, including the aircraft operated by Great Lakes Airlines.

Runway 18-36 would be served by a full-length parallel taxiway along the east side of the runway, 240 feet from the runway centerline. A partial-parallel taxiway is also proposed on the west side of the runway. The exhibit also depicts the addition of several entrance/exit and access taxiways for improved traffic flow. A pavement strength rating of 30,000 pounds S and 60,000 D is planned for this runway, along with a non-precision instrument approach.

This ultimate crosswind runway would also increase airfield capacity, as existing Runway 3-21 is limited to small aircraft only and is recommended to be closed and converted to a taxiway in the future.

RUNWAY 3-21

Runway 3-21 measures 3,937 feet long and 60 feet wide and serves small planes exclusively. Following the construction of ultimate Runway 18-36, it is recommended that Runway 3-21 be closed and converted to a taxiway.

NAVIGATIONAL APPROACH AIDS

The facility requirements analysis indicated the need for improved instrument approach capabilities at Show Low Regional Airport. The existing non-precision approach (GPS Runway 24) provides for landings with 1,200-foot cloud ceilings and 1¼-mile visibility for aircraft in approach categories A and B. Furthermore, existing commercial airline aircraft operating at the airport are not equipped to utilize this GPS approach.

Upgrading to a precision instrument approach to Runway 24 would allow for approaches with lower ceiling and visibility minimums than presently allowed. This could be accomplished with the installation of three pieces of equipment: the localizer antenna (LOC), distance measuring equipment (DME), and a glideslope antenna (GS). Combined, these systems comprise an instrument landing system (ILS).

LANDSIDE CONSIDERATIONS

The previous master plan recommended the construction of several hangars at the airport, many of which have since been completed. The proposed construction of the ARFF building has also been completed. However, recent analysis indicates the need for additional hangar space and apron area in the long term. **Exhibit V** depicts the recommended landside concept for Show Low Regional Airport.

PASSENGER TERMINAL BUILDING

Commercial airline and general aviation terminal functions are provided in a single terminal located south of the air carrier apron. This 6,300 square-foot building was constructed in 1999 and replaced the old terminal, which is located just east of the new terminal location. For general aviation activities, the terminal includes general office space, a conference room, airport administration, and vending.

The facility requirements analysis indicated the need for additional space by the end of the planning period. The methodology used in estimating this need is based on the number of airport users expected to utilize the facilities during the design hour. **Exhibit V** depicts an expan-

sion of the terminal building to the west of the existing building. The parking lot south of the terminal building will also need to be enlarged in order to meet future demands.

AIRCRAFT STORAGE FACILITIES

The exhibit also depicts several areas on the airfield for proposed hangar development. Consideration must be given to providing for adequate hangar space for a wide variety of general aviation needs. This includes corporate aviation, FBOs, and other hangars as well. Storage hangars are normally constructed in small numbers, based upon need and financing capability. The majority of aircraft currently based at Show Low Regional Airport are stored in hangars, and aircraft basing at the airport in the future are expected to need similar storage facilities.

General aviation development at Show Low Regional Airport would remain concentrated south of Runway 6-24. A row of six executive/conventional hangars, as well as additional apron and vehicle parking, are depicted south of the Center Apron. Farther east, six additional T-Hangars are depicted. Northeast of this, three larger conventional hangars are depicted. The area west of ultimate Runway 18-36 could also provide additional development for general aviation facilities once the proposed runway is constructed. Of course, the sizing of hangars ranges and will need to be responsive to demand. Therefore, the layouts proposed on the exhibit have flexibility in meeting varying size requirements. The exhibit also depicts the area east of the proposed runway for long term aeronautical development potential.

AIRCRAFT PARKING APRON

Current apron area at Show Low Regional Airport totals approximately 49,800 square yards, with a total of 141 aircraft positions. The facility requirements recommended additional apron area as new hangar areas are developed on the airport which are not contiguous with the existing apron areas.

Facility planning should also consider the development of additional aircraft parking areas to accommodate the numerous air ambulance operators and aerial firefighting aircraft that utilize Show Low Regional Airport. Several additional apron areas are depicted on **Exhibit V**.

RECOMMENDED DEVELOPMENT CONCEPT

The recommended development concept has been depicted on **Exhibit W**. The previous assessment of facility needs has identified airside and landside projects which need to be included in the City's next capital program for the airport. These projects are intended to work in conjunction with other projects currently proposed for the airport. The final concepts included in this document and displayed on the new airport layout plan drawings will supplement the current proposals.

AIRPORT CAPITAL IMPROVEMENT PROGRAM

While the FAA requires the airport to submit a five-year Airport Capital Improvement Program (ACIP) each year, the planning effort affords the opportunity to examine projects (and their potential fi-

10MP04-V-06/06/11

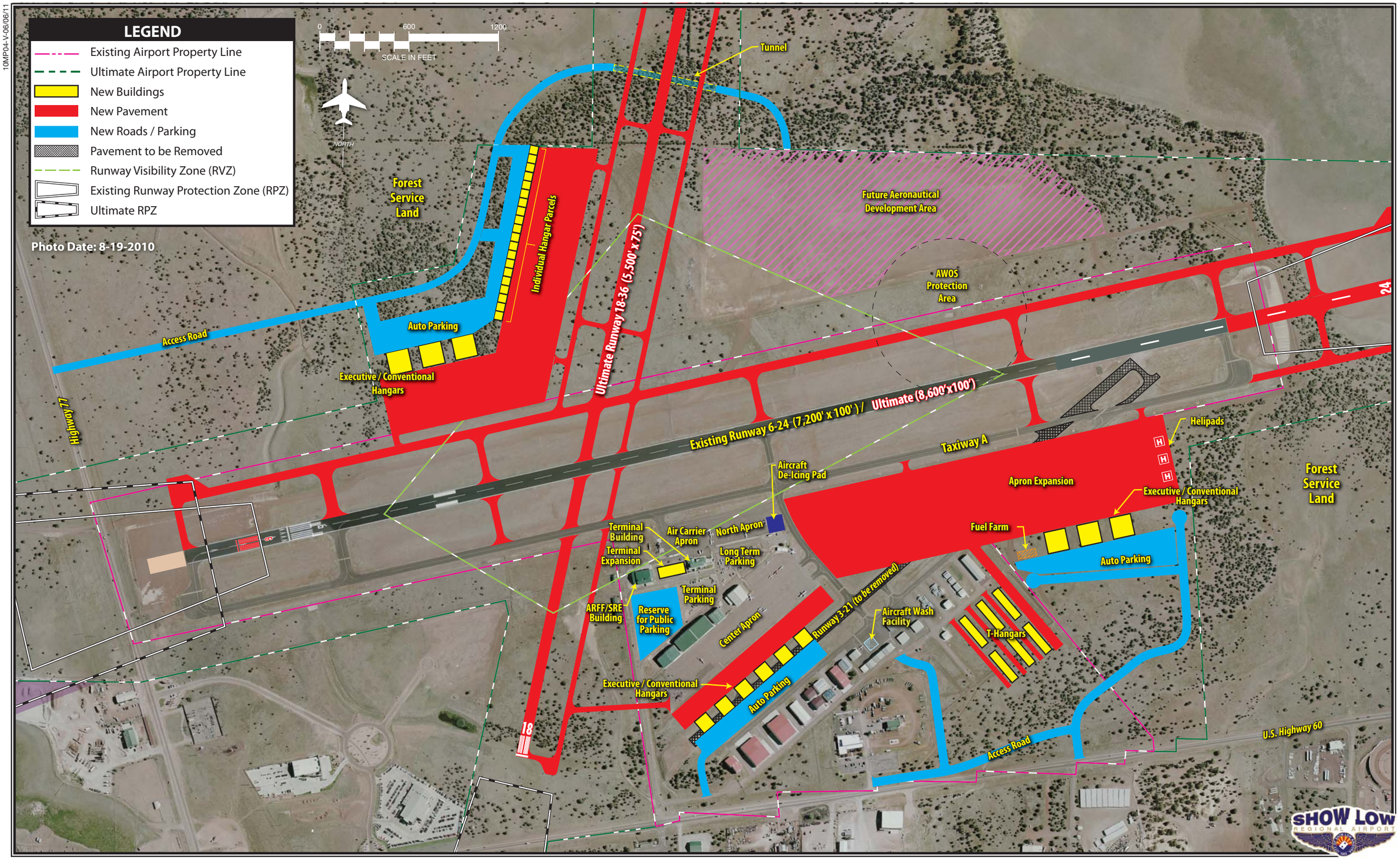


Exhibit V
RECOMMENDED LANDSIDE CONCEPT

10MP04-W-06/29/11

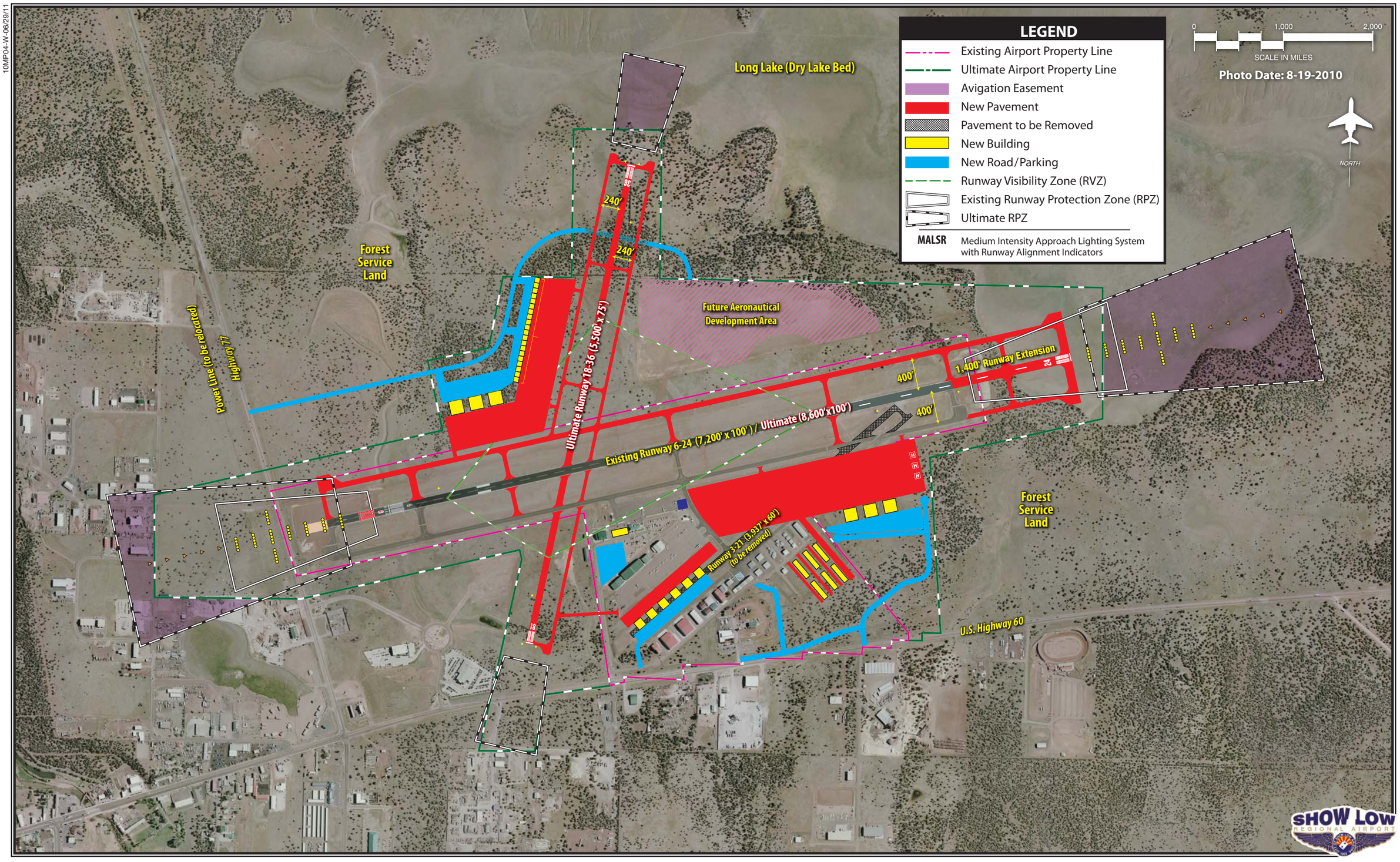


Exhibit W
RECOMMENDED
DEVELOPMENT CONCEPT

nancing) beyond the short term planning horizon. Several factors may influence the timing of projects in the intermediate and long term planning periods. Therefore, greater flexibility must be considered with regard to their implementation. The timing for capacity-related projects will need to be based upon activity levels (e.g., passengers, operations, based aircraft) and the types of aircraft using the facility. Other projects may focus on the need to improve airport security, terminal or airfield efficiencies, or to rehabilitate pavements or structures on the airport. Consequently, this planning document must remain flexible to unforeseen changes which may occur over time. The capital improvement program for Show Low Regional Airport is presented on **Exhibit X**.

Financing capital improvements at the airport will not rely solely on the financial resources of the airport or the city. Capital improvement funding is available through various grant-in-aid programs on both the state and federal levels. Historically, Show Low Regional Airport has received federal and state grants. While some years more funds could be available, the CIP was developed with project phasing in order to remain realistic and within the range of anticipated grant assistance. The following discussion outlines key sources of funding potentially available for capital improvements at Show Low Regional Airport.

FEDERAL GRANTS

Through federal legislation over the years, various grant-in-aid programs have been established to develop and maintain a system of public use airports across the United States. The purpose of this system and its federally based funding is to maintain national defense and to promote interstate commerce. The most recent legislation affecting federal funding was enacted in late 2003 and is titled, *Century of Flight Authorization Act of 2003,* or Vision 100*.*

The four-year bill covered FAA fiscal years 2004, 2005, 2006, and 2007. AIP funding was authorized at $3.4 billion in 2004, $3.5 billion in 2005, $3.6 billion in 2006, and $3.7 billion in 2007. This bill provided the FAA the opportunity to plan for longer term projects versus one-year reauthorizations. As of summer 2011, a new multi-year bill has not been passed by Congress, but several continuing resolutions have maintained funding for priority airport projects.

The source for AIP funds is the Aviation Trust Fund. The Aviation Trust Fund was established in 1970 to provide funding for aviation capital investment programs (aviation development, facilities and equipment, and research and development). The Aviation Trust Fund also finances the operation of the FAA. It is funded by user fees, including taxes on airline tickets, aviation fuel, and various aircraft parts. The Aviation Trust Fund is also up for reauthorization.

Funding for AIP eligible projects is undertaken through a cost sharing arrangement in which FAA provides up to 95 percent of the cost and the airport sponsor invests the remaining five percent. In exchange for this level of funding, the airport sponsor is required to meet various grant assurances, including maintaining the improvement for its useful life, usually 20 years.

Entitlement Funds

Federal funds are distributed each year by the FAA from appropriations by Congress. A portion of the annual distribution is to commercial service airports based upon minimum enplanement levels of at least 10,000 passengers annually.

General aviation airports can receive up to $150,000 each year in Non-Primary Entitlement (NPE) funds (inclusion in the NPIAS is required for general aviation entitlement funding). These funds can be carried over and combined for up to four years, thereby allowing for completion of a more expensive project. It should be noted that some versions of the current bills moving through Congress do not include future NPE funds. In the past, Show Low Regional Airport has received NPE funding.

Discretionary Funds

The remaining AIP funds are distributed by the FAA based on the priority of the project for which they have requested federal assistance through discretionary apportionments. A national priority ranking system is used to evaluate and rank each airport project. Those projects with the highest priority from airports across the country are given preference in funding. High priority projects include those related to meeting design standards, capacity improvements, and other safety enhancements.

Under the AIP program, examples of eligible development projects include the airfield, public aprons, and access roads. Additional buildings and structures may be eligible if the function of the structure is to serve airport operations in a non-revenue generating capacity, such as maintenance facilities. Some revenue-enhancing structures, such as T-hangars, may be eligible if all airfield improvements have been made but the priority ranking of these facilities is very low.

Whereas entitlement monies are guaranteed on an annual basis, discretionary funds are not assured. If the combination of entitlement, discretionary, and airport sponsor match does not provide enough capital for planned development, projects may be delayed. Other supplemental funding sources are described in the following subsections.

FAA Facilities and Equipment (F&E) Program

The Airway Facilities Division of the FAA administers the Facilities and Equipment (F&E) Program. This program provides funding for the installation and maintenance of various navigational aids and equipment of the national airspace system. Under the F&E program, funding is provided for FAA ATCTs, enroute navigational aids, on-airport navigational aids, and approach lighting systems.

While F&E still installs and maintains some navigational aids, on-airport facilities at general aviation airports have not been a priority. Therefore, airports often request funding assistance for navigational aids through AIP and then maintain the equipment on their own.

STATE FUNDING PROGRAM

In support of the state aviation system, the State of Arizona also participates in airport improvement projects. The source for state airport improvement funds is the Arizona Aviation Fund. Taxes

Project Description	Total Cost	FAA Share	ADOT Eligible	Local Share
Short Term Program (Years 2012-2016)				
FY 2012				
1. Environmental Assesssment (Runway 18-36 & Parallel Taxiway D)	$350,000	$332,500	$8,750	$8,750
2. Powerline Obstrutction Removal - Runway 6 (Design Only)	$500,000	$475,000	$12,500	$12,500
3. Construct De-Icing Pad Terminal Apron (110' x 110')	$300,000	$285,000	$7,500	$7,500
Subtotal FY 2012	***$1,150,000***	***$1,092,500***	***$28,750***	***$28,750***
FY 2013				
4. Runway 18-36 & Taxiway D (Design Only)	$400,000	$380,000	$10,000	$10,000
5. Rehabilitate Runway 6-24 (7,200' x 100')	$2,000,000	$1,900,000	$50,000	$50,000
6. Construct South Apron Aircraft Wash Facility (70' x 70')	$175,000	$166,250	$4,375	$4,375
7. Construct Apron East of Terminal - Phase I (16,000 SY)	$1,350,000	$1,282,500	$33,750	$33,750
8. Powerline Obstruction Removal - Runway 6 (Construct)	$3,000,000	$2,850,000	$75,000	$75,000
9. Wildlife Hazard Management Plan & Mitigation	$300,000	$285,000	$7,500	$7,500
Subtotal FY 2013	***$7,225,000***	***$6,863,750***	***$180,625***	***$180,625***
FY 2014				
10. Construct Runway 18-36 & Taxiway D (Grading and Drainage)	$2,500,000	$2,375,000	$62,500	$62,500
11. Construct Apron East of Terminal - Phase II (13,000 SY)	$850,000	$807,500	$21,250	$21,250
Subtotal FY 2014	***$3,350,000***	***$3,182,500***	***$83,750***	***$83,750***
FY 2015				
12. Construct Runway 18-36 (5,500' x 75') - (Paving & MIRL)	$2,500,000	$2,375,000	$62,500	$62,500
13. Install PAPI to Runway 18-36	$100,000	$95,000	$2,500	$2,500
14. Install REILs to Runway 18-36	$100,000	$95,000	$2,500	$2,500
Subtotal FY 2015	***$2,700,000***	***$2,565,000***	***$67,500***	***$67,500***
FY 2016				
15. Construct Taxiway D (5,500' x 35') - (Paving & MITL)	$1,000,000	$950,000	$25,000	$25,000
Subtotal FY 2016	***$1,000,000***	***$950,000***	***$25,000***	***$25,000***
Short Term Program Total	**$15,425,000**	**$14,653,750**	**$385,625**	**$385,625**
Intermediate Term Program (6-10 Years)				
16. Close Runway 3-21/Convert to Taxiway	$100,000	$95,000	$2,500	$2,500
17. Expansion of Terminal Buidling (2,000 S.F.)	$240,000	$228,000	$6,000	$6,000
18. Install Distance Remaining Signs to Runway 6-24	$75,000	$71,250	$1,875	$1,875
19. ARFF and/or Maintenance Equipment	$500,000	$475,000	$12,500	$12,500
20. Annual Pavement Maintenance/Preservation	$1,000,000	$950,000	$25,000	$25,000
Intermediate Term Program Total	**$1,915,000**	**$1,819,250**	**$47,875**	**$47,875**
Long Term Program (11-20 Years)				
21. Extend Runway 6-24 to 8,600' (1,400' x 100')	$10,000,000	$9,500,000	$250,000	$250,000
22. Construct Parallel Taxiway on Runway 6-24 (8,600' x 50')	$3,360,000	$3,192,000	$84,000	$84,000
23. Expansion of Center Apron (21,000 SY)	$1,365,000	$1,296,750	$34,125	$34,125
24. Install MALSR to Runway 6 & 24	$2,000,000	$1,900,000	$50,000	$50,000
25. Install EMAS to Runway 6	$2,500,000	$2,375,000	$62,500	$62,500
26. Install Distance Remaining Signs (Runway 18-36)	$50,000	$47,500	$1,250	$1,250
27. Relocate PAPI (Runway 24)	$80,000	$76,000	$2,000	$2,000
28. ARFF and/or Maintenance Equipment	$500,000	$475,000	$12,500	$12,500
29. Annual Pavement Maintenance/Preservation	$1,000,000	$950,000	$25,000	$25,000
Long Term Program Total	**$20,855,000**	**$19,812,250**	**$521,375**	**$521,375**
TOTAL PROGRAM COSTS	**$38,195,000**	**$36,285,250**	**$954,875**	**$954,875**

Source: Show Low Regional Airport ACIP (Short Term Program) and Coffman Associates Analysis.
All costs in current (2011) dollars and based upon current federal and state funding programs.

SHOW LOW REGIONAL AIRPORT

Exhibit X
AIRPORT CAPITAL
IMPROVEMENT PROGRAM

levied by the state on aviation fuel, flight property, aircraft registration tax, and registration fees (as well as interest on these funds) are deposited in the Arizona Aviation Fund. The State Transportation Board establishes the policies for distribution of these state funds.

Under the State of Arizona's grant program, an airport can receive funding for one-half (currently 2.5 percent) of the local share of projects receiving federal AIP funding. The state also provides 90 percent funding for projects which are typically not eligible for federal AIP funding or have not received federal funding.

State Airport Loan Program

The ADOT – Aeronautic Group Airport Loan Program was established to enhance the utilization of state funds and provide a flexible funding mechanism to assist airports in funding improvement projects. Eligible projects include runway, taxiway, and apron improvements; land acquisition, planning studies, and the preparation of plans and specifications for airport construction projects; as well as revenue-generating improvements such as hangars and fuel storage facilities. Projects which are not currently eligible for the State Airport Loan Program are considered if the project would enhance the airport's ability to be financially self-sufficient.

There are three ways in which the loan funds can be used: Grant Advance, Matching Funds, or Revenue-Generating Projects. The Grant Advance loan funds are provided when the airport can demonstrate the ability to accelerate the development and construction of a multi-phase project. The project(s) must be compatible with the Airport Layout Plan and be included in the ADOT Five-Year Airport Development Program. The Matching Funds are provided to meet the local matching fund requirement for securing federal airport improvement grants or other federal or state grants. The Revenue-Generating funds are provided for airport-related construction projects that are not eligible for funding under another program. As previously discussed, current limitations on the state funding program could affect this program.

Pavement Maintenance Program

The airport system in Arizona is a multi-million dollar investment of public and private funds that must be protected and preserved. State aviation fund dollars are limited and the State Transportation Board recognizes that need to protect and extend the maximum useful life of the airport system's pavement. The Arizona Pavement Preservation Program (APPP) has been established to assist in the preservation of the Arizona airports' system infrastructure.

Public Law 103-305 requires that airports requesting federal AIP funding for pavement rehabilitation or reconstruction have an effective pavement maintenance program system. To this end, ADOT-Aeronautics Group maintains an Airport Pavement Management System (APMS). This system requires monthly airport inspections which are conducted by airport management and supplied to ADOT.

The Arizona APMS uses the Army Corps of Engineers' "Micropaver" program as a basis for generating a Five-Year APPP. The APMS consists of visual inspections of all airport pavements. Evaluations are made of the types and severities observed and entered into a computer program data-

base. Pavement Condition Index (PCI) values are determined through the visual assessment of pavement conditions in accordance with the most recent FAA Advisory Circular 150/5380-7, *Pavement Management System*, and range from 0 (failed) to 100 (excellent). Every three years, a complete database update with new visual observations is conducted. Individual airport reports from the update are shared with all participating system airports. ADOT-Aeronautics Group ensures that the APMS database is kept current, in compliance with FAA requirements.

Every year, ADOT-Aeronautics Group, utilizing the APMS, will identify airport pavement maintenance projects eligible for funding for the upcoming five years. These projects will appear in the State's Five-Year Airport Development Program. Once a project has been identified and approved for funding by the State Transportation Board, the airport sponsor may elect to accept a state grant for the project and not participate in the APPP, or the airport sponsor may sign an Inter-Government Agreement (IGA) with ADOT-Aeronautics Group to participate in the APPP.

LOCAL FUNDING

The balance of project costs, after consideration has been given to grants, must be funded through local resources. Show Low Regional Airport is operated by the City of Show Low and the goal for the operation of the airport is to generate ample revenues to cover all operating and maintenance costs as well as the local matching share of capital expenditures. As with many airports, this is not possible and other financial methods will be needed.

There are several alternatives for local financing options for future development at the airport, including airport revenues, direct funding from the City, issuing bonds, and leasehold financing. These strategies could be used to fund the local matching share or complete the project if grant funding cannot be arranged.

Local funding options may also include the solicitation of private developers to construct and manage hangar facilities at the airport. This practice is currently in place at Show Low Regional Airport. The capital improvement program has assumed that land-side facility development would be undertaken in this manner. Outsourcing hangar development can benefit the airport sponsor by generating land lease revenue and relieving the sponsor of operations and maintenance costs.

SUMMARY

The resultant plan represents an airfield facility that fulfills airline and corporate aviation needs and preserves long range viability while conforming to safety and design standards. It also maintains a landside complex that can be developed as demand dictates. The primary goal is for the airport to maintain a self-supporting position without sacrificing service to the public.

DOCUMENT SOURCES

As previously mentioned, a variety of different sources were utilized in the inventory process. The following listing reflects a partial compilation of these sources. This does not include data provided by the airport management as part of their records, nor does it include airport drawings and photographs which were referenced for information. On-site inventory and interviews with staff tenants also contributed to the inventory effort.

Airport/Facility Directory, Southwest U.S., U.S. Department of Transportation, Federal Aviation Administration, National Aeronautical Charting Office, June 3, 2010 Edition.

National Plan of Integrated Airport Systems (NPIAS), U.S. Department of Transportation, Federal Aviation Administration (2009-2013).

U.S. Terminal Procedures, Southwest U.S., U.S. Department of Transportation, Federal Aviation Administration, National Aeronautical Charting Office, June 3, 2010 Edition.

Phoenix Sectional Chart, U.S. Department of Commerce, National Oceanic and Atmospheric Administration, May 6, 2010.

A number of Internet sites were also used to collect information for the inventory chapter. These include the following:

Air Carrier Activity Information System (ACAIS):
www.faa.gov/airports/planning_capacity/passenger_allcargo_stats/passenger/

Arizona Department of Commerce:
www.azcommerce.com

Arizona Department of Transportation (ADOT):
www.azdot.gov/

Arizona Workforce Informer:
www.workforce.az.gov/

AirNav:
www.airnav.com

City of Show Low:
http://ci.show-low.az.us/

FAA:
www.faa.gov

Navajo County:
www.navajocountyaz.gov/

Northern Arizona Council of Governments (NACOG):
www.nacog.org/

Show Low Regional Airport:
http://ci.show-low.az.us/departments/airport/

U.S. Bureau of Labor Statistics:
www.bls.gov/

U.S. Census Bureau:
www.census.gov

APPENDIX A

Glossary of Terms

Glossary of Terms

A

ABOVE GROUND LEVEL: The elevation of a point or surface above the ground.

ACCELERATE-STOP DISTANCE AVAILABLE (ASDA): See declared distances.

ADVISORY CIRCULAR: External publications issued by the FAA consisting of nonregulatory material providing for the recommendations relative to a policy, guidance and information relative to a specific aviation subject.

AIR CARRIER: An operator which: (1) performs at least five round trips per week between two or more points and publishes flight schedules which specify the times, days of the week, and places between which such flights are performed; or (2) transports mail by air pursuant to a current contract with the U.S. Postal Service. Certified in accordance with Federal Aviation Regulation (FAR) Parts 121 and 127.

AIRCRAFT: A transportation vehicle that is used or intended for use for flight.

AIRCRAFT APPROACH CATEGORY: A grouping of aircraft based on 1.3 times the stall speed in their landing configuration at their maximum certificated landing weight. The categories are as follows:

- Category A: Speed less than 91 knots.
- Category B: Speed 91 knots or more, but less than 121 knots.
- Category C: Speed 121 knots or more, but less than 141 knots.
- Category D: Speed 141 knots or more, but less than 166 knots.
- Category E: Speed greater than 166 knots.

AIRCRAFT OPERATION: The landing, takeoff, or touch-and-go procedure by an aircraft on a runway at an airport.

AIRCRAFT OPERATIONS AREA (AOA): A restricted and secure area on the airport property designed to protect all aspects related to aircraft operations.

AIRCRAFT OWNERS AND PILOTS ASSOCIATION: A private organization serving the interests and needs of general aviation pilots and aircraft owners.

AIRCRAFT RESCUE AND FIRE FIGHTING: A facility located at an airport that provides emergency vehicles, extinguishing agents, and personnel responsible for minimizing the impacts of an aircraft accident or incident.

AIRFIELD: The portion of an airport which contains the facilities necessary for the operation of aircraft.

AIRLINE HUB: An airport at which an airline concentrates a significant portion of its activity and which often has a significant amount of connecting traffic.

AIRPLANE DESIGN GROUP (ADG): A grouping of aircraft based upon wingspan. The groups are as follows:

- Group I: Up to but not including 49 feet.
- Group II: 49 feet up to but not including 79 feet.
- Group III: 79 feet up to but not including 118 feet.
- Group IV: 118 feet up to but not including 171 feet.
- Group V: 171 feet up to but not including 214 feet.
- Group VI: 214 feet or greater.

AIRPORT AUTHORITY: A quasi-governmental public organization responsible for setting the policies governing the management and operation of an airport or system of airports under its jurisdiction.

AIRPORT BEACON: A navigational aid located at an airport which displays a rotating light beam to identify whether an airport is lighted.

AIRPORT CAPITAL IMPROVEMENT PLAN: The planning program used by the Federal Aviation Administration to identify, prioritize, and distribute funds for airport development and the needs of the National Airspace System to meet specified national goals and objectives.

AIRPORT ELEVATION: The highest point on the runway system at an airport expressed in feet above mean sea level (MSL).

AIRPORT IMPROVEMENT PROGRAM: A program authorized by the Airport and Airway

Improvement Act of 1982 that provides funding for airport planning and development.

AIRPORT LAYOUT DRAWING (ALD): The drawing of the airport showing the layout of existing and proposed airport facilities.

AIRPORT LAYOUT PLAN (ALP): A scaled drawing of the existing and planned land and facilities necessary for the operation and development of the airport.

AIRPORT LAYOUT PLAN DRAWING SET: A set of technical drawings depicting the current and future airport conditions. The individual sheets comprising the set can vary with the complexities of the airport, but the FAA-required drawings include the Airport Layout Plan (sometimes referred to as the Airport Layout Drawing (ALD), the Airport Airspace Drawing, and the Inner Portion of the Approach Surface Drawing, On-Airport Land Use Drawing, and Property Map.

AIRPORT MASTER PLAN: The planner's concept of the long-term development of an airport.

AIRPORT MOVEMENT AREA SAFETY SYSTEM: A system that provides automated alerts and warnings of potential runway incursions or other hazardous aircraft movement events.

AIRPORT OBSTRUCTION CHART: A scaled drawing depicting the Federal Aviation Regulation (FAR) Part 77 surfaces, a representation of objects that penetrate these surfaces, runway, taxiway, and ramp areas, navigational aids, buildings, roads and other detail in the vicinity of an airport.

AIRPORT REFERENCE CODE (ARC): A coding system used to relate airport design criteria to the operational (Aircraft Approach Category) to the physical characteristics (Airplane Design Group) of the airplanes intended to operate at the airport.

AIRPORT REFERENCE POINT (ARP): The latitude and longitude of the approximate center of the airport.

AIRPORT SPONSOR: The entity that is legally responsible for the management and operation of an airport, including the fulfillment of the requirements of laws and regulations related thereto.

AIRPORT SURFACE DETECTION EQUIPMENT: A radar system that provides air traffic controllers with a visual representation of the movement of aircraft and other vehicles on the ground on the airfield at an airport.

AIRPORT SURVEILLANCE RADAR: The primary radar located at an airport or in an air traffic control terminal area that receives a signal at an antenna and transmits the signal to air traffic control display equipment defining the location of aircraft in the air. The signal provides only the azimuth and range of aircraft from the location of the antenna.

AIRPORT TRAFFIC CONTROL TOWER (ATCT): A central operations facility in the terminal air traffic control system, consisting of a tower, including an associated instrument flight rule (IFR) room if radar equipped, using air/ground communications and/or radar, visual signaling and other devices to provide safe and expeditious movement of terminal air traffic.

AIR ROUTE TRAFFIC CONTROL CENTER: A facility which provides en route air traffic control service to aircraft operating on an IFR flight plan within controlled airspace over a large, multi-state region.

AIRSIDE: The portion of an airport that contains the facilities necessary for the operation of aircraft.

AIRSPACE: The volume of space above the surface of the ground that is provided for the operation of aircraft.

AIR TAXI: An air carrier certificated in accordance with FAR Part 121 and FAR Part 135 and authorized to provide, on demand, public transportation of persons and property by aircraft. Generally operates small aircraft "for hire" for specific trips.

AIR TRAFFIC CONTROL: A service operated by an appropriate organization for the purpose of providing for the safe, orderly, and expeditious flow of air traffic.

AIR ROUTE TRAFFIC CONTROL CENTER (ARTCC): A facility established to provide air traffic control service to aircraft operating on an IFR flight plan within controlled airspace and principally during the en route phase of flight.

AIR TRAFFIC CONTROL SYSTEM COMMAND CENTER: A facility operated by the FAA which is responsible for the central flow control, the central altitude reservation system, the airport reservation position system, and the air traffic service contingency command for the air traffic control system.

AIR TRAFFIC HUB: A categorization of commercial service airports or group of commercial service airports in a metropolitan or urban area based upon the proportion of annual national enplanements existing at the airport or airports. The categories are large hub, medium hub, small hub, or non-hub. It forms the basis for the apportionment of entitlement funds.

AIR TRANSPORT ASSOCIATION OF AMERICA: An organization consisting of the principal U.S. airlines that represents the interests of the airline industry on major aviation issues before federal, state, and local government bodies. It promotes air transportation safety by coordinating industry and governmental safety programs and it serves as a focal point for industry efforts to standardize practices and enhance the efficiency of the air transportation system.

ALERT AREA: See special-use airspace.

ALTITUDE: The vertical distance measured in feet above mean sea level.

ANNUAL INSTRUMENT APPROACH (AIA): An approach to an airport with the intent to land by an aircraft in accordance with an IFR flight plan when visibility is less than three miles and/or when the ceiling is at or below the minimum initial approach altitude.

APPROACH LIGHTING SYSTEM (ALS): An airport lighting facility which provides visual guidance to landing aircraft by radiating light beams by which the pilot aligns the aircraft with the extended centerline of the runway on his final approach and landing.

APPROACH MINIMUMS: The altitude below which an aircraft may not descend while on an IFR approach unless the pilot has the runway in sight.

APPROACH SURFACE: An imaginary obstruction limiting surface defined in FAR Part 77 which is longitudinally centered on an extended runway centerline and extends outward and upward from the primary surface at each end of a runway at a designated slope and distance based upon the type of available or planned approach by aircraft to a runway.

APRON: A specified portion of the airfield used for passenger, cargo or freight loading and unloading, aircraft parking, and the refueling, maintenance and servicing of aircraft.

AREA NAVIGATION: The air navigation procedure that provides the capability to establish and maintain a flight path on an arbitrary course that remains within the coverage area of navigational sources being used.

AUTOMATED TERMINAL INFORMATION SERVICE (ATIS): The continuous broadcast of recorded non-control information at towered airports. Information typically includes wind speed, direction, and runway in use.

AUTOMATED SURFACE OBSERVATION SYSTEM (ASOS): A reporting system that provides frequent airport ground surface weather observation data through digitized voice broadcasts and printed reports.

AUTOMATIC WEATHER OBSERVATION STATION (AWOS): Equipment used to automatically record weather conditions (i.e. cloud height, visibility, wind speed and direction, temperature, dew point, etc.)

AUTOMATIC DIRECTION FINDER (ADF): An aircraft radio navigation system which senses and indicates the direction to a non-directional radio beacon (NDB) ground transmitter.

AVIGATION EASEMENT: A contractual right or a property interest in land over which a right of unobstructed flight in the airspace is established.

AZIMUTH: Horizontal direction expressed as the angular distance between true north and the direction of a fixed point (as the observer's heading).

B

BASE LEG: A flight path at right angles to the landing runway off its approach end. The base leg normally extends from the downwind leg to the intersection of the extended runway centerline. See "traffic pattern."

BASED AIRCRAFT: The general aviation aircraft that use a specific airport as a home base.

BEARING: The horizontal direction to or from any point, usually measured clockwise from true north or magnetic north.

BLAST FENCE: A barrier used to divert or dissipate jet blast or propeller wash.

BLAST PAD: A prepared surface adjacent to the end of a runway for the purpose of eliminating the erosion of the ground surface by the wind forces produced by airplanes at the initiation of takeoff operations.

BUILDING RESTRICTION LINE (BRL): A line which identifies suitable building area locations on the airport.

C

CAPITAL IMPROVEMENT PLAN: The planning program used by the Federal Aviation Administration to identify, prioritize, and distribute Airport Improvement Program funds for airport development and the needs of the National Airspace System to meet specified national goals and objectives.

CARGO SERVICE AIRPORT: An airport served by aircraft providing air transportation of property only, including mail, with an annual aggregate landed weight of at least 100,000,000 pounds.

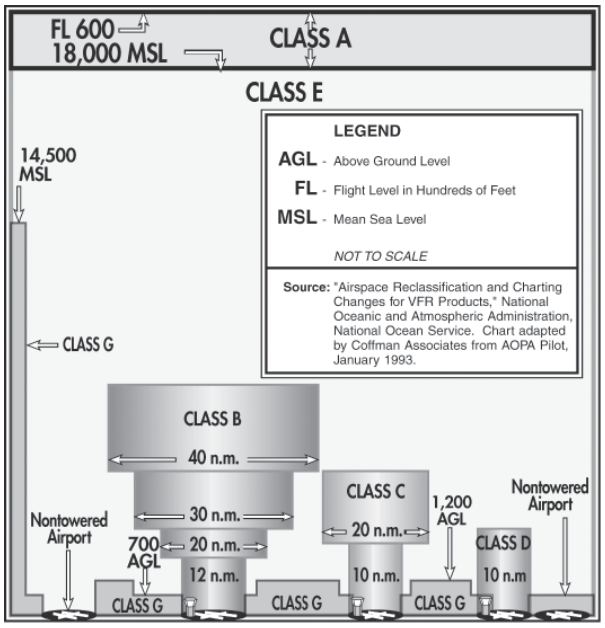
CATEGORY I: An Instrument Landing System (ILS) that provides acceptable guidance information to an aircraft from the coverage limits of the ILS to the point at which the localizer course line intersects the glide path at a decision height of 100 feet above the horizontal plane containing the runway threshold.

CATEGORY II: An ILS that provides acceptable guidance information to an aircraft from the coverage limits of the ILS to the point at which the localizer course line intersects the glide path at a decision height of 50 feet above the horizontal plane containing the runway threshold.

CATEGORY III: An ILS that provides acceptable guidance information to a pilot from the coverage limits of the ILS with no decision height specified above the horizontal plane containing the runway threshold.

CEILING: The height above the ground surface to the location of the lowest layer of clouds which is reported as either broken or overcast.

CIRCLING APPROACH: A maneuver initiated by the pilot to align the aircraft with the runway for landing when flying a predetermined circling instrument approach under IFR.



CLASS A AIRSPACE: See Controlled Airspace.

CLASS B AIRSPACE: See Controlled Airspace.

CLASS C AIRSPACE: See Controlled Airspace.

CLASS D AIRSPACE: See Controlled Airspace.

CLASS E AIRSPACE: See Controlled Airspace.

CLASS G AIRSPACE: See Controlled Airspace.

CLEAR ZONE: See Runway Protection Zone.

COMMERCIAL SERVICE AIRPORT: A public airport providing scheduled passenger service that enplanes at least 2,500 annual passengers.

COMMON TRAFFIC ADVISORY FREQUENCY: A radio frequency identified in the appropriate aeronautical chart which is designated for the purpose of transmitting airport advisory information and procedures while operating to or from an uncontrolled airport.

COMPASS LOCATOR (LOM): A low power, low/medium frequency radio-beacon installed in conjunction with the instrument landing system at one or two of the marker sites.

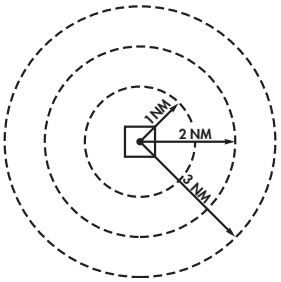
CONICAL SURFACE: An imaginary obstruction-limiting surface defined in FAR Part 77 that extends from the edge of the horizontal surface outward and upward at a slope of 20 to 1 for a horizontal distance of 4,000 feet.

CONTROLLED AIRPORT: An airport that has an operating airport traffic control tower.

CONTROLLED AIRSPACE: Airspace of defined dimensions within which air traffic control services are provided to instrument flight rules (IFR) and visual flight rules (VFR) flights in accordance with the airspace classification. Controlled airspace in the United States is designated as follows:

- **CLASS A**: Generally, the airspace from 18,000 feet mean sea level (MSL) up to but not including flight level FL600. All persons must operate their aircraft under IFR.

- **CLASS B**: Generally, the airspace from the surface to 10,000 feet MSL surrounding the nation's busiest airports. The configuration of Class B airspace is unique to each airport, but typically consists of two or more layers of air space and is designed to contain all published instrument approach procedures to the airport. An air traffic control clearance is required for all aircraft to operate in the area.



- **CLASS C**: Generally, the airspace from the surface to 4,000 feet above the airport elevation (charted as MSL) surrounding those airports that have an operational control tower and radar approach control and are served by a qualifying number of IFR operations or passenger enplanements. Although individually tailored for each airport, Class C airspace typically consists of a surface area with a five nautical mile (nm) radius and an outer area with a 10 nautical mile radius that extends from 1,200 feet to 4,000 feet above the airport elevation. Two-way radio communication is required for all aircraft.

- **CLASS D**: Generally, that airspace from the surface to 2,500 feet above the air port elevation (charted as MSL) surrounding those airports that have an operational control tower. Class D airspace is individually tailored and configured to encompass published instrument approach procedure . Unless otherwise authorized, all persons must establish two-way radio communication.

- **CLASS E**: Generally, controlled airspace that is not classified as Class A, B, C, or D. Class E airspace extends upward from either the surface or a designated altitude to the overlying or adjacent controlled airspace. When designated as a surface area, the airspace will be configured to contain all instrument procedures. Class E airspace encompasses all Victor Airways. Only aircraft following instrument flight rules are required to establish two-way radio communication with air traffic control.

- **CLASS G**: Generally, that airspace not classified as Class A, B, C, D, or E. Class G airspace is uncontrolled for all aircraft. Class G airspace extends from the surface to the overlying Class E airspace.

CONTROLLED FIRING AREA: See special-use airspace.

CROSSWIND: A wind that is not parallel to a runway centerline or to the intended flight path of an aircraft.

CROSSWIND COMPONENT: The component of wind that is at a right angle to the runway centerline or the intended flight path of an aircraft.

CROSSWIND LEG: A flight path at right angles to the landing runway off its upwind end. See "traffic pattern."

D

DECIBEL: A unit of noise representing a level relative to a reference of a sound pressure 20 micro newtons per square meter.

DECISION HEIGHT: The height above the end of the runway surface at which a decision must be made by a pilot during the ILS or Precision Approach Radar approach to either continue the approach or to execute a missed approach.

DECLARED DISTANCES: The distances declared available for the airplane's takeoff runway, takeoff distance, accelerate-stop distance, and landing distance requirements. The distances are:

- **TAKEOFF RUNWAY AVAILABLE (TORA)**: The runway length declared available and suitable for the ground run of an airplane taking off.
- **TAKEOFF DISTANCE AVAILABLE (TODA)**: The TORA plus the length of any remaining runway and/or clear way beyond the far end of the TORA.
- **ACCELERATE-STOP DISTANCE AVAILABLE (ASDA)**: The runway plus stopway length declared available for the acceleration and deceleration of an aircraft aborting a takeoff.
- **LANDING DISTANCE AVAILABLE (LDA)**: The runway length declared available and suitable for landing.

DEPARTMENT OF TRANSPORTATION: The cabinet level federal government organization consisting of modal operating agencies, such as the Federal Aviation Administration, which was established to promote the coordination of federal transportation programs and to act as a focal point for research and development efforts in transportation.

DISCRETIONARY FUNDS: Federal grant funds that may be appropriated to an airport based upon designation by the Secretary of Transportation or Congress to meet a specified national priority such as enhancing capacity, safety, and security, or mitigating noise.

DISPLACED THRESHOLD: A threshold that is located at a point on the runway other than the designated beginning of the runway.

DISTANCE MEASURING EQUIPMENT (DME): Equipment (airborne and ground) used to measure, in nautical miles, the slant range distance of an aircraft from the DME navigational aid.

DNL: The 24-hour average sound level, in Aweighted decibels, obtained after the addition of ten decibels to sound levels for the periods between 10 p.m. and 7 a.m. as averaged over a span of one year. It is the FAA standard metric for determining the cumulative exposure of individuals to noise.

DOWNWIND LEG: A flight path parallel to the landing runway in the direction opposite to landing. The downwind leg normally extends between the crosswind leg and the base leg. Also see "traffic pattern."

E

EASEMENT: The legal right of one party to use a portion of the total rights in real estate owned by another party. This may include the right of passage over, on, or below the property; certain air rights above the property, including view rights; and the rights to any specified form of development or activity, as well as any other legal rights in the property that may be specified in the easement document.

ELEVATION: The vertical distance measured in feet above mean sea level.

ENPLANED PASSENGERS: The total number of revenue passengers boarding aircraft, including originating, stop-over, and transfer passengers, in scheduled and nonscheduled services.

ENPLANEMENT: The boarding of a passenger, cargo, freight, or mail on an aircraft at an airport.

ENTITLEMENT: Federal funds for which a commercial service airport may be eligible based upon its annual passenger enplanements.

ENVIRONMENTAL ASSESSMENT (EA): An environmental analysis performed pursuant to the National Environmental Policy Act to determine whether an action would significantly affect the environment and thus require a more detailed environmental impact statement.

ENVIRONMENTAL AUDIT: An assessment of the current status of a party's compliance with applicable

environmental requirements of a party's environmental compliance policies, practices, and controls.

ENVIRONMENTAL IMPACT STATEMENT (EIS): A document required of federal agencies by the National Environmental Policy Act for major projects are legislative proposals affecting the environment. It is a tool for decision-making describing the positive and negative effects of a proposed action and citing alternative actions.

ESSENTIAL AIR SERVICE: A federal program which guarantees air carrier service to selected small cities by providing subsidies as needed to prevent these cities from such service.

F

FEDERAL AVIATION REGULATIONS: The general and permanent rules established by the executive departments and agencies of the Federal Government for aviation, which are published in the Federal Register. These are the aviation subset of the Code of Federal Regulations.

FEDERAL INSPECTION SERVICES: The provision of customs and immigration services including passport inspection, inspection of baggage, the collection of duties on certain imported items, and the inspections for agricultural products, illegal drugs, or other restricted items.

FINAL APPROACH: A flight path in the direction of landing along the extended runway centerline. The final approach normally extends from the base leg to the runway. See "traffic pattern."

FINAL APPROACH AND TAKEOFF AREA (FATO). A defined area over which the final phase of the helicopter approach to a hover, or a landing is completed and from which the takeoff is initiated.

FINAL APPROACH FIX: The designated point at which the final approach segment for an aircraft landing on a runway begins for a non-precision approach.

FINDING OF NO SIGNIFICANT IMPACT (FONSI): A public document prepared by a Federal agency that presents the rationale why a proposed action will not have a significant effect on the environment and for which an environmental impact statement will not be prepared.

FIXED BASE OPERATOR (FBO): A provider of services to users of an airport. Such services include, but are not limited to, hangaring, fueling, flight training, repair, and maintenance.

FLIGHT LEVEL: A designation for altitude within controlled airspace.

FLIGHT SERVICE STATION: An operations facility in the national flight advisory system which utilizes data interchange facilities for the collection and dissemination of Notices to Airmen, weather, and administrative data and which provides pre-flight and in-flight advisory services to pilots through air and ground based communication facilities.

FRANGIBLE NAVAID: A navigational aid which retains its structural integrity and stiffness up to a designated maximum load, but on impact from a greater load, breaks, distorts, or yields in such a manner as to present the minimum hazard to aircraft.

G

GENERAL AVIATION: That portion of civil aviation which encompasses all facets of aviation except air carriers holding a certificate of convenience and necessity, and large aircraft commercial operators.

GENERAL AVIATION AIRPORT: An airport that provides air service to only general aviation.

GLIDESLOPE (GS): Provides vertical guidance for aircraft during approach and landing. The glideslope consists of the following:

1. Electronic components emitting signals which provide vertical guidance by reference to airborne instruments during instrument approaches such as ILS; or

2. Visual ground aids, such as VASI, which provide vertical guidance for VFR approach or for the visual portion of an instrument approach and landing.

GLOBAL POSITIONING SYSTEM (GPS): A system of 24 satellites used as reference points to enable navigators equipped with GPS receivers to determine their latitude, longitude, and altitude.

GROUND ACCESS: The transportation system on and around the airport that provides access to and

from the airport by ground transportation vehicles for passengers, employees, cargo, freight, and airport services.

H

HELIPAD: A designated area for the takeoff, landing, and parking of helicopters.

HIGH INTENSITY RUNWAY LIGHTS: The highest classification in terms of intensity or brightness for lights designated for use in delineating the sides of a runway.

HIGH-SPEED EXIT TAXIWAY: A long radius taxiway designed to expedite aircraft turning off the runway after landing (at speeds to 60 knots), thus reducing runway occupancy time.

HORIZONTAL SURFACE: An imaginary obstruction- limiting surface defined in FAR Part 77 that is specified as a portion of a horizontal plane surrounding a runway located 150 feet above the established airport elevation. The specific horizontal dimensions of this surface are a function of the types of approaches existing or planned for the runway.

I

INITIAL APPROACH FIX: The designated point at which the initial approach segment begins for an instrument approach to a runway.

INSTRUMENT APPROACH PROCEDURE: A series of predetermined maneuvers for the orderly transfer of an aircraft under instrument flight conditions from the beginning of the initial approach to a landing, or to a point from which a landing may be made visually.

INSTRUMENT FLIGHT RULES (IFR): Procedures for the conduct of flight in weather conditions below Visual Flight Rules weather minimums. The term IFR is often also used to define weather conditions and the type of flight plan under which an aircraft is operating.

INSTRUMENT LANDING SYSTEM (ILS): A precision instrument approach system which normally consists of the following electronic components and visual aids:

1. Localizer.
2. Glide Slope.
3. Outer Marker.
4. Middle Marker.
5. Approach Lights.

INSTRUMENT METEOROLOGICAL CONDITIONS: Meteorological conditions expressed in terms of specific visibility and ceiling conditions that are less than the minimums specified for visual meteorological conditions.

ITINERANT OPERATIONS: Operations by aircraft that are not based at a specified airport.

K

KNOTS: A unit of speed length used in navigation that is equivalent to the number of nautical miles traveled in one hour.

L

LANDSIDE: The portion of an airport that provides the facilities necessary for the processing of passengers, cargo, freight, and ground transportation vehicles.

LANDING DISTANCE AVAILABLE (LDA): See declared distances.

LARGE AIRPLANE: An airplane that has a maximum certified takeoff weight in excess of 12,500 pounds.

LOCAL AREA AUGMENTATION SYSTEM: A differential GPS system that provides localized measurement correction signals to the basic GPS signals to improve navigational accuracy integrity, continuity, and availability.

LOCAL OPERATIONS: Aircraft operations performed by aircraft that are based at the airport and that operate in the local traffic pattern or within sight of the airport, that are known to be departing for or arriving from flights in local practice areas within a prescribed distance from the airport, or that execute simulated instrument approaches at the airport.

LOCAL TRAFFIC: Aircraft operating in the traffic pattern or within sight of the tower, or aircraft known to be departing or arriving from the local practice areas, or aircraft executing practice instrument

approach procedures. Typically, this includes touch and-go training operations.

LOCALIZER: The component of an ILS which provides course guidance to the runway.

LOCALIZER TYPE DIRECTIONAL AID (LDA): A facility of comparable utility and accuracy to a localizer, but is not part of a complete ILS and is not aligned with the runway.

LONG RANGE NAVIGATION SYSTEM (LORAN): Long range navigation is an electronic navigational aid which determines aircraft position and speed by measuring the difference in the time of reception of synchronized pulse signals from two fixed transmitters. Loran is used for en route navigation.

LOW INTENSITY RUNWAY LIGHTS: The lowest clas- sification in terms of intensity or brightness for lights designated for use in delineating the sides of a runway.

M

MEDIUM INTENSITY RUNWAY LIGHTS: The middle classification in terms of intensity or brightness for lights designated for use in delineating the sides of a runway.

MICROWAVE LANDING SYSTEM (MLS): An instrument approach and landing system that provides precision guidance in azimuth, elevation, and distance measurement.

MILITARY OPERATIONS: Aircraft operations that are performed in military aircraft.

MILITARY OPERATIONS AREA (MOA): See special-use airspace

MILITARY TRAINING ROUTE: An air route depicted on aeronautical charts for the conduct of military flight training at speeds above 250 knots.

MISSED APPROACH COURSE (MAC): The flight route to be followed if, after an instrument approach, a landing is not affected, and occurring normally:

1. When the aircraft has descended to the decision height and has not established visual contact; or

2. When directed by air traffic control to pull up or to go around again.

MOVEMENT AREA: The runways, taxiways, and other areas of an airport which are utilized for taxiing/hover taxiing, air taxiing, takeoff, and landing of aircraft, exclusive of loading ramps and parking areas. At those airports with a tower, air traffic control clearance is required for entry onto the movement area.

N

NATIONAL AIRSPACE SYSTEM: The network of air traffic control facilities, air traffic control areas, and navigational facilities through the U.S.

NATIONAL PLAN OF INTEGRATED AIRPORT SYSTEMS: The national airport system plan developed by the Secretary of Transportation on a biannual basis for the development of public use airports to meet national air transportation needs.

NATIONAL TRANSPORTATION SAFETY BOARD: A federal government organization established to investigate and determine the probable cause of transportation accidents, to recommend equipment and procedures to enhance transportation safety, and to review on appeal the suspension or revocation of any certificates or licenses issued by the Secretary of Transportation.

NAUTICAL MILE: A unit of length used in navigation which is equivalent to the distance spanned by one minute of arc in latitude, that is, 1,852 meters or 6,076 feet. It is equivalent to approximately 1.15 statute mile.

NAVAID: A term used to describe any electrical or visual air navigational aids, lights, signs, and associated supporting equipment (i.e. PAPI, VASI, ILS, etc.)

NAVIGATIONAL AID: A facility used as, available for use as, or designed for use as an aid to air navigation.

NOISE CONTOUR: A continuous line on a map of the airport vicinity connecting all points of the same noise exposure level.

NON-DIRECTIONAL BEACON (NDB): A beacon transmitting nondirectional signals whereby the pilot of an aircraft equipped with direction finding equipment can determine his or her bearing to and from the radio beacon and home on, or track to, the station. When the radio beacon is installed in conjunction with the Instrument Landing System marker, it is normally called a Compass Locator.

NON-PRECISION APPROACH PROCEDURE: A standard instrument approach procedure in which no electronic glide slope is provided, such as VOR, TACAN, NDB, or LOC.

NOTICE TO AIRMEN: A notice containing information concerning the establishment, condition, or change in any component of or hazard in the National Airspace System, the
timely knowledge of which is considered essential to personnel concerned with flight operations.

O

OBJECT FREE AREA (OFA): An area on the ground centered on a runway, taxiway, or taxilane centerline provided to enhance the safety of aircraft operations by having the area free of objects, except for objects that need to be located in the OFA for air navigation or aircraft ground maneuvering purposes.

OBSTACLE FREE ZONE (OFZ): The airspace below 150 feet above the established airport elevation and along the runway and extended runway centerline that is required to be kept clear of all objects, except for frangible visual NAVAIDs that need to be located in the OFZ because of their function, in order to provide clearance for aircraft landing or taking off from the runway, and for missed approaches.

ONE-ENGINE INOPERABLE SURFACE: A surface emanating from the runway end at a slope ratio of 62.5:1. Air carrier airports are required to maintain a technical drawing of this surface depicting any object penetrations by January 1, 2010.

OPERATION: The take-off, landing, or touch-and-go procedure by an aircraft on a runway at an airport.

OUTER MARKER (OM): An ILS navigation facility in the terminal area navigation system located four to seven miles from the runway edge on the extended centerline, indicating to the pilot that he/she is passing over the facility and can begin final approach.

P

PILOT CONTROLLED LIGHTING: Runway lighting systems at an airport that are controlled by activating the microphone of a pilot on a specified radio frequency.

PRECISION APPROACH: A standard instrument approach procedure which provides runway alignment and glide slope (descent) information. It is categorized as follows:

- **CATEGORY I (CAT I)**: A precision approach which provides for approaches with a decision height of not less than 200 feet and visibility not less than 1/2 mile or Runway Visual Range (RVR) 2400 (RVR 1800) with operative touchdown zone and runway centerline lights.

- **CATEGORY II (CAT II)**: A precision approach which provides for approaches with a decision height of not less than 100 feet and visibility not less than 1200 feet RVR.

- **CATEGORY III (CAT III)**: A precision approach which provides for approaches with minima less than Category II.

PRECISION APPROACH PATH INDICATOR (PAPI): A lighting system providing visual approach slope guidance to aircraft during a landing approach. It is similar to a VASI but provides a sharper transition between the colored indicator lights.

PRECISION APPROACH RADAR: A radar facility in the terminal air traffic control system used to detect and display with a high degree of accuracy the direction, range, and elevation of an aircraft on the final approach to a runway.

PRECISION OBJECT FREE AREA (POFA): An area centered on the extended runway centerline, beginning at the runway threshold and extending behind the runway threshold that is 200 feet long by 800 feet wide. The POFA is a clearing standard which requires the POFA to be kept clear of above ground objects protruding above the runway safety

area edge elevation (except for frangible NAVAIDS). The POFA applies to all new authorized instrument approach procedures with less than 3/4 mile visibility.

PRIMARY AIRPORT: A commercial service airport that enplanes at least 10,000 annual passengers.

PRIMARY SURFACE: An imaginary obstruction limiting surface defined in FAR Part 77 that is specified as a rectangular surface longitudinally centered about a runway. The specific dimensions of this surface are a function of the types of approaches existing or planned for the runway.

PROHIBITED AREA: See special-use airspace.

PVC: Poor visibility and ceiling. Used in determining Annual Service Volume. PVC conditions exist when the cloud ceiling is less than 500 feet and visibility is less than one mile.

R

RADIAL: A navigational signal generated by a Very High Frequency Omni-directional Range or VORTAC station that is measured as an azimuth from the station.

REGRESSION ANALYSIS: A statistical technique that seeks to identify and quantify the relationships between factors associated with a forecast.

REMOTE COMMUNICATIONS OUTLET (RCO): An unstaffed transmitter receiver/facility remotely controlled by air traffic personnel. RCOs serve flight service stations (FSSs). RCOs were established to provide ground-to-ground communications between air traffic control specialists and pilots at satellite airports for delivering en route clearances, issuing departure authorizations, and acknowledging instrument flight rules cancellations or departure/landing times.

REMOTE TRANSMITTER/RECEIVER (RTR): See remote communications outlet. RTRs serve ARTCCs.

RELIEVER AIRPORT: An airport to serve general aviation aircraft which might otherwise use a congested air-carrier served airport.

RESTRICTED AREA: See special-use airspace.

RNAV: Area navigation - airborne equipment which permits flights over determined tracks within prescribed accuracy tolerances without the need to overfly ground-based navigation facilities. Used en route and for approaches to an airport.

RUNWAY: A defined rectangular area on an airport prepared for aircraft landing and takeoff. Runways are normally numbered in relation to their magnetic direction, rounded off to the nearest 10 degrees. For example, a runway with a magnetic heading of 180 would be designated Runway 18. The runway heading on the opposite end of the runway is 180 degrees from that runway end. For example, the opposite runway heading for Runway 18 would be Runway 36 (magnetic heading of 360). Aircraft can takeoff or land from either end of a runway, depending upon wind direction.

RUNWAY ALIGNMENT INDICATOR LIGHT: A series of high intensity sequentially flashing lights installed on the extended centerline of the runway usually in conjunction with an approach lighting system.

RUNWAY END IDENTIFICATION LIGHTING (REIL): Two synchronized flashing lights, one on each side of the runway threshold, which provide rapid and positive identification of the approach end of a particular runway.

RUNWAY GRADIENT: The average slope, measured in percent, between the two ends of a runway.

RUNWAY PROTECTION ZONE (RPZ): An area off the runway end to enhance the protection of people and property on the ground. The RPZ is trapezoidal in shape. Its dimensions are determined by the aircraft approach speed and runway approach type and minima.

RUNWAY SAFETY AREA (RSA): A defined surface surrounding the runway prepared or suitable for reducing the risk of damage to airplanes in the event of an undershoot, overshoot, or excursion from the runway.

RUNWAY VISIBILITY ZONE (RVZ): An area on the airport to be kept clear of permanent objects so that there is an unobstructed line of- site from any point five feet above the runway centerline to

any point five feet above an intersecting runway centerline.

RUNWAY VISUAL RANGE (RVR): An instrumentally derived value, in feet, representing the horizontal distance a pilot can see down the runway from the runway end.

S

SCOPE: The document that identifies and defines the tasks, emphasis, and level of effort associated with a project or study.

SEGMENTED CIRCLE: A system of visual indicators designed to provide traffic pattern information at airports without operating control towers.

SHOULDER: An area adjacent to the edge of paved runways, taxiways, or aprons providing a transition between the pavement and the adjacent surface; support for aircraft running off the pavement; enhanced drainage; and blast protection. The shoulder does not necessarily need to be paved.

SLANT-RANGE DISTANCE: The straight line distance between an aircraft and a point on the ground.

SMALL AIRPLANE: An airplane that has a maximum certified takeoff weight of up to 12,500 pounds.

SPECIAL-USE AIRSPACE: Airspace of defined dimensions identified by a surface area wherein activities must be confined because of their nature and/or wherein limitations may be imposed upon aircraft operations that are not a part of those activities. Special-use airspace classifications include:

- **ALERT AREA**: Airspace which may contain a high volume of pilot training activities or an unusual type of aerial activity, neither of which is hazardous to aircraft.

- **CONTROLLED FIRING AREA**: Airspace wherein activities are conducted under conditions so controlled as to eliminate hazards to nonparticipating aircraft and to ensure the safety of persons or property on the ground.

- **MILITARY OPERATIONS AREA (MOA)**: Designated airspace with defined vertical and lateral dimensions established outside Class A airspace to separate/segregate certain military activities from instrument flight rule (IFR) traffic and to identify for visual flight rule (VFR) traffic where these activities are conducted.

- **PROHIBITED AREA**: Designated airspace within which the flight of aircraft is prohibited.

- **RESTRICTED AREA**: Airspace designated under Federal Aviation Regulation (FAR) 73, within which the flight of aircraft, while not wholly prohibited, is subject to restriction. Most restricted areas are designated joint use. When not in use by the using agency, IFR/VFR operations can be authorized by the controlling air traffic control facility.

- **WARNING AREA**: Airspace which may contain hazards to nonparticipating aircraft.

STANDARD INSTRUMENT DEPARTURE (SID): A preplanned coded air traffic control IFR departure routing, preprinted for pilot use in graphic and textual form only.

STANDARD INSTRUMENT DEPARTURE PROCEDURES: A published standard flight procedure to be utilized following takeoff to provide a transition between the airport and the terminal area or en route airspace.

STANDARD TERMINAL ARRIVAL ROUTE (STAR): A preplanned coded air traffic control IFR arrival routing, preprinted for pilot use in graphic and textual or textual form only.

STOP-AND-GO: A procedure wherein an aircraft will land, make a complete stop on the runway, and then commence a takeoff from that point. A stop-and-go is recorded as two operations: one operation for the landing and one operation for the takeoff.

STOPWAY: An area beyond the end of a takeoff runway that is designed to support an aircraft during an aborted takeoff without causing structural damage to the aircraft. It is not to be used for takeoff, landing, or taxiing by aircraft.

STRAIGHT-IN LANDING/APPROACH: A landing made on a runway aligned within 30 degrees

of the final approach course following completion of an instrument approach.

T

TACTICAL AIR NAVIGATION (TACAN): An ultrahigh frequency electronic air navigation system which provides suitably-equipped aircraft a continuous indication of bearing and distance to the TACAN station.

TAKEOFF RUNWAY AVAILABLE (TORA): See declared distances.

TAKEOFF DISTANCE AVAILABLE (TODA): See declared distances.

TAXILANE: The portion of the aircraft parking area used for access between taxiways and aircraft parking positions.

TAXIWAY: A defined path established for the taxiing of aircraft from one part of an airport to another.

TAXIWAY SAFETY AREA (TSA): A defined surface alongside the taxiway prepared or suitable for reducing the risk of damage to an airplane unintentionally departing the taxiway.

TERMINAL INSTRUMENT PROCEDURES: Published flight procedures for conducting instrument approaches to runways under instrument meteorological conditions.

TERMINAL RADAR APPROACH CONTROL: An element of the air traffic control system responsible for monitoring the en-route and terminal segment of air traffic in the airspace surrounding airports with moderate to high levels of air traffic.

TETRAHEDRON: A device used as a landing direction indicator. The small end of the tetrahedron points in the direction of landing.

THRESHOLD: The beginning of that portion of the runway available for landing. In some instances the landing threshold may be displaced.

TOUCH-AND-GO: An operation by an aircraft that lands and departs on a runway without stopping or exiting the runway. A touch-and go is recorded as two operations: one operation for the landing and one operation for the takeoff.

TOUCHDOWN: The point at which a landing aircraft makes contact with the runway surface.

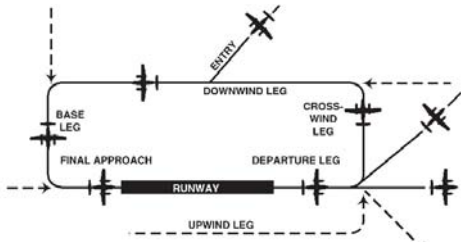
TOUCHDOWN AND LIFT-OFF AREA (TLOF): A load bearing, generally paved area, normally centered in the FATO, on which the helicopter lands or takes off.

TOUCHDOWN ZONE (TDZ): The first 3,000 feet of the runway beginning at the threshold.

TOUCHDOWN ZONE ELEVATION (TDZE): The highest elevation in the touchdown zone.

TOUCHDOWN ZONE (TDZ) LIGHTING: Two rows of transverse light bars located symmetrically about the runway centerline normally at 100- foot intervals. The basic system extends 3,000 feet along the runway.

TRAFFIC PATTERN: The traffic flow that is prescribed for aircraft landing at or taking off from an airport. The components of a typical traffic pattern are the upwind leg, crosswind leg, downwind leg, base leg, and final approach.



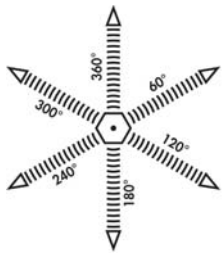
U

UNCONTROLLED AIRPORT: An airport without an air traffic control tower at which the control of Visual Flight Rules traffic is not exercised.

UNCONTROLLED AIRSPACE: Airspace within which aircraft are not subject to air traffic control.

UNIVERSAL COMMUNICATION (UNICOM): A nongovernment communication facility which may provide airport information at certain airports. Locations and frequencies of UNICOM's are shown on aeronautical charts and publications.

UPWIND LEG: A flight path parallel to the landing runway in the direction of landing. See "traffic pattern."



V

VECTOR: A heading issued to an aircraft to provide navigational guidance by radar.

VERY HIGH FREQUENCY/ OMNIDIRECTIONAL RANGE (VOR): A ground-based electronic navigation aid transmitting very high frequency navigation signals, 360 degrees in azimuth, oriented from magnetic north. Used as the basis for navigation in the national airspace system. The VOR periodically identifies itself by Morse Code and may have an additional voice identification feature.

VERY HIGH FREQUENCY OMNI-DIRECTIONAL RANGE/ TACTICAL AIR NAVIGATION (VORTAC): A navigation aid providing VOR azimuth, TACAN azimuth, and TACAN distance-measuring equipment (DME) at one site.

VICTOR AIRWAY: A control area or portion thereof established in the form of a corridor, the centerline of which is defined by radio navigational aids.

VISUAL APPROACH: An approach wherein an aircraft on an IFR flight plan, operating in VFR conditions under the control of an air traffic control facility and having an air traffic control authorization, may proceed to the airport of destination in VFR conditions.

VISUAL APPROACH SLOPE INDICATOR (VASI): An airport lighting facility providing vertical visual approach slope guidance to aircraft during approach to landing by radiating a directional pattern of high intensity red and white focused light beams which indicate to the pilot that he is on path if he sees red/white, above path if white/white, and below path if red/red. Some airports serving large aircraft have three-bar VASI's which provide two visual guide paths to the same runway.

VISUAL FLIGHT RULES (VFR): Rules that govern the procedures for conducting flight under visual conditions. The term VFR is also used in the United States to indicate weather conditions that are equal to or greater than minimum VFR requirements. In addition, it is used by pilots and controllers to indicate type of flight plan.

VISUAL METEOROLOGICAL CONDITIONS: Meteorological conditions expressed in terms of specific visibility and ceiling conditions which are equal to or greater than the threshold values for instrument meteorological conditions.

VOR: See "Very High Frequency Omnidirectional Range Station."

VORTAC: See "Very High Frequency Omnidirectional Range Station/Tactical Air Navigation."

W

WARNING AREA: See special-use airspace.

WIDE AREA AUGMENTATION SYSTEM: An enhancement of the Global Positioning System that includes integrity broadcasts, differential corrections, and additional ranging signals for the purpose of providing the accuracy, integrity, availability, and continuity required to support all phases of flight.

Abbreviations

AC: advisory circular

ADF: automatic direction finder

ADG: airplane design group

AFSS: automated flight service station

AGL: above ground level

AIA: annual instrument approach

AIP: Airport Improvement Program

AIR-21: Wendell H. Ford Aviation Investment and Reform Act for the 21st Century

ALS: approach lighting system

ALSF-1: standard 2,400-foot high intensity approach lighting system with sequenced flashers (CAT I configuration)

ALSF-2: standard 2,400-foot high intensity approach lighting system with sequenced flashers (CAT II configuration)

AOA: Aircraft Operation Area

APV: instrument approach procedure with vertical guidance

ARC: airport reference code

ARFF: aircraft rescue and fire fighting

ARP: airport reference point

ARTCC: air route traffic control center

ASDA: accelerate-stop distance available

ASR: airport surveillance radar

ASOS: automated surface observation station

ATCT: airport traffic control tower

ATIS: automated terminal information service

AVGAS: aviation gasoline - typically 100 low lead (100L)

AWOS: automatic weather observation station

BRL: building restriction line

CFR: Code of Federal Regulation

CIP: capital improvement program

DME: distance measuring equipment

DNL: day-night noise level

DWL: runway weight bearing capacity of aircraft with dual-wheel type landing gear

DTWL: runway weight bearing capacity of aircraft with dual-tandem type landing gear

FAA: Federal Aviation Administration

FAR: Federal Aviation Regulation

FBO: fixed base operator

FY: fiscal year

GPS: global positioning system

GS: glide slope

HIRL: high intensity runway edge lighting

IFR: instrument flight rules (FAR Part 91)

ILS: instrument landing system

IM: inner marker

LDA: localizer type directional aid

LDA: landing distance available

LIRL: low intensity runway edge lighting

LMM: compass locator at ILS outer marker

LORAN: long range navigation

MALS: midium intensity approach lighting system with indicator lights

MIRL: medium intensity runway edge lighting

MITL: medium intensity taxiway edge lighting

MLS: microwave landing system

MM: middle marker

MOA: military operations area

MSL: mean sea level

NAVAID: navigational aid

NDB: nondirectional radio beacon

NM: nautical mile (6,076.1 feet)

NPES: National Pollutant Discharge Elimination System

NPIAS: National Plan of Integrated Airport Systems

NPRM: notice of proposed rule making

ODALS: omnidirectional approach lighting system

OFA: object free area

OFZ: obstacle free zone

OM: outer marker

PAC: planning advisory committee

PAPI: precision approach path indicator

PFC: porous friction course

PFC: passenger facility charge

PCL: pilot-controlled lighting

PIW public information workshop

PLASI: pulsating visual approach slope indicator

POFA: precision object free area

PVASI: pulsating/steady visual approach slope indicator

PVC: poor visibility and ceiling

RCO: remote communications outlet

REIL: runway end identification lighting

RNAV: area navigation

RPZ: runway protection zone

RSA: runway safety area

RTR: remote transmitter/receiver

RVR: runway visibility range

RVZ: runway visibility zone

SALS: short approach lighting system

SASP: state aviation system plan

SEL: sound exposure level

SID: standard instrument departure

SM: statute mile (5,280 feet)

SRE: snow removal equipment

SSALF: simplified short approach lighting system with runway alignment indicator lights

STAR: standard terminal arrival route

SWL: runway weight bearing capacity for aircraft with single-wheel tandem type landing gear

TACAN: tactical air navigational aid

TAF: Federal Aviation Administration (FAA) Terminal Area Forecast

TLOF: Touchdown and lift-off

TDZ: touchdown zone

TDZE: touchdown zone elevation

TODA: takeoff distance available

TORA: takeoff runway available

TRACON: terminal radar approach control

VASI: visual approach slope indicator

VFR: visual flight rules (FAR Part 91)

VHF: very high frequency

VOR: very high frequency omni-directional range

VORTAC: VOR and TACAN collocated

APPENDIX B

Airport Layout Plan Drawings

Appendix B
AIRPORT LAYOUT PLAN DRAWINGS *Show Low Regional Airport*

The following drawings have been submitted to the FAA for review and are subject to revision prior to FAA approval.

SHOW LOW REGIONAL AIRPORT

AIRPORT LAYOUT PLAN SET

INDEX OF DRAWINGS

1. DATA SHEET
2. AIRPORT LAYOUT PLAN

3A. SW TERMINAL AREA DRAWING

3B. NE TERMINAL AREA DRAWING

4. AIRPORT AIRSPACE DRAWING FAR PART-77 CONICAL SURFACE
5. AIRPORT AIRSPACE DRAWING F.A.R. PART 77 RUNWAY 24 APPROACH FAN
6. AIRPORT AIRSPACE DRAWING F.A.R. PART 77 RUNWAY 6 APPROACH FAN
7. RUNWAY 6 APPROACH SURFACE PROFILE DRAWING
8. RUNWAY 6 OUTER APPROACH SURFACE PROFILE DRAWING
9. RUNWAY 24 APPROACH SURFACE PROFILE DRAWING
10. RUNWAY 24 OUTER APPROACH SURFACE PROFILE DRAWING
11. RUNWAY 18-36 & RUNWAY 3-21 OUTER APPROACH SURFACE PROFILE DRAWING
12. INNER PORTION OF THE RUNWAY 6 APPROACH SURFACE DRAWING
13. INNER PORTION OF THE RUNWAY 24 APPROACH SURFACE DRAWING
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15. INNER PORTION OF THE RUNWAY 36 APPROACH SURFACE DRAWING

16 INNER PORTION OF THE RUNWAY 3-21 APPROACH SURFACE DRAWING

17. RUNWAY 6 DEPARTURE SURFACE DRAWING
18. RUNWAY 24 DEPARTURE SURFACE DRAWING
19. ON-AIRPORT LAND USE DRAWING
20. AIRPORT PROPERTY MAP
21. INNER APPROACH OFZ DRAWING

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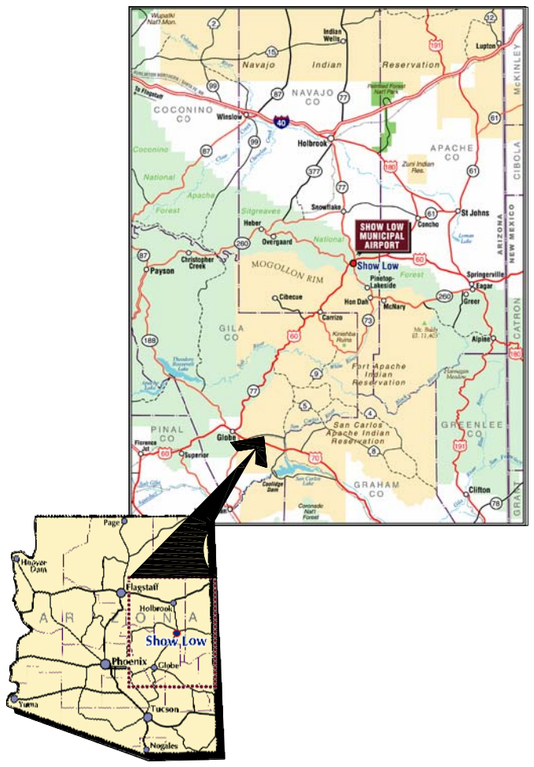
PREPARED FOR
CITY OF SHOW LOW, ARIZONA

Coffman Associates \\tsclient\I\D drive 12 28 2010\Cad\CAD\Show Low\2012\00 SOW cover 06 01 2012.dwg Printed Date: 1-03-13 02:32:57 PM Margaret Beaver

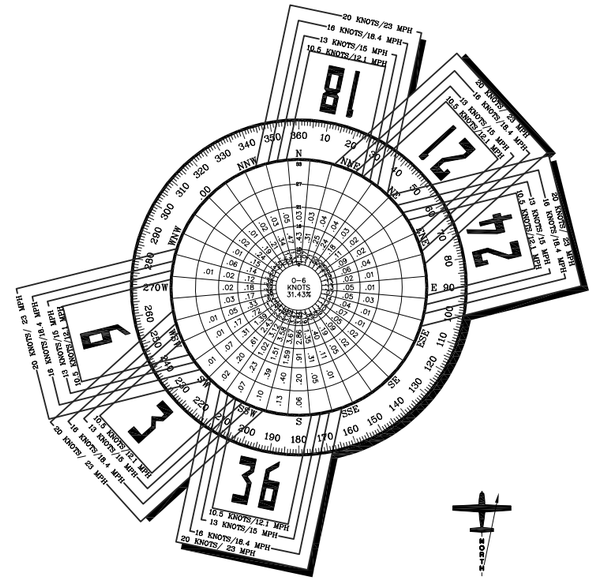


VICINITY MAP

RUNWAY DATA	RUNWAY 6-24		RUNWAY 3-21 (To Be Closed)		RUNWAY 18 - 36	
	EXISTING	ULTIMATE	EXISTING	ULTIMATE	EXISTING	ULTIMATE
RUNWAY CATEGORY/AIRCRAFT DESIGN GROUP	C-III	C-III	B-I[2]	See Note 3.	--	B-II
CRITICAL DESIGN AIRCRAFT	GLOBAL EXPRESS	SAME	BEECHCRAFT KINGAIR B100	--	--	DASSAULT FALCON 50
WINGSPAN OF DESIGN AIRCRAFT	94'	SAME	45.8'	--	--	53.5'
APPROACH SPEED OF DESIGN AIRCRAFT	122 Knots	SAME	111 Knots	--	--	114 Knots
MAXIMUM TAKE OFF WEIGHT (in lbs.)	95,250	SAME	11,800	--	--	30,650
RUNWAY AZIMUTH	75.97° / 255.98°	SAME	47.79° / 227.80°	--	--	12° / 192°
RUNWAY BEARING (TRUE)	N75°58'17.64"E	SAME	N47°47'08.000"E	--	--	N12°00'00.000"E
RUNWAY DIMENSIONS	7,200' x 100'	8,600' x 100'	3,937' x 60'	--	--	5,500' x 75'
ELEVATION OF RWY. TOUCH DOWN ZONE (MSL)	6404.1' / 6405.0'	6404.1' / 6405.0'	6415.4' / 6414.7	--	--	6430.0' / 6402.7'
ELEVATION OF RUNWAY HIGH POINT (above MSL)	6404.1'	6405.0'	6415.5'	--	--	6430.0'
ELEVATION OF RUNWAY LOW POINT (above MSL)	6399.3'	6383.3'	6400.7'	--	--	6363.0'
WIND COVERAGE IN MPH	12.1-77.78%/15-86.31%	SAME	12.1-90.35%/15-95.57%	--	--	12.1-96.43%/15-98.37%
APPROACH VISIBILITY MINIMUMS	VISUAL / 1 MILE	1/2 MILE / 1/2 MILE	VISUAL / VISUAL	--	--	1 MILE / 1 MILE
FAR PART 77 CATEGORY	VISUAL / NONPREC	PRECISION/PRECISION	VISUAL / VISUAL	--	--	NONPREC / NONPREC
RUNWAY INSTRUMENTATION	VISUAL / NONPREC	PRECISION/PRECISION	VISUAL / VISUAL	--	--	NONPREC / NONPREC
RUNWAY APPROACH SURFACES	20:1 / 34:1	50:1 / 50:1	20:1/20:1	--	--	34:1 / 34:1
RUNWAY THRESHOLD DISPLACEMENT	700' / 750'	NONE / NONE	NONE/NONE	--	--	NONE/NONE
RUNWAY STOPWAY	NONE	SAME	NONE	--	--	NONE
RUNWAY SAFETY AREA (RSA)	7,625' x 500'	10,600' x 500'	4,417' x 120'	--	--	6,100' x 150'
RSA DISTANCE BEYOND EACH RUNWAY END	420' / 5'	1,000' / 1,000'	240'/240'	--	--	300' / 300'
RUNWAY OBJECT FREE AREA (OFA)	7,625' x 800'	10,600' x 800'	4,417' x 250'	--	--	6,100' x 500'
OFA DISTANCE BEYOND EACH RUNWAY END	420' / 5'	1,000' / 1,000'	240'	--	--	300' / 300'
RUNWAY OBSTACLE FREE ZONE (OFZ)	7,600' x 400'	9,000' x 400'	4,337' x 250'	--	--	5,900' x 400'
OFZ DISTANCE BEYOND EACH RUNWAY END	200'	200'	200'	--	--	200'
TAKEOFF RUN AVAILABLE (TORA)	--	8,600'/8,600'	--	--	==	--
TAKEOFF DISTANCE AVAILABLE (TODA)	--	8,600'/8,600'	--	--	==	--
ACCELERATE STOP DISTANCE AVAILABLE (ASDA)	--	8,600'/8,600'	--	--	==	--
LANDING DISTANCE AVAILABLE (LDA)	--	8,350'/8,600'	--	--	==	--
LINE OF SITE REQUIREMENT	YES	YES	YES	--	--	YES
RUNWAY PAVEMENT MATERIAL	ASPHALT	SAME	ASPHALT	--	--	ASPHALT
RUNWAY PAVEMENT SURFACE TREATMENT	GROOVED	GROOVED	NONE	--	--	GROOVED
PAVEMENT STRENGTH (in thousand lbs.)[1]	35(S)60(D)	60(S)115(DW)	12.5(S)	--	--	30(S)60(D)
RUNWAY EFFECTIVE GRADIENT (in %)[1]	0.008%	0.18%	0.31%	--	--	1.2%
MAXIMUM GRADIENT (in %)	2%	SAME	2%	--	--	2%
RUNWAY LIGHTING	MIRL	SAME	DELINEATORS	--	--	MIRL
RUNWAY MARKINGS	NONPREC / NONPREC	PRECISION	VISUAL/VISUAL	--	--	NONPREC / NONPREC
RUNWAY APPROACH LIGHTING	NONE	MALSR / MALSR	NONE	--	--	NONE
RUNWAY HOLD LINE POSITION FROM CENTERLINE	250'	250'	60'	--	--	150'
TAXIWAY SAFETY AREA WIDTH	118'	118'	118'	--	--	118'
TAXIWAY OBJECT FREE AREA WIDTH	186'	186'	186'	--	--	186'
TAXIWAY DISTANCE TO FIXED/MOVABLE OBJECT	93'	93'	93'	--	--	93'
TAXIWAY PAVEMENT MATERIAL	ASPHALT	SAME	ASPHALT	--	--	ASPHALT
TAXIWAY LIGHTING	MITL	SAME	DELINEATORS	--	--	MITL
TAXIWAY MARKING	CENTERLINE, HOLDLINES	SAME	CENTERLINE, HOLDLINES	--	--	CENTERLINES,HOLDLINES
THRESHOLD CROSSING HEIGHT	30' / 40'	310' / 40'	N/A	--	--	50' / 50'
VISUAL AIDS	REIL / REIL PAPI-2 / PAPI-2	PAPI-4 / PAPI-4 DISTANCE-TO-GO	NONE/NONE	--	--	REIL / REIL PAPI-4 / PAPI-4 DISTANCE-TO-GO

[1] Pavement strengths are expressed in Single(S), Dual(D), Dual Tandem(DT), and/or Double Dual Tandem(DDT) wheel loading capacities.
[2] Small Aircraft Only

NOTE: The standard OFA for Runway 6-24 extends 1,000' beyond each end and 400' to each side of centerline.



SOURCE:
NOAA National Climatic Center
Asheville, North Carolina
Show Low Municipal Airport
Show Low, Arizona

OBSERVATIONS:
22,001 All Weather Observations
1992-2001

AIRPORT DATA			
SHOW LOW REGIONAL AIRPORT (SOW)			
CITY: SHOW LOW, ARIZONA		COUNTY: NAVAJO	
RANGE: 22 East TOWNSHIP: 10 North		CIVIL TOWNSHIP: Not Applicable	
		EXISTING	ULTIMATE
NPIAS SERVICE LEVEL		NON-PRIMARY	PRIMARY
AIRPORT REFERENCE CODE		C-III	D-III
DESIGN AIRCRAFT		GLOBAL EXPRESS	SAME
AIRPORT ELEVATION (NAVD 88)		6415.4'	6430.0 MSL
MEAN MAXIMUM TEMPERATURE OF HOTTEST MONTH		85.9 ° F (AUG.)	SAME
AIRPORT REFERENCE POINT (ARP) COORDINATES (NAD 83)	Latitude	34°15'55.70" N	34°16'01.16" N
	Longitude	110°00'20.40" W	110°00'30.15" W
AIRPORT and TERMINAL NAVIGATIONAL AIDS		NDB BEACON	ILS BEACON
GPS AT AIRPORT		YES	YES
INSTRUMENT APPROACH TYPES		NDB/GPS	GPS/ILS

ALL WEATHER WIND COVERAGE				
Runways	10.5 Knots 12.1 MPH	13 Knots 15.0 MPH	16 Knots 18.4 MPH	20 Knots 23.0 MPH
Runway 3-21	90.35%	95.57%	98.60%	99.66%
Runway 6-24	77.78%	86.31%	94.30%	98.35%
Runway 18-36	96.43%	98.37%	99.51%	99.86%
Runways 3-21/6-24	91.08%	96.15%	98.80%	99.71%
Runways 6-24/18-36	98.84%	99.68%	99.90%	99.96%

RUNWAY END COORDINATES NAD (83)			
		EXISTING	ULTIMATE
RUNWAY 6	Latitude	34°15'49.5959"N	34°15'51.150"N
	Longitude	110°01'07.9150"W	110°01'00.401"W
RUNWAY 6 DISPLACED	Latitude	34°15'51.2688"N	34°15'51.150"N
	Longitude	110°00'59.8266"W	110°01'00.401"W
RUNWAY 24	Latitude	34°16'06.8440"N	34°16'11.758"N
	Longitude	109°59'44.7080"W	109°59'20.986"W
RUNWAY 3	Latitude	34°15'38.0023"N	CLOSED
	Longitude	110°00'26.9140"W	CLOSED
RUNWAY 21	Latitude	34°16'04.1644"N	CLOSED
	Longitude	109°59'52.1820"W	CLOSED
RUNWAY 18	Latitude	--	34°16'30.19" N
	Longitude	--	110°00'27.73" W
RUNWAY 36	Latitude	--	34°15'36.97" N
	Longitude	--	110°00'41.34" W

No.	REVISIONS	DATE	BY	APP'D.
4	ALP UPDATE AND NARRATIVE REPORT	6/1/12	JMH	6/1/12
3	MASTER PLAN UPDATE	7/15/2005	JMH	8/25/2005
2	RECERTIFICATION, ADDED NEW TERMINAL, AUTOMOBILE PARKING ENTRANCE ROADS	7/28/2000	MJR	BH
1	MASTER PLAN UPDATE	8/2/1991	--	--

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SHOW LOW REGIONAL AIRPORT

DATA SHEET

SHOW LOW, ARIZONA

PLANNED BY: Steve Wagner
DETAILED BY: Maggie Beaver
APPROVED BY: James M. Harris P.E.
June 1, 2012

Coffman Associates
Airport Consultants
www.coffmanassociates.com

EXISTING BUILDINGS/FACILITIES

NO.	DESCRIPTION	ELEVATIONS
(1)	TERMINAL BUILDING	6440.7'
(2)	ARFF/SRE BUILDING	6449.5'
(3)	ELECTRICAL VAULT	6424.1'
(4)	U.S. FORREST SERVICE DISPATCH CENTER	6427.7'
(5)	CONVENTIONAL HANGAR	6440.1'
(6)	CONVENTIONAL HANGAR	6445.8'
(7)	MEDICAL EXPRESS	6438.6'
(8)	MEDICAL EXPRESS	6445.9'
(9)	SHINDLIN SERVICES COMPANY	6425.2'
(10)	EXECUTIVE HANGAR	6445.7'
(11)	CONVENTIONAL HANGAR	6444.7'
(12)	CONVENTIONAL HANGAR	6445.8'
(13)	CONVENTIONAL HANGAR	6437.5'
(14)	EXECUTIVE HANGAR	6444.7'
(15)	EXECUTIVE HANGAR	6442.3'
(16)	EXECUTIVE HANGAR	6441.0'
(17)	EXECUTIVE HANGAR	6437.4'
(18)	CONVENTIONAL HANGAR	6442.9'
(19)	EXECUTIVE HANGAR	6443.1'
(20)	BOX HANGAR	6437.0'
(21)	BOX HANGAR	6430.0'
(22)	BOX HANGAR	6437.4'
(23)	BOX HANGAR	6440.0'
(24)	BOX HANGAR	6439.7'
(25)	BOX HANGAR	NA
(26)	BOX HANGAR	6427.3'
(27)	BOX HANGAR	6426.8'
(28)	BOX HANGAR	6427.1'
(29)	BOX HANGAR	6427.3'
(30)	PORT-A-PORT HANGARS	6425.5'
(31)	BOX HANGAR	6440.2'
(32)	PORT-A-PORT	6424.5'
(33)	BOX HANGAR	6435.0'
(34)	BOX HANGAR	6426.0'
(35)	BOX HANGAR	6427.1'
(36)	BOX HANGAR	6435.1'
(37)	T-HANGARS	6435.3'
(38)	ARIZONA NATIONAL GUARD	6448.9'
(39)	ARIZONA NATIONAL GUARD	6443.3'
(40)	BOX HANGAR	6440.0'
(41)	ARFF TRAINING DEVICE	6420.0'
(42)	FUEL FARM (SEE NOTE 8)	NE

LEGEND

EXISTING	ULTIMATE	DESCRIPTION
		AIRPORT PROPERTY LINE
		AIRPORT REFERENCE POINT (ARP)
		AIRPORT ROTATING BEACON
		AVIGATION EASEMENT (if applicable)
		BUILDING CONSTRUCTION
BRL	BRL	BUILDING RESTRICTION LINE (BRL)
OFA	OFA(U)	OBJECT FREE AREA (OFA)
RSA	RSA	RUNWAY SAFETY AREA (RSA)
OFZ	OFZ(U)	OBSTACLE FREE ZONE (OFZ)
		DRAINAGE
		FACILITY CONSTRUCTION
		FENCING
PAPI-2	PAPI-2	NAVIGATIONAL AID INSTALLATION
		RUNWAY END IDENTIFICATION LIGHTS (REIL)
		RUNWAY THRESHOLD LIGHTS
		SECTION CORNER
		SEGMENTED CIRCLE/LIGHTED WIND TEE
		TOPOGRAPHIC CONTOURS
		WIND INDICATOR (Lighted)
		POWER POLE
		TAXIWAY DESIGNATION
		DIRT ROADS
		RUNWAY EDGE LIGHTING
		PAVEMENT TO BE ABANDONED
		SPECIAL USE PERMIT BOUNDARY
		PRIMARY AIRPORT CONTROL STATION (PACS)
		SECONDARY AIRPORT CONTROL STATION (SACS)

ULTIMATE BUILDINGS/FACILITIES

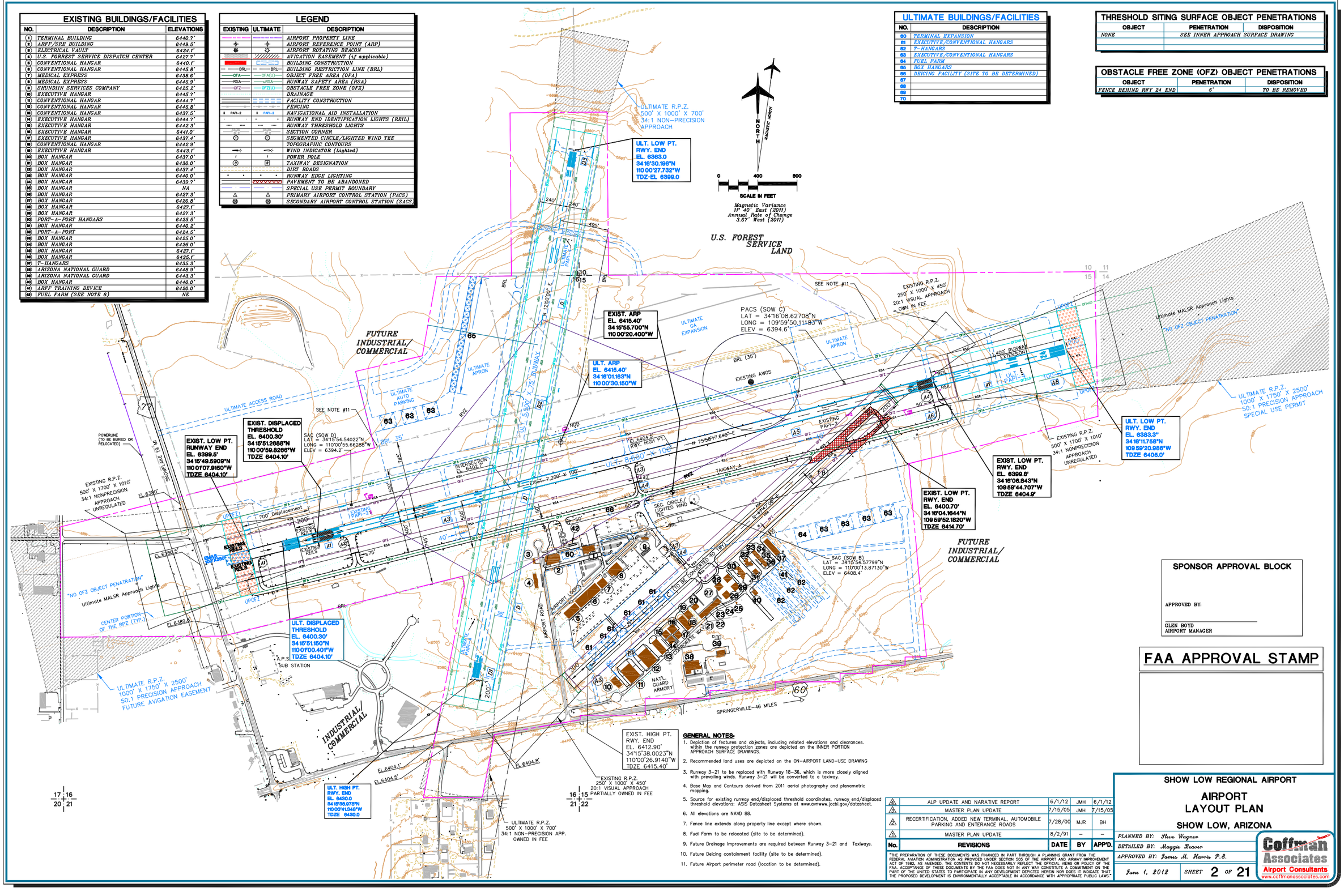
NO.	DESCRIPTION
60	TERMINAL EXPANSION
61	EXECUTIVE/CONVENTIONAL HANGARS
62	T-HANGARS
63	EXECUTIVE/CONVENTIONAL HANGARS
64	FUEL FARM
65	BOX HANGARS
66	DEICING FACILITY (SITE TO BE DETERMINED)
67	
68	
69	
70	

THRESHOLD SITING SURFACE OBJECT PENETRATIONS

OBJECT	PENETRATION	DISPOSITION
NONE	SEE INNER APPROACH SURFACE DRAWING	

OBSTACLE FREE ZONE (OFZ) OBJECT PENETRATIONS

OBJECT	PENETRATION	DISPOSITION
FENCE BEHIND RWY 24 END	5'	TO BE REMOVED



0 400 800
SCALE IN FEET

Magnetic Variance 11° 40' East (2011)
Annual Rate of Change 3.67' West (2011)

GENERAL NOTES:

1. Depiction of features and objects, including related elevations and clearances, within the runway protection zones are depicted on the INNER PORTION APPROACH SURFACE DRAWINGS.
2. Recommended land uses are depicted on the ON-AIRPORT LAND-USE DRAWING
3. Runway 3-21 to be replaced with Runway 18-36, which is more closely aligned with prevailing winds. Runway 3-21 will be converted to a taxiway.
4. Base Map and Contours derived from 2011 aerial photography and planametric mapping.
5. Source for existing runway end/displaced threshold coordinates, runway end/displaced threshold elevations: ASIS Datasheet Systems at www.avnwww.jcbi.gov/datasheet.
6. All elevations are NAVD 88.
7. Fence line extends along property line except where shown.
8. Fuel Farm to be relocated (site to be determined).
9. Future Drainage Improvements are required between Runway 3-21 and Taxiways.
10. Future Deicing containment facility (site to be determined).
11. Future Airport perimeter road (location to be determined).

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3	MASTER PLAN UPDATE	7/15/05	JMH	7/15/05
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10	EXECUTIVE HANGAR	6445.7'
11	CONVENTIONAL HANGAR	6444.7'
12	CONVENTIONAL HANGAR	6445.8'
13	CONVENTIONAL HANGAR	6437.5'
14	EXECUTIVE HANGAR	6444.7'
15	EXECUTIVE HANGAR	6442.3'
16	EXECUTIVE HANGAR	6441.0'
17	EXECUTIVE HANGAR	6437.4'
18	CONVENTIONAL HANGAR	6442.9'
19	EXECUTIVE HANGAR	6443.1'
20	BOX HANGAR	6437.0'
21	BOX HANGAR	6430.0'
22	BOX HANGAR	6437.4'
23	BOX HANGAR	6440.0'
24	BOX HANGAR	6439.7'
25	BOX HANGAR	NA
26	BOX HANGAR	6427.3'
27	BOX HANGAR	6426.8'
28	BOX HANGAR	6427.1'
29	BOX HANGAR	6427.3'
30	PORT-A-PORT HANGARS	6425.5'
31	BOX HANGAR	6440.2'
32	PORT-A-PORT	6424.5'
33	BOX HANGAR	6435.0'
34	BOX HANGAR	6426.0'
35	BOX HANGAR	6427.1'
36	BOX HANGAR	6435.1'
37	T-HANGARS	6435.3'
38	ARIZONA NATIONAL GUARD	6448.9'
39	ARIZONA NATIONAL GUARD	6443.3'
40	BOX HANGAR	6440.0'
41	ARFF TRAINING DEVICE	6420.0'
42	FUEL FARM (SEE NOTE 8)	NE

LEGEND

EXISTING	ULTIMATE	DESCRIPTION
		AIRPORT PROPERTY LINE
		AIRPORT REFERENCE POINT (ARP)
		AIRPORT ROTATING BEACON
		AVIGATION EASEMENT (if applicable)
		BUILDING CONSTRUCTION
BRL	BRL	BUILDING RESTRICTION LINE (BRL)
OFA	OFA(U)	OBJECT FREE AREA (OFA)
RSA	RSA	RUNWAY SAFETY AREA (RSA)
OFZ	OFZ(U)	OBSTACLE FREE ZONE (OFZ)
		DRAINAGE
		FACILITY CONSTRUCTION
		FENCING
PAPI-2	PAPI-2	NAVIGATIONAL AID INSTALLATION
		RUNWAY END IDENTIFICATION LIGHTS (REIL)
		RUNWAY THRESHOLD LIGHTS
		SECTION CORNER
		SEGMENTED CIRCLE/LIGHTED WIND TEE
		TOPOGRAPHIC CONTOURS
		WIND INDICATOR (Lighted)
		POWER POLE
3	3	TAXIWAY DESIGNATION
		DIRT ROADS
		RUNWAY EDGE LIGHTING
		PAVEMENT TO BE ABANDONED
		SPECIAL USE PERMIT BOUNDARY
		PRIMARY AIRPORT CONTROL STATION (PACS)
		SECONDARY AIRPORT CONTROL STATION (SACS)

ULTIMATE BUILDINGS/FACILITIES

NO.	DESCRIPTION
60	TERMINAL EXPANSION
61	EXECUTIVE/CONVENTIONAL HANGARS
62	T-HANGARS
63	EXECUTIVE/CONVENTIONAL HANGARS
64	FUEL FARM
65	BOX HANGARS
66	DEICING FACILITY (SITE TO BE DETERMINED)
67	
68	
69	
70	

BRL (35')
Existing AWOS
EXIST. ARP
EL. 6415.40'
34°15'55.700"N
110°00'20.400"W
EL 6404.5'
RWY. HIGH PT.
N 75°58'47.640" E
EXISTING PAPI-2
EXIST. LOW PT.
RWY. END
EL. 6399.8'
34°16'06.843"N
109°59'44.707"W
TDZE 6404.9'
EXIST. LOW PT.
RWY. END
EL. 6400.70'
34°16'04.1644"N
109°59'52.1820"W
TDZE 6414.70'
EXIST. 7,200' X 100'
ULT. 8,600' X 100'
RVZ
TAXIWAY A
ULTIMATE APRON
ULTIMATE HELIPADS
SEG. CIRCLE/ LIGHTED WIND TEE
N 87°47'08" E
AIRPORT LOOP
AIRPORT ROAD
CORPORATE WAY
NATL GUARD ARMORY
(TO BE CONVERTED TO TWY)
ULTIMATE PART 77
EXISTING R.P.Z. 250' X 1000' X 450' 20:1 VISUAL APPROACH PARTIALLY OWNED IN FEE
EXIST. HIGH PT. RWY. END EL. 6412.90' 34°15'38.0023"N 110°00'26.9140"W TDZE 6415.40'
EL 6404.1'
EL 6404.5'
EL 6404.8'
SPRINGERVILLE-46 MILES
FUTURE COMMERICAL/ INDUSTRIAL

NORTH
MAGNETIC NORTH
0 200 400
SCALE IN FEET

GENERAL NOTES:

1. Depiction of features and objects, including related elevations and clearances, within the runway protection zones are depicted on the INNER PORTION APPROACH SURFACE DRAWINGS.
2. Recommended land uses are depicted on the ON-AIRPORT LAND-USE DRAWING
3. Runway 3-21 to be replaced with Runway 18-36, which is more closely aligned with prevailing winds. Runway 3-21 will be converted to a taxiway.
4. Base Map and Contours derived from 2011 aerial photography and planametric mapping.
5. Source for existing runway end/displaced threshold coordinates, runway end/displaced threshold elevations: ASIS Datasheet Systems at www.ownwww.jccbi.gov/datasheet.
6. All elevations are NAVD 88.
7. Fence line extends along property line except where shown.
8. Fuel Farm to be relocated (site to be determined).
9. Future Drainage Improvements are required between Runway 3-21 and Taxiways.
10. Future Deicing containment facility (site to be determined).
11. Future Airport perimeter road (location to be determined).

No.	REVISIONS	DATE	BY	APP'D.
4	ALP UPDATE AND NARATIVE REPORT	6/1/12	JMH	6/1/12
3	MASTER PLAN UPDATE	7/15/2005	JMH	8/25/2005
2	RECERTIFICATION, ADDED NEW TERMINAL, AUTOMOBILE PARKING ENTRANCE ROADS	7/28/2000	MJR	BH
1	MASTER PLAN UPDATE	8/2/1991	–	–

"THE PREPARATION OF THESE DOCUMENTS WAS FINANCED IN PART THROUGH A PLANNING GRANT FROM THE FEDERAL AVIATION ADMINISTRATION AS PROVIDED UNDER SECTION 505 OF THE AIRPORT AND AIRWAY IMPROVEMENT ACT OF 1982, AS AMENDED. THE CONTENTS DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FAA. ACCEPTANCE OF THESE DOCUMENTS BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAWS."

SHOW LOW REGIONAL AIRPORT

SOUTH EAST TERMINAL AREA PLAN

SHOW LOW, ARIZONA

PLANNED BY: Steve Wagner
DETAILED BY: Maggie Beaver
APPROVED BY: James M. Harris P.E.

June 1, 2012 | SHEET 3A OF 21

Coffman Associates
Airport Consultants
www.coffmanassociates.com

EXISTING BUILDINGS/FACILITIES

NO.	DESCRIPTION	ELEVATIONS
(1)	TERMINAL BUILDING	6440.7'
(2)	ARFF/SRE BUILDING	6449.5'
(3)	ELECTRICAL VAULT	6424.1'
(4)	U.S. FORREST SERVICE DISPATCH CENTER	6427.7'
(5)	CONVENTIONAL HANGAR	6440.1'
(6)	CONVENTIONAL HANGAR	6445.8'
(7)	CONQUEST	6438.6'
(8)	CONVENTIONAL HANGAR	6445.9'
(9)	EMI COURIERS	6425.2'
(10)	EXECUTIVE HANGAR	6445.7'
(11)	CONVENTIONAL HANGAR	6444.7'
(12)	CONVENTIONAL HANGAR	6445.8'
(13)	CONVENTIONAL HANGAR	6437.5'
(14)	EXECUTIVE HANGAR	6444.7'
(15)	EXECUTIVE HANGAR	6442.3'
(16)	EXECUTIVE HANGAR	6441.0'
(17)	EXECUTIVE HANGAR	6437.4'
(18)	CONVENTIONAL HANGAR	6442.9'
(19)	EXECUTIVE HANGAR	6443.1'
(20)	BOX HANGAR	6437.0'
(21)	BOX HANGAR	6430.0'
(22)	BOX HANGAR	6437.4'
(23)	BOX HANGAR	6440.0'
(24)	BOX HANGAR	6439.7'
(25)	100LL FUEL STORAGE	NA
(26)	BOX HANGAR	6427.3'
(27)	BOX HANGAR	6426.8'
(28)	BOX HANGAR	6427.1'
(29)	BOX HANGAR	6427.3'
(30)	PORT-A-PORT HANGARS	6425.5'
(31)	BOX HANGAR	6440.2'
(32)	PORT-A-PORT	6424.5'
(33)	BOX HANGAR	6425.0'
(34)	BOX HANGAR	6426.0'
(35)	BOX HANGAR	6427.1'
(36)	BOX HANGAR	6435.1'
(37)	T-HANGARS	6435.3'
(38)	ARIZONA NATIONAL GUARD	6448.9'
(39)	ARIZONA NATIONAL GUARD	6443.3'
(40)	BOX HANGAR	6440.0'
(41)	FUEL ISLAND/STORAGE	--

LEGEND

EXISTING	ULTIMATE	DESCRIPTION
		AIRPORT PROPERTY LINE
		AIRPORT REFERENCE POINT (ARP)
		AIRPORT ROTATING BEACON
		AVIGATION EASEMENT (if applicable)
		BUILDING CONSTRUCTION
BRL	BRL	BUILDING RESTRICTION LINE (BRL)
OFA	OFA(U)	OBJECT FREE AREA (OFA)
RSA	URSA	RUNWAY SAFETY AREA (RSA)
OFZ	OFZ(U)	OBSTACLE FREE ZONE (OFZ)
		DRAINAGE
		FACILITY CONSTRUCTION
		FENCING
PAPI-2	PAPI-2	NAVIGATIONAL AID INSTALLATION
		RUNWAY END IDENTIFICATION LIGHTS (REIL)
		RUNWAY THRESHOLD LIGHTS
		SECTION CORNER
		SEGMENTED CIRCLE/LIGHTED WIND TEE
		TOPOGRAPHIC CONTOURS
		WIND INDICATOR (Lighted)
		POWER POLE
3	3	TAXIWAY DESIGNATION
		DIRT ROADS
		RUNWAY EDGE LIGHTING
		PAVEMENT TO BE ABANDONED
		SPECIAL USE PERMIT BOUNDARY
		PRIMARY AIRPORT CONTROL STATION (PACS)
		SECONDARY AIRPORT CONTROL STATION (SACS)

ULTIMATE BUILDINGS/FACILITIES

NO.	DESCRIPTION
60	TERMINAL EXPANSION
61	EXECUTIVE/CONVENTIONAL HANGARS
62	T-HANGARS
63	EXECUTIVE/CONVENTIONAL HANGARS
64	FUEL FARM
65	BOX HANGARS
66	
67	
68	
69	
70	

NORTH
MAGNETIC NORTH
0 200 400.
SCALE IN FEET

U.S. FOREST SERVICE LAND

FUTURE INDUSTRIAL/ COMMERCIAL

ULTIMATE GA EXPANSION

ULTIMATE APRON

ULTIMATE ACCESS ROAD

ULTIMATE AUTO PARKING

ULTIMATE PAPI-4

ULT. 5,500' X 75' RUNWAY

EXIST. 7,200' X 100'

ULT. 6,600' X 100'

TAXIWAY A

RWZ

BRL

BRL (35')

N 12°00'00" E

N 75°58'17.640" E

N 77°47'05" E

240'

240'

495'

745'

500'

400'

200'

700' Displacement

350' DISPLACEMENT

EXISTING REILS

EXISTING PAPI-2

EMAS 1000'x250'

UPDFZ

WIND SOCK

SEG. CIRCLE/ LIGHTED WIND TEE

NDB

EXIST. LOW PT. RUNWAY END
EL. 6399.5'
34°15'49.5959"N
110°01'07.9150"W
TDZE 6404.10'

EXIST. DISPLACED THRESHOLD
EL. 6400.30'
34°15'51.2688"N
110°00'59.8266"W
TDZE 6404.10'

ULT. ARP
EL. 6415.40'
34°16'01.163"N
110°00'30.150"W

EXIST. ARP
EL. 6415.40'
34°15'55.700"N
110°00'20.400"W

EL 6404.5'
RWY. HIGH PT.

INTERSECTION
EL. 6402.7'

EL 6186.5'

EXIST. AWOS

SHOW LOW - SNOWFLAKE

No.	REVISIONS	DATE	BY	APP'D.
3	MASTER PLAN UPDATE	7/15/2005	JMH	8/25/2005
2	RECERTIFICATION, ADDED NEW TERMINAL, AUTOMOBILE PARKING ENTRANCE ROADS	7/28/2000	MJR	BH
1	MASTER PLAN UPDATE	6/2/1991	--	--

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SHOW LOW REGIONAL AIRPORT

NORTH WEST TERMINAL AREA PLAN

SHOW LOW, ARIZONA

PLANNED BY: Steve Wagner
DETAILED BY: Maggie Beaver
APPROVED BY: James M. Harris P.E.
December 20, 2011

Coffman Associates
Airport Consultants
www.coffmanassociates.com

GENERAL NOTES:

1. Obstructions, clearances, and locations are calculated from ultimate runway end elevations and ultimate approach surfaces, unless otherwise noted.
2. Distance for road obstructions and clearances reflect a safety clearance of 10' for airport service roads, 15' for noninterstate roads, 17' for interstate roads, and 23' for railroads.
3. Depiction of features and objects within the inner portion of the approach surfaces, is illustrated on the INNER PORTION OF RUNWAY APPROACH SURFACE DRAWING, sheets 11, 12, 13 14 and 15 of these plans.
4. Existing height and hazard ordinances are to be amended and/or referenced upon approval of updated AIRPORT AIRSPACE PLAN.
5. Article 16-2, Airport Zoning of Show Low City Codes provides height and hazard zoning for Show Low Regional Airport.
6. Obstruction data source NGS form 292, Aeronautical Data Sheet
7. Base map developed using the follow USGS Quadrangle Maps: Show Low, Show Low North, Pindale, Lakeside, Silver Springs Sponseller Mtn., Ortega Mtn. and Red Top Mtn.

LIMITS OF RECOMMENDED F.A.R. PART 77 HEIGHT ZONING

LIMITS OF RECOMMENDED F.A.R. PART 77 HEIGHT ZONING

77 TRANSITIONAL SURFACE

40,000' @ 40:1

EL. 6780'
EL. 6730'
EL. 6680'
EL. 6630'
20:1 CONICAL SURFACE
HORIZONTAL SURFACE-EL. 6580.0

4000' @ 20:1

10,000' R (TYP.)

RWY. 18
EL. 6363.0'

RWY. 6
EL. 6400.5'

RWY. 24
EL. 6399.8'

RWY. 36
EL. 6430.0'

COMMUNICATIONS TOWER 6520.87'

SHOW LOW REGIONAL AIRPORT
AIRPORT EL. 6430.0'
HORIZONTAL SURFACE 6580.0'

HORIZONTAL SURFACE-EL. 6580.0
20:1 CONICAL SURFACE
EL. 6630'
EL. 6680'
EL. 6730'
EL. 6780'

Magnetic Variance
11° 40' East (OCTOBER 2008)
Annual Rate of Change
8.8' West (OCTOBER 2008)

0 2000 4000 6000
SCALE IN FEET

OBSTRUCTION LEGEND

- OBSTRUCTION
- GROUP or MULTIPLE OBSTRUCTIONS (See Note)
- GROUND/TOPOGRAPHIC PENETRATION

* Group or Multiple Obstructions are based on 100' tree height from Ground Elevation.

OBSTRUCTION TABLE

Object Description	Object Elevation	Obstructed Part 77 Surface	Surface Elevation	Object Penetration	Proposed Object Disposition
1. WINDSOCK	6411'	PRIMARY SURFACE/RWY 6-24	6401'	10.0'	NO ACTION
2. WINDSOCK	6405'	PRIMARY SURFACE/RWY 6-24	6400.5'	4.5'	NO ACTION
3. NDB POLES	6446'	PRIMARY SURFACE	6403'	43'	RELOCATE NDB
4. POLE	6633'	HORIZONTAL SURFACE	6580.0	53.0'	TO BE LIGHTED
5. TREE	6775'	HORIZONTAL SURFACE	6580.0	195.0'	TRIM/REMOVE
6. TREE	6804'	HORIZONTAL SURFACE	6580.0	224.0'	TRIM/REMOVE
7. POLE	6567'	HORIZONTAL SURFACE	6580.0	CLEAR	TO BE LIGHTED

No.	REVISIONS	DATE	BY	APP'D.
4	ALP UPDATE AND NARATIVE REPORT	6/1/12	JMH	6/1/12
3	MASTER PLAN UPDATE	7/15/2005	JMH	8/25/2005
2	RECERTIFICATION, ADDED NEW TERMINAL, AUTOMOBILE PARKING ENTRANCE ROADS	7/28/2000	MJR	BH
1	MASTER PLAN UPDATE	8/2/1991	–	–

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SHOW LOW REGIONAL AIRPORT
AIRPORT AIRSPACE DRAWING
FAR PART 77 CONICAL SURFACES
SHOW LOW, ARIZONA

PLANNED BY: Steve Wagner
DETAILED BY: Maggie Beaver
APPROVED BY: James M. Harris P.E.
June 1, 2012

Coffman Associates
Airport Consultants
www.coffmanassociates.com

OBSTRUCTION TABLE

Object Description	Object Elevation	Obstructed Part 77 Surface	Surface Elevation	Object Penetration	Proposed Object Disposition
4. POLE	6633'	HORIZONTAL SURFACE	6580.0'	53.0'	TO BE LIGHTED
5. TREE	6775'	HORIZONTAL SURFACE	6580.0'	195.0'	TRIM/REMOVE
6. TREE	6804'	HORIZONTAL SURFACE	6580.0'	224.0'	TRIM/REMOVE
7. POLE	6567'	HORIZONTAL SURFACE	6580.0'	CLEAR	TO BE LIGHTED

GENERAL NOTES:

1. Obstructions, clearances, and locations are calculated from ultimate runway end elevations and ultimate approach surfaces, unless otherwise noted.
2. Distance for road obstructions and clearances reflect a safety clearance of 10' for airport service roads, 15' for noninterstate roads, 17' for interstate roads, and 23' for railroads.
3. Depiction of features and objects within the inner portion of the approach surfaces, is illustrated on the INNER PORTION OF RUNWAY APPROACH SURFACE DRAWING, sheets 11, 12, 13 14 and 15 of these plans.
4. Existing height and hazard ordinances are to be amended and/or referenced upon approval of updated AIRPORT AIRSPACE PLAN.
5. Article 16-2, Airport Zoning of Show Low City Codes provides height and hazard zoning for Show Low Regional Airport.
6. Obstruction data source NGS form 292, Aeronautical Data Sheet
7. Base map developed using the follow USGS Quadrangle Maps: Show Low, Show Low North, Pindale, Lakeside, Silver Springs Sponseller Mtn., Ortega Mtn. and Red Top Mtn.

OBSTRUCTION LEGEND

- OBSTRUCTION
- GROUP or MULTIPLE OBSTRUCTIONS (See Note)
- GROUND/TOPOGRAPHIC PENETRATION

* Group or Multiple Obstructions are based on 100' tree height from Ground Elevation.

No.	REVISIONS	DATE	BY	APP'D.
4	ALP UPDATE AND NARATIVE REPORT	6/1/12	JMH	6/1/12
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1	MASTER PLAN UPDATE	8/2/1991	–	–

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SHOW LOW REGIONAL AIRPORT

AIRPORT AIRSPACE DRAWING F.A.R. PART 77 RUNWAY 24 APPROACH FAN

SHOW LOW, ARIZONA

PLANNED BY: Steve Wagner
DETAILED BY: Maggie Beaver
APPROVED BY: James M. Harris P.E.

June 1, 2012 | SHEET 5 OF 21

Coffman Associates
Airport Consultants
www.coffmanassociates.com

GENERAL NOTES:

1. Obstructions, clearances, and locations are calculated from ultimate runway end elevations and ultimate approach surfaces, unless otherwise noted.
2. Distance for road obstructions and clearances reflect a safety clearance of 10' for airport service roads, 15' for noninterstate roads, 17' for interstate roads, and 23' for railroads.
3. Depiction of features and objects within the inner portion of the approach surfaces, is illustrated on the INNER PORTION OF RUNWAY APPROACH SURFACE DRAWING, sheets 11, 12, 13 14 and 15 of these plans.
4. Existing height and hazard ordinances are to be amended and/or referenced upon approval of updated AIRPORT AIRSPACE PLAN.
5. Article 16–2, Airport Zoning of Show Low City Codes provides height and hazard zoning for Show Low Regional Airport.
6. Obstruction data source NGS form 292, Aeronautical Data Sheet
7. Base map developed using the follow USGS Quadrangle Maps: Show Low, Show Low North, Pindale, Lakeside, Silver Springs Sponseller Mtn., Ortega Mtn. and Red Top Mtn.

OBSTRUCTION TABLE

Object Description	Object Elevation	Obstructed Part 77 Surface	Surface Elevation	Object Penetration	Proposed Object Disposition
NONE					

OBSTRUCTION LEGEND

- OBSTRUCTION
- GROUP or MULTIPLE OBSTRUCTIONS (See Note)
- GROUND/TOPOGRAPHIC PENETRATION

* Group or Multiple Obstructions are based on 100' tree height from Ground Elevation.

No.	REVISIONS	DATE	BY	APP'D.
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SHOW LOW REGIONAL AIRPORT

AIRPORT AIRSPACE DRAWING FAR PART 77 RUNWAY 6 FAN

SHOW LOW, ARIZONA

PLANNED BY: Steve Wagner
DETAILED BY: Maggie Beaver
APPROVED BY: James M. Harris P.E.

June 1, 2012 | SHEET 6 OF 21

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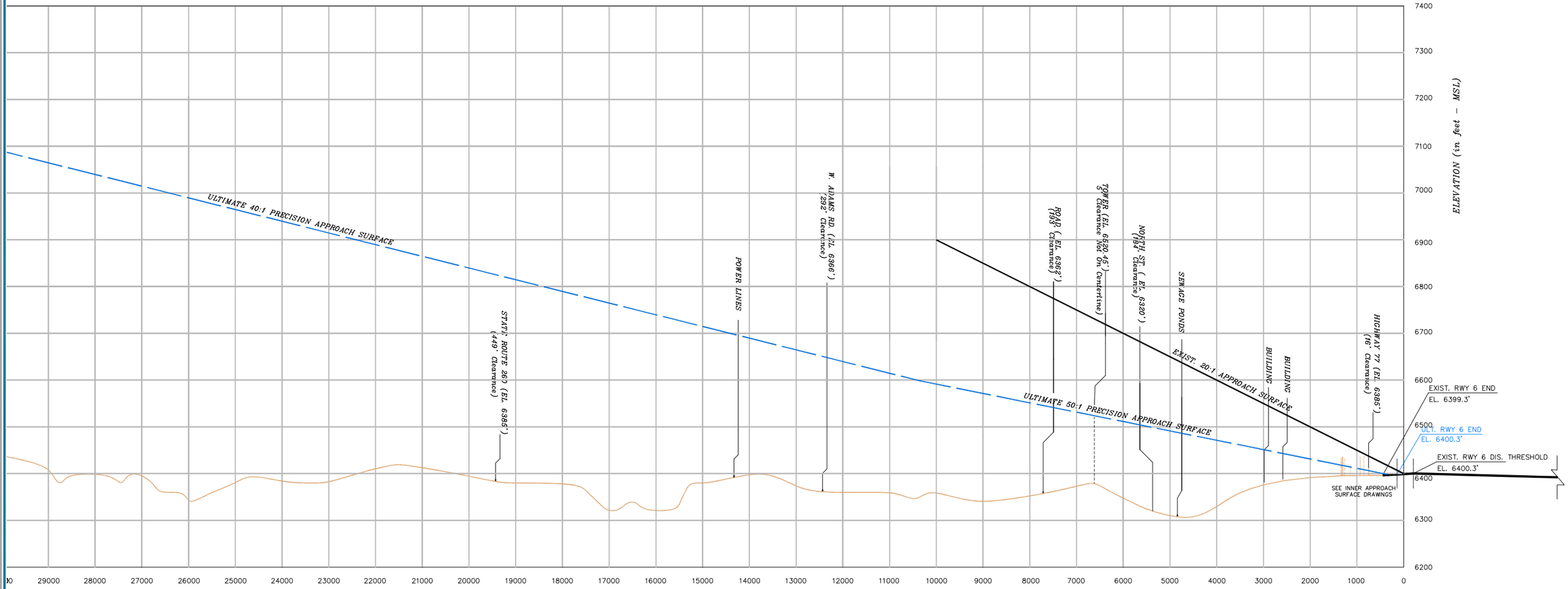
RUNWAY 6 APPROACH SURFACE PROFILE



OBSTRUCTION TABLE					
Object Description	Object Elevation	Obstructed Part 77 Surface	Surface Elevation	Object Penetration	Proposed Object Disposition
NONE IN THE OUTER APPROACH SURFACE					SEE INNER APPROACH SURFACE DRAWINGS

GENERAL NOTES:

1. Obstructions, clearances, and locations are calculated from ultimate runway end elevations and ultimate approach surfaces, unless otherwise noted.
2. Distance for road obstructions and clearances reflect a safety clearance of 10' for airport service roads, 15' for noninterstate roads, 17' for interstate roads, and 23' for railroads.
3. Depiction of features and objects within the inner portion of the approach surfaces, is illustrated on the INNER PORTION OF RUNWAY APPROACH SURFACE DRAWING, sheets 11, 12, 13 14 and 15 of these plans.
4. Existing height and hazard ordinances are to be amended and/or referenced upon approval of updated AIRPORT AIRSPACE PLAN.
5. Article 16-2, Airport Zoning of Show Low City Codes provides height and hazard zoning for Show Low Regional Airport.
6. Obstruction data source NGS form 292, Aeronautical Data Sheet.

No.	REVISIONS	DATE	BY	APP'D.
4	ALP UPDATE AND NARATIVE REPORT	6/1/12	JMH	6/1/12
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SHOW LOW REGIONAL AIRPORT

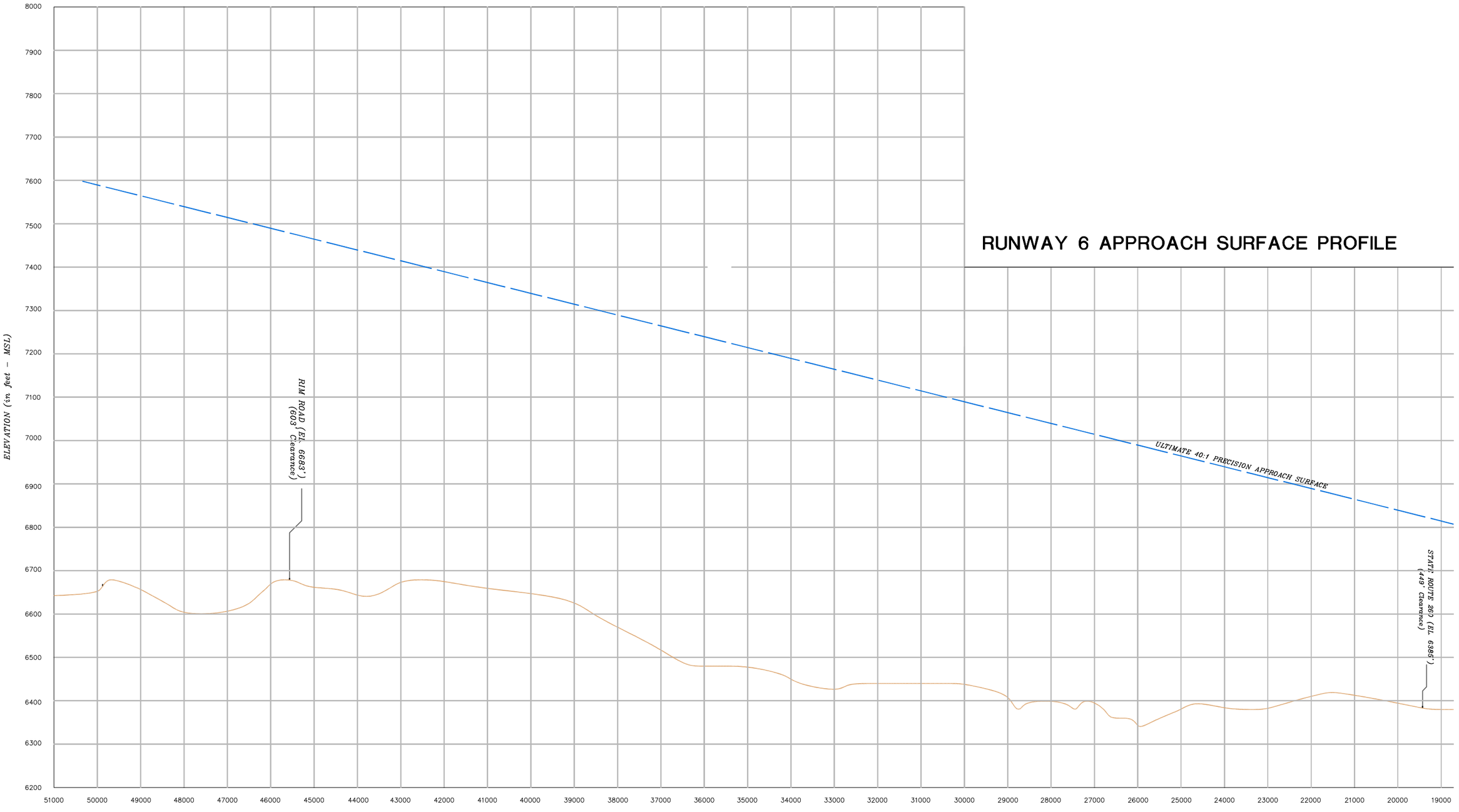
RUNWAY 6 APPROACH SURFACE PROFILE DRAWING

SHOW LOW, ARIZONA

PLANNED BY: Huw Wagner
DETAILED BY: Maggie Beaver
APPROVED BY: James M. Harris P.E.
June 1, 2012

Coffman Associates
Airport Consultants
www.coffmanassociates.com

RUNWAY 6 APPROACH SURFACE PROFILE

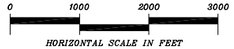


OBSTRUCTION TABLE

Object Description	Object Elevation	Obstructed Part 77 Surface	Surface Elevation	Object Penetration	Proposed Object Disposition
NONE IN THE OUTER APPROACH SURFACE					SEE INNER APPROACH SURFACE DRAWINGS

GENERAL NOTES:

1. Obstructions, clearances, and locations are calculated from ultimate runway end elevations and ultimate approach surfaces, unless otherwise noted.
2. Distance for road obstructions and clearances reflect a safety clearance of 10' for airport service roads, 15' for noninterstate roads, 17' for interstate roads, and 23' for railroads.
3. Depiction of features and objects within the inner portion of the approach surfaces, is illustrated on the INNER PORTION OF RUNWAY APPROACH SURFACE DRAWING, sheets 11, 12, 13 14 and 15 of these plans.
4. Existing height and hazard ordinances are to be amended and/or referenced upon approval of updated AIRPORT AIRSPACE PLAN.
5. Article 16-2, Airport Zoning of Show Low City Codes provides height and hazard zoning for Show Low Regional Airport.
6. Obstruction data source NGS form 292, Aeronautical Data Sheet.



No.	REVISIONS	DATE	BY	APP'D.
4	ALP UPDATE AND NARATIVE REPORT	6/1/12	JMH	6/1/12
3	MASTER PLAN UPDATE	7/15/2005	JMH	8/25/2005
2	RECERTIFICATION, ADDED NEW TERMINAL, AUTOMOBILE PARKING ENTRANCE ROADS	7/28/2000	MJR	BH
1	MASTER PLAN UPDATE	8/2/1991	--	--

"THE PREPARATION OF THESE DOCUMENTS WAS FINANCED IN PART THROUGH A PLANNING GRANT FROM THE FEDERAL AVIATION ADMINISTRATION AS PROVIDED UNDER SECTION 505 OF THE AIRPORT AND AIRWAY IMPROVEMENT ACT OF 1982, AS AMENDED. THE CONTENTS DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FAA. ACCEPTANCE OF THESE DOCUMENTS BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAWS."

SHOW LOW REGIONAL AIRPORT

RUNWAY 6 OUTER APPROACH SURFACE PROFILE DRAWING

SHOW LOW, ARIZONA

PLANNED BY: Steve Wagner
DETAILED BY: Maggie Beaver
APPROVED BY: James M. Harris P.E.

June 1, 2012 | SHEET 8 OF 21

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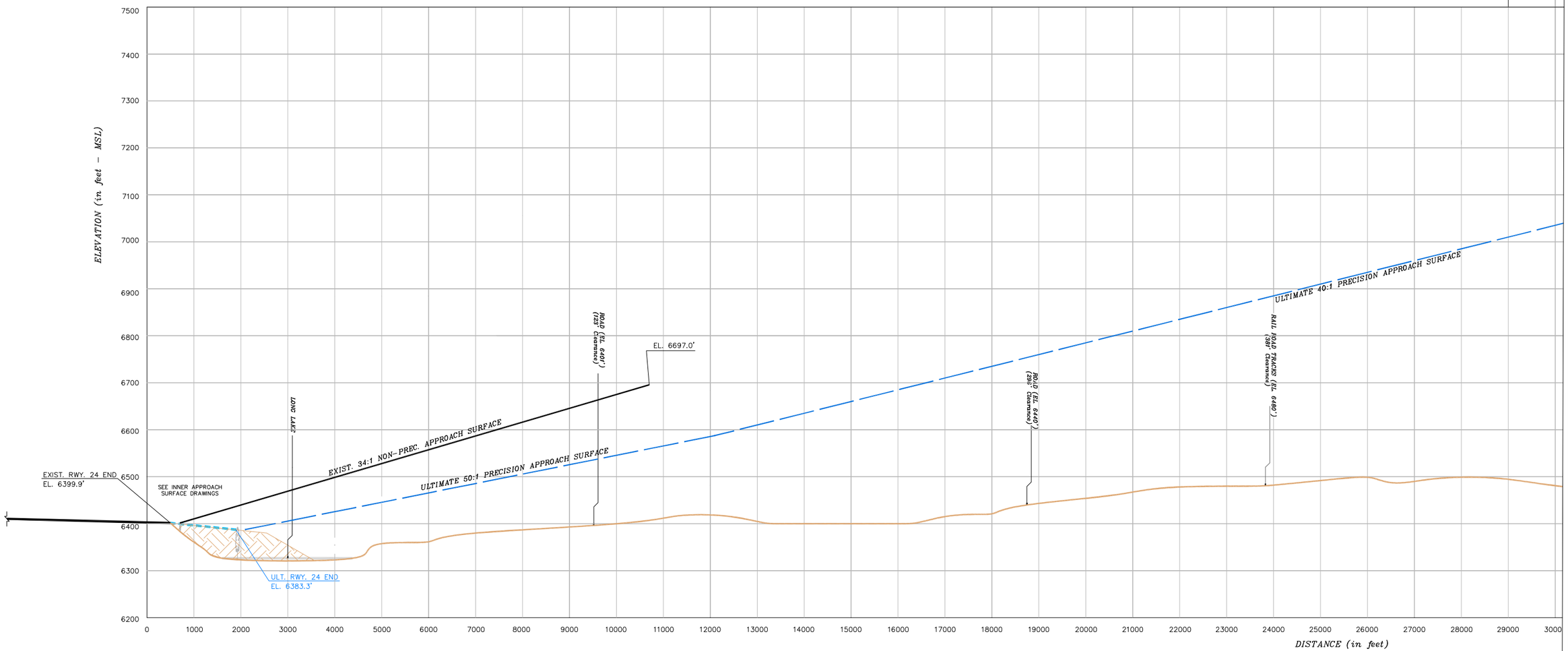
RUNWAY 24 APPROACH SURFACE PROFILE



OBSTRUCTION TABLE

Object Description	Object Elevation	Obstructed Part 77 Surface	Surface Elevation	Object Penetration	Proposed Object Disposition
NONE					SEE INNER APPROACH SURFACE DRAWING

GENERAL NOTES:

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5. Article 16-2, Airport Zoning of Show Low City Codes provides height and hazard zoning for Show Low Regional Airport.
6. Obstruction data source NGS form 292, Aeronautical Data Sheet.

0 100 200 300
VERTICAL SCALE IN FEET

0 1000 2000 3000
HORIZONTAL SCALE IN FEET

NORTH

No.	REVISIONS	DATE	BY	APP'D.
4	ALP UPDATE AND NARATIVE REPORT	6/1/12	JMH	6/1/12
3	MASTER PLAN UPDATE	7/15/2005	JMH	8/25/2005
2	RECERTIFICATION, ADDED NEW TERMINAL, AUTOMOBILE PARKING ENTRANCE ROADS	7/28/2000	MJR	BH
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SHOW LOW REGIONAL AIRPORT

RUNWAY 24APPROACH SURFACE PROFILE DRAWING

SHOW LOW, ARIZONA

PLANNED BY: Steve Wagner
DETAILED BY: Maggie Beaver
APPROVED BY: James M. Harris P.E.

June 1, 2012 | SHEET 9 OF 21

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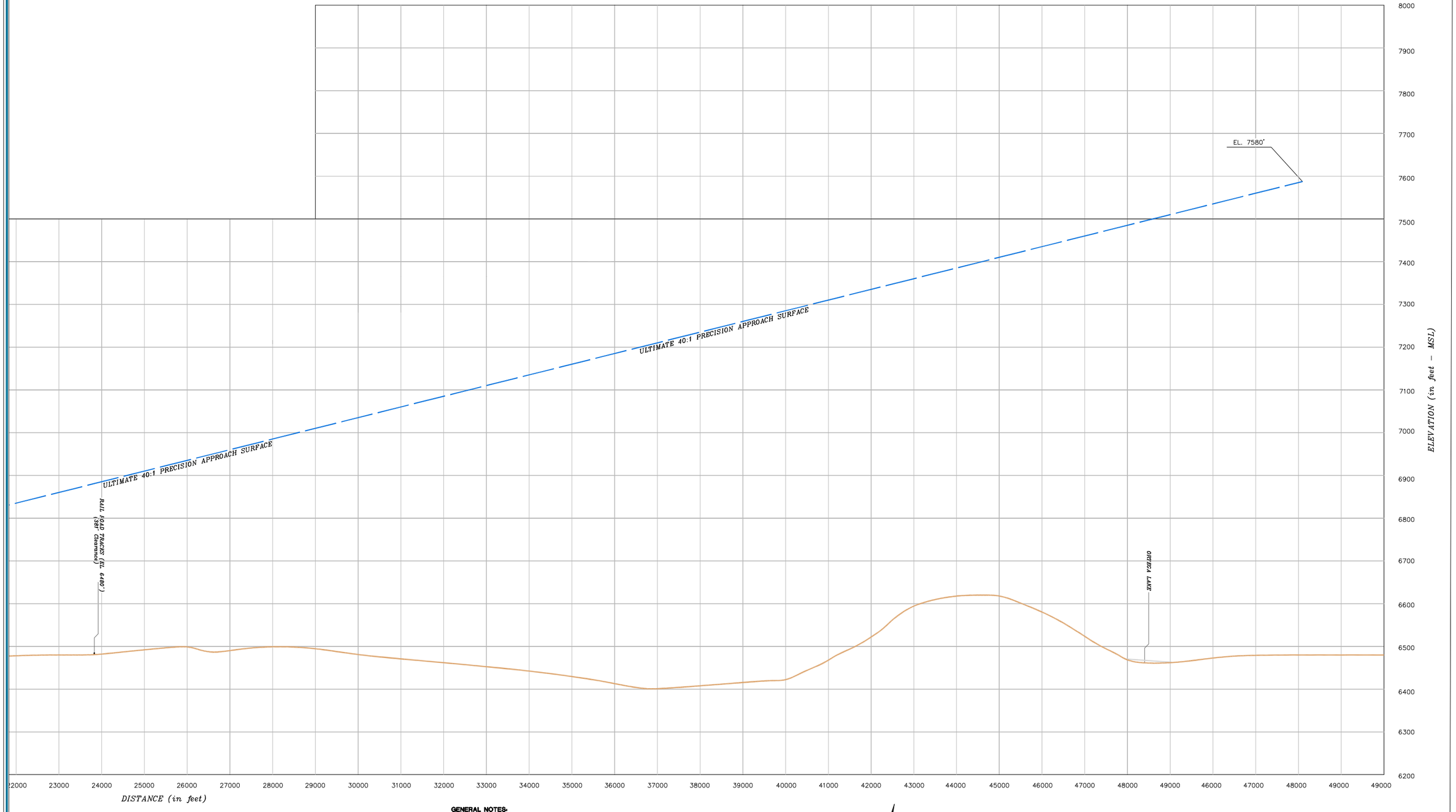

OBSTRUCTION TABLE					
Object Description	Object Elevation	Obstructed Part 77 Surface	Surface Elevation	Object Penetration	Proposed Object Disposition
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GENERAL NOTES:

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6. Obstruction data source NGS form 292, Aeronautical Data Sheet.

0 100 200 300
VERTICAL SCALE IN FEET

0 1000 2000 3000
HORIZONTAL SCALE IN FEET

NORTH

No.	REVISIONS	DATE	BY	APP'D.
4	ALP UPDATE AND NARATIVE REPORT	6/1/12	JMH	6/1/12
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1	MASTER PLAN UPDATE	8/2/1991	–	–

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SHOW LOW REGIONAL AIRPORT

RUNWAY 24 OUTER APPROACH SURFACE PROFILE DRAWING

SHOW LOW, ARIZONA

PLANNED BY: Steve Wagner
DETAILED BY: Maggie Beaver
APPROVED BY: James M. Harris P.E.

June 1, 2012 | SHEET 10 OF 21

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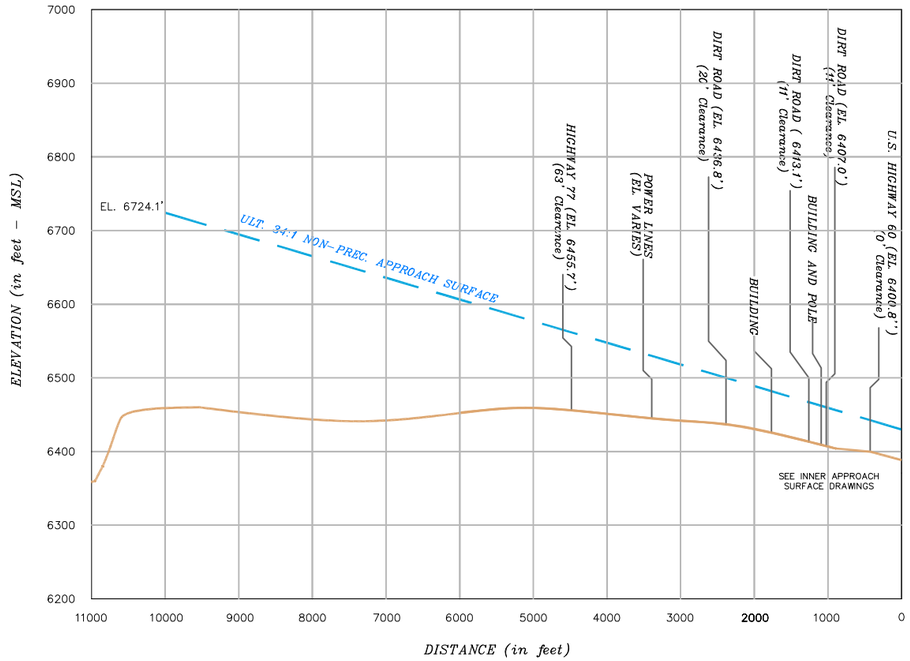
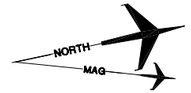
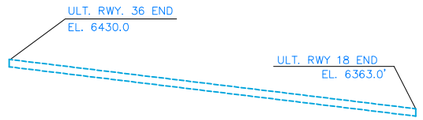
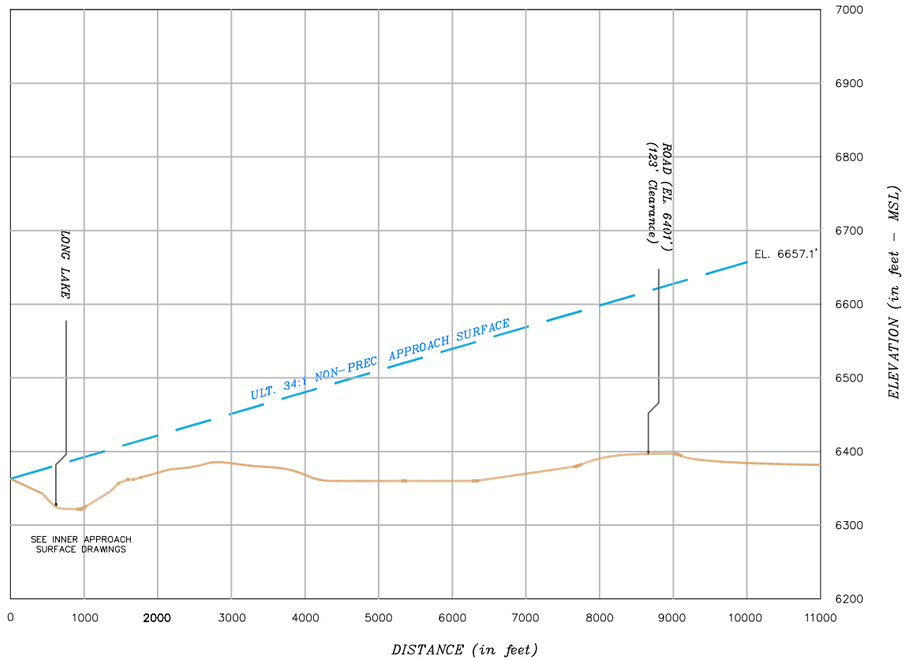
RUNWAY 36 APPROACH SURFACE PROFILE







RUNWAY 18 APPROACH SURFACE PROFILE



RUNWAY 18-36
APPROACH SURFACE PROFILES

RUNWAY 3 OBSTRUCTION TABLE

Object Description	Object Elevation	Obstructed Part 77 Surface	Surface Elevation	Object Penetration	Proposed Object Disposition
NONE	--	--	--	--	--

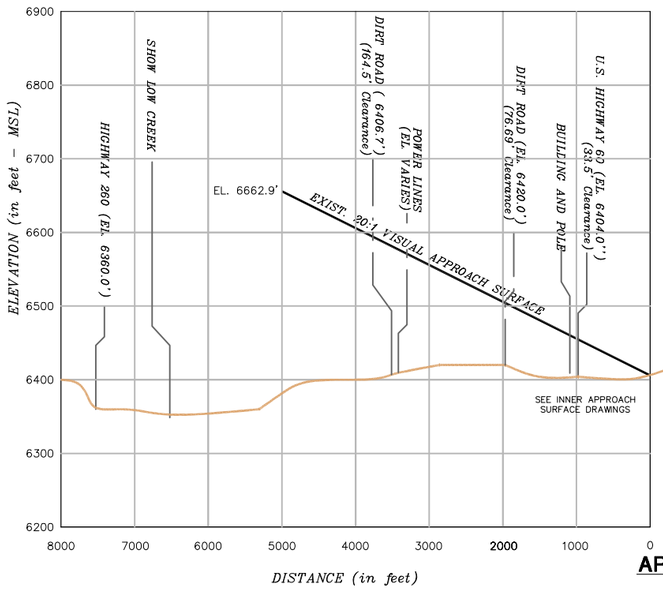
RUNWAY 36 OBSTRUCTION TABLE

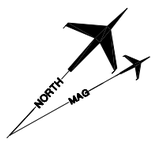
Object Description	Object Elevation	Obstructed Part 77 Surface	Surface Elevation	Object Penetration	Proposed Object Disposition
NONE	--	--	--	--	--

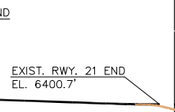
RUNWAY 18 OBSTRUCTION TABLE

Object Description	Object Elevation	Obstructed Part 77 Surface	Surface Elevation	Object Penetration	Proposed Object Disposition
NONE	--	--	--	--	--

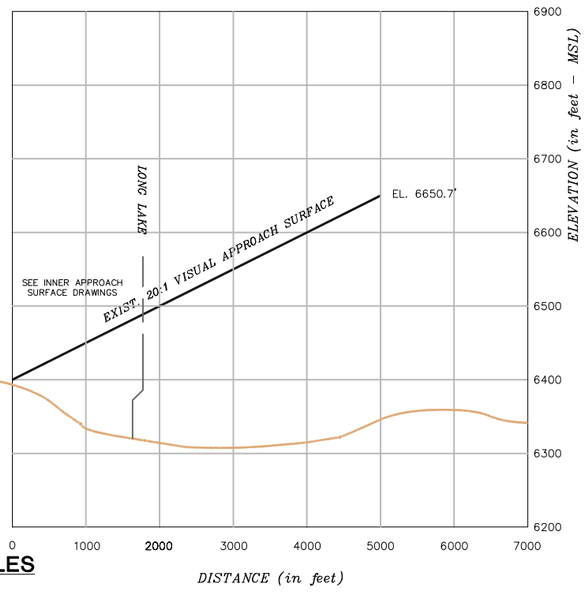
RUNWAY 3 APPROACH SURFACE PROFILE







RUNWAY 21 APPROACH SURFACE PROFILE



RUNWAY 3-21
APPROACH SURFACE PROFILES

GENERAL NOTES:

1. Obstructions, clearances, and locations are calculated from ultimate runway end elevations and ultimate approach surfaces, unless otherwise noted.
2. Distance for road obstructions and clearances reflect a safety clearance of 10' for airport service roads, 15' for noninterstate roads, 17' for interstate roads, and 23' for railroads.
3. Depiction of features and objects within the inner portion of the approach surfaces, is illustrated on the INNER PORTION OF RUNWAY APPROACH SURFACE DRAWING, sheets 11, 12, 13 14 and 15 of these plans.
4. Existing height and hazard ordinances are to be amended and/or referenced upon approval of updated AIRPORT AIRSPACE PLAN.
5. Article 16-2, Airport Zoning of Show Low City Codes provides height and hazard zoning for Show Low Regional Airport.
6. Obstruction data source NGS form 292, Aeronautical Data Sheet.

0 100 200 300
VERTICAL SCALE IN FEET

HORIZONTAL
0 1000 2000 3000
HORIZONTAL SCALE IN FEET

RUNWAY 21 OBSTRUCTION TABLE

Object Description	Object Elevation	Obstructed Part 77 Surface	Surface Elevation	Object Penetration	Proposed Object Disposition
NONE					

No.	REVISIONS	DATE	BY	APP'D.
4	ALP UPDATE AND NARATIVE REPORT	6/1/12	JMH	6/1/12
3	MASTER PLAN UPDATE	7/15/2005	JMH	8/25/2005
2	RECERTIFICATION, ADDED NEW TERMINAL, AUTOMOBILE PARKING ENTRANCE ROADS	7/28/2000	MJR	BH
1	MASTER PLAN UPDATE	6/2/1991	--	--

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SHOW LOW REGIONAL AIRPORT
RUNWAY 18-36 & RUNWAY 3-21
OUTER APPROACH SURFACE DRAWING
SHOW LOW, ARIZONA

PLANNED BY: Steve Wagner
DETAILED BY: Maggie Brewer
APPROVED BY: James M. Harris P.E.
June 1, 2012
SHEET 11 OF 21

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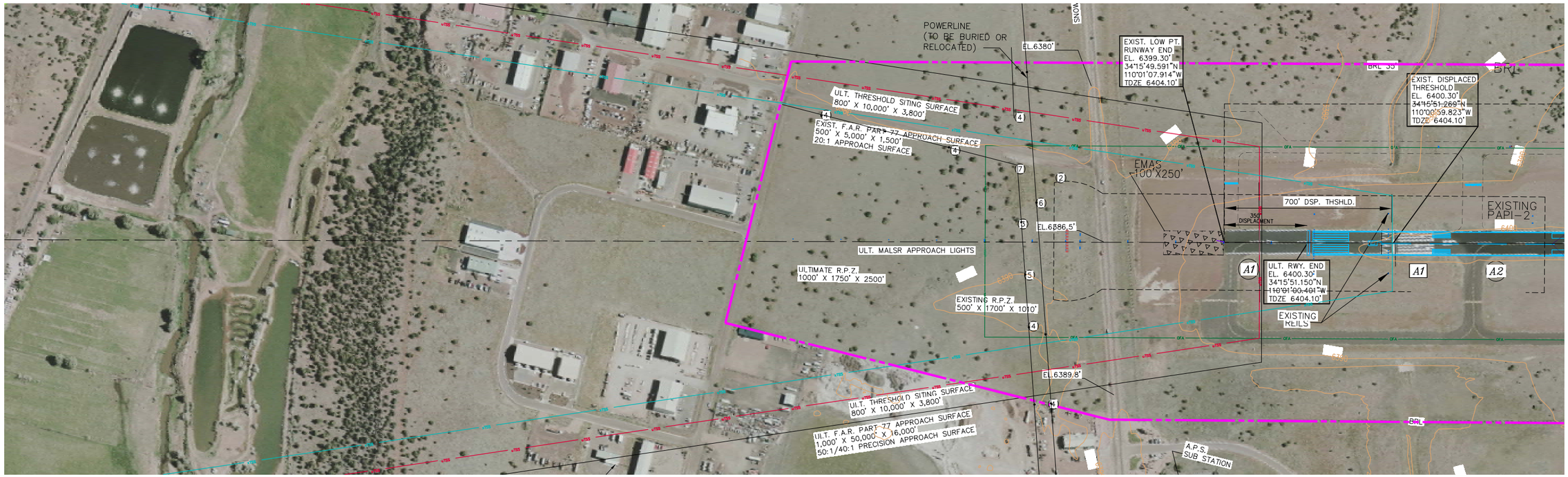

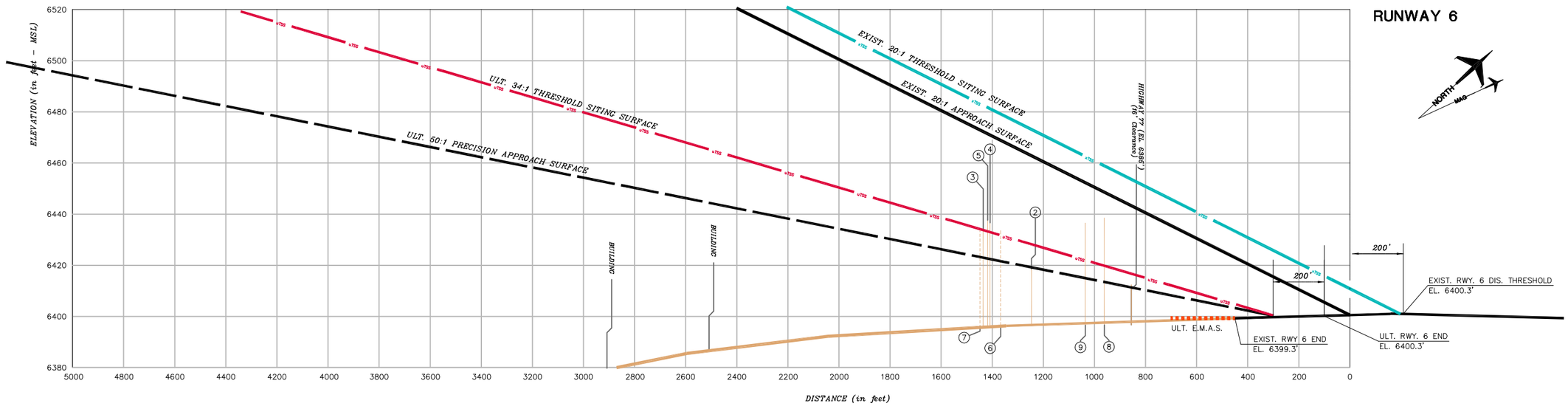

GENERAL NOTES:

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3. Depiction of features and objects within the outer portion of the approach surfaces, is illustrated on the RUNWAY APPROACH SURFACE PROFILES, sheet 6 and 7 of these plans.

OBSTRUCTION TABLE

Object Description	Object Elevation	Obstructed Part 77 Surface	Surface Elevation	Object Penetration	Proposed Object Disposition
2. LT POLE	6418 MSL	APPROACH SURFACE/RWY 6	6412.0'	6.0'	REMOVE/RELOCATE
3. POLE	6433 MSL	APPROACH SURFACE/RWY 6	6416.0'	17.0'	REMOVE/RELOCATE
4. POLE	6436 MSL	APPROACH SURFACE/RWY 6	6417.0'	19.0'	REMOVE/RELOCATE
5. POLE	6437 MSL	APPROACH SURFACE/RWY 6	6417.0'	20.0'	REMOVE/RELOCATE
6. POLE	6433 MSL	APPROACH SURFACE/RWY 6	6418.0'	15.0'	REMOVE/RELOCATE
7. POLE	6433 MSL	APPROACH SURFACE/RWY 6	6418.0'	15.0'	REMOVE/RELOCATE
8. POLE	6438 MSL	APPROACH SURFACE/RWY 6	6424.0'	14.0'	REMOVE/RELOCATE
9. POLE	6436 MSL	APPROACH SURFACE/RWY 6	6420.0'	16.0'	REMOVE/RELOCATE

0 20 40
VERTICAL SCALE IN FEET

0 200 400
HORIZONTAL SCALE IN FEET

No.	REVISIONS	DATE	BY	APP'D.
4	ALP UPDATE AND NARATIVE REPORT	6/1/12	JMH	6/1/12
3	MASTER PLAN UPDATE	7/15/05	JMH	7/15/05
2	RECERTIFICATION, ADDED NEW TERMINAL, AUTOMOBILE PARKING AND ENTERANCE ROADS	7/28/00	MJR	BH
1	MASTER PLAN UPDATE	8/2/91	–	–

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SHOW LOW REGIONAL AIRPORT

INNER PORTION OF THE RUNWAY 6 APPROACH SURFACE DRAWING

SHOW LOW, ARIZONA

PLANNED BY: Steve Wagner
DETAILED BY: Maggie Beaver
APPROVED BY: James M. Harris P.E.

June 1, 2012 SHEET 12 OF 21

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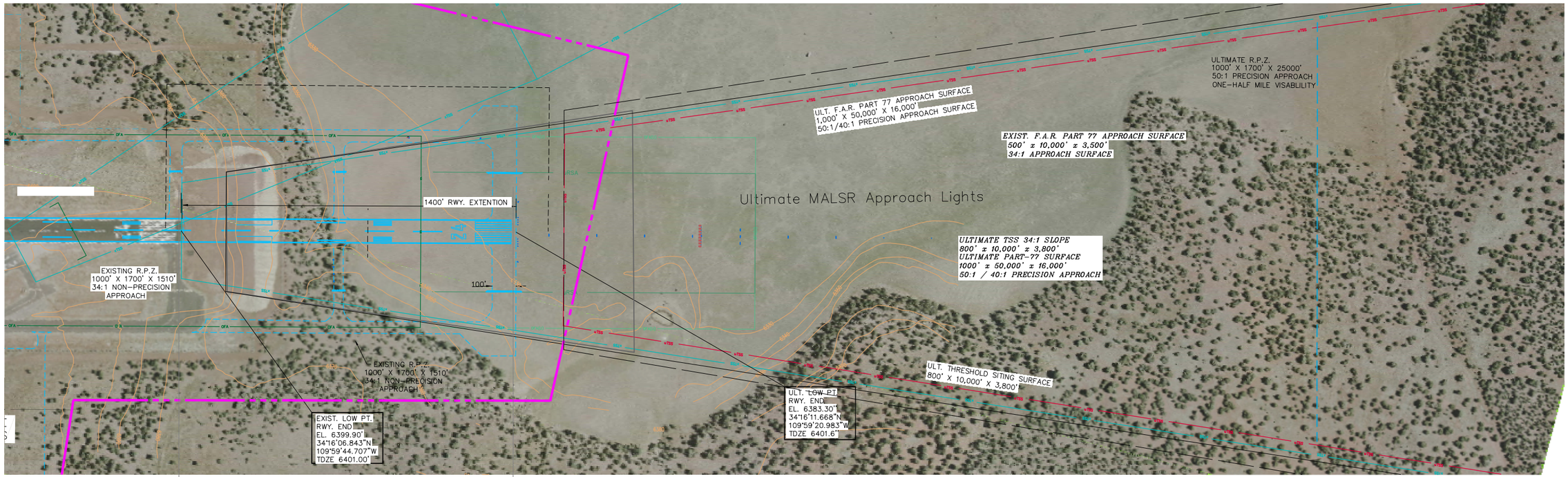

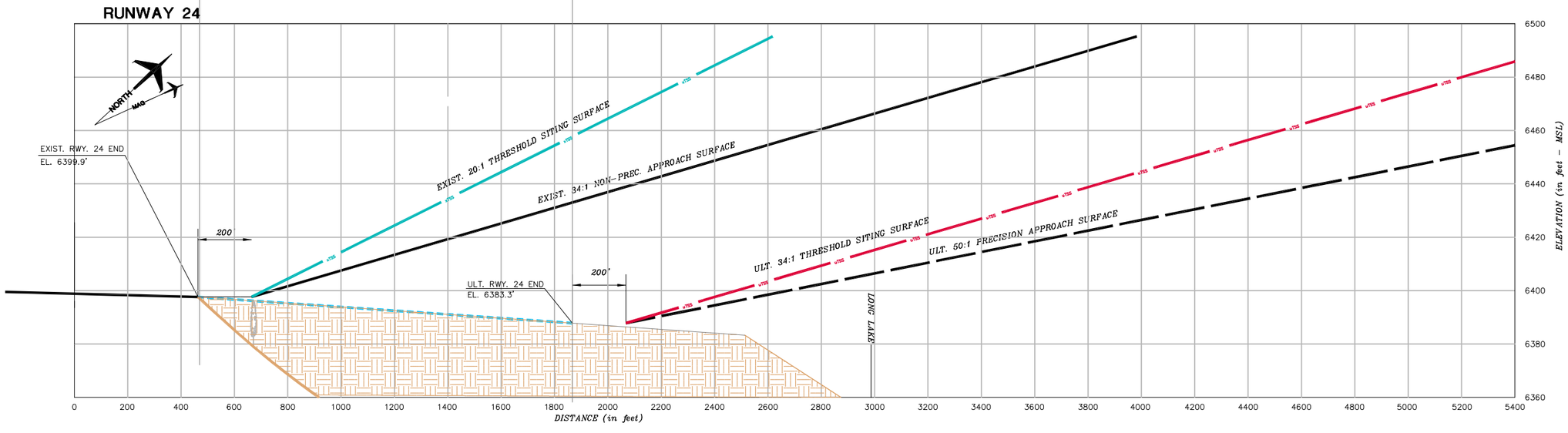

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9. POLE	6436 MSL	APPROACH SURFACE/RWY 6	6420.0'	16.0'	REMOVE/RELOCATE

0 20 40
VERTICAL SCALE IN FEET

0 200 400
HORIZONTAL SCALE IN FEET

No.	REVISIONS	DATE	BY	APP'D.
4	ALP UPDATE AND NARATIVE REPORT	6/1/12	JMH	6/1/12
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SHOW LOW REGIONAL AIRPORT

INNER PORTION OF THE RUNWAY 24 APPROACH SURFACE DRAWING

SHOW LOW, ARIZONA

PLANNED BY: Steve Wagner
DETAILED BY: Maggie Beaver
APPROVED BY: James M. Harris P.E.

June 1, 2012 SHEET 13 OF 21

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Airport Consultants
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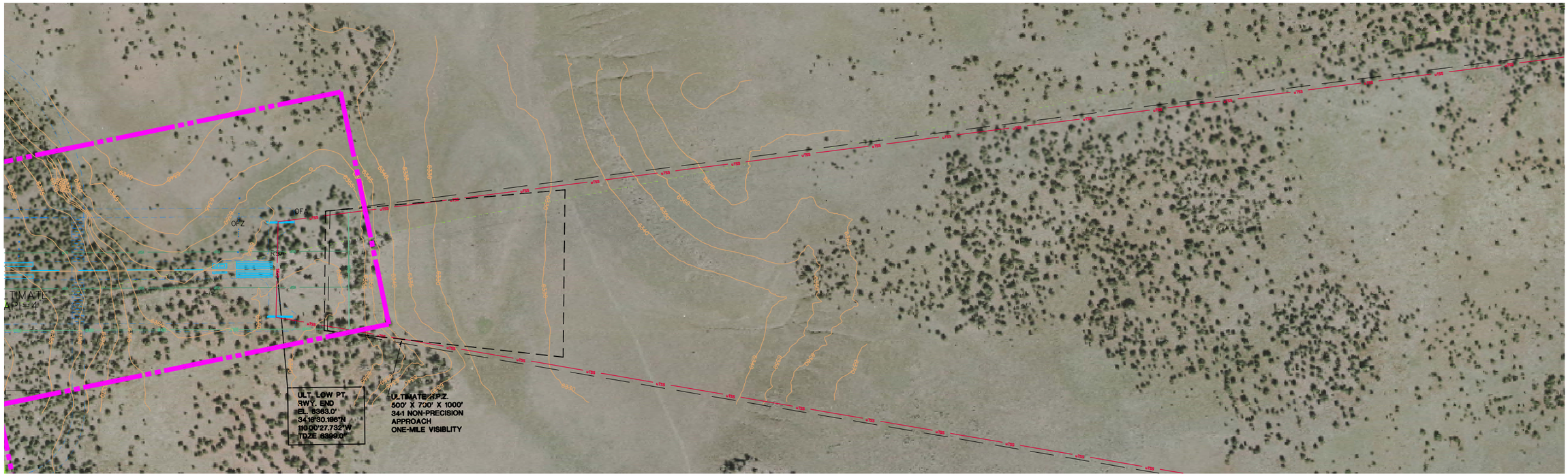

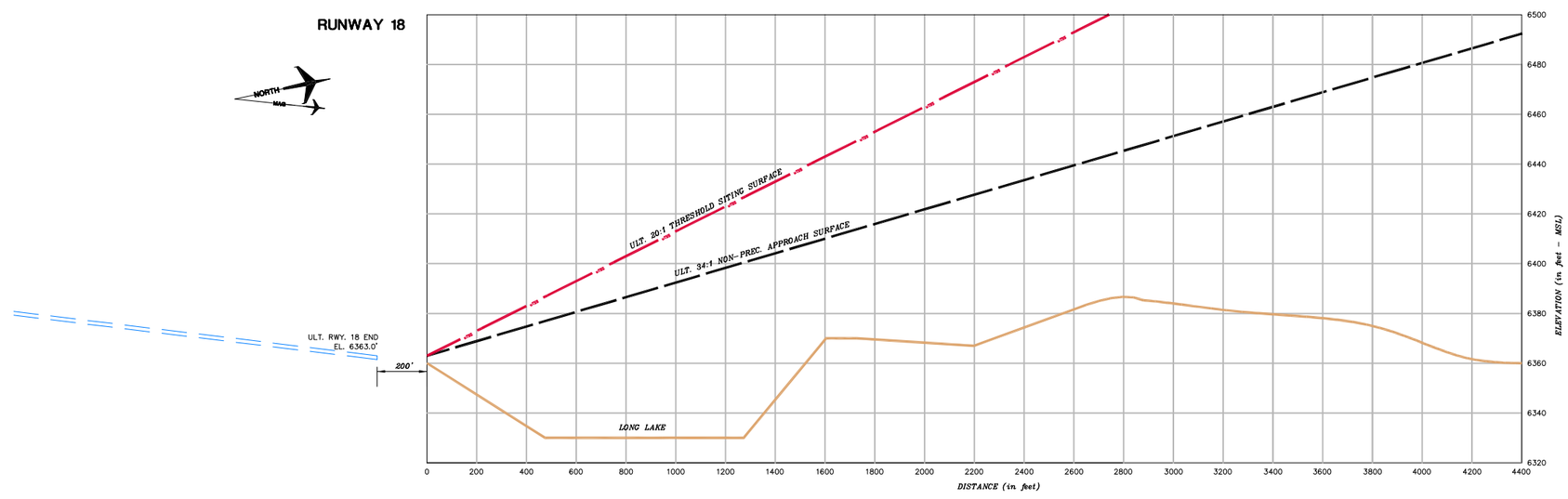

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6. POLE	6433 MSL	APPROACH SURFACE/RWY 6	6418.0'	15.0'	REMOVE/RELOCATE
7. POLE	6433 MSL	APPROACH SURFACE/RWY 6	6418.0'	15.0'	REMOVE/RELOCATE
8. POLE	6438 MSL	APPROACH SURFACE/RWY 6	6424.0'	14.0'	REMOVE/RELOCATE
9. POLE	6436 MSL	APPROACH SURFACE/RWY 6	6420.0'	16.0'	REMOVE/RELOCATE

GENERAL NOTES:

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0 20 40
VERTICAL SCALE IN FEET

0 200 400
HORIZONTAL SCALE IN FEET

No.	REVISIONS	DATE	BY	APP'D.
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2	MASTER PLAN UPDATE	7/15/05	JMH	7/15/05
1	RECERTIFICATION, ADDED NEW TERMINAL, AUTOMOBILE PARKING AND ENTERANCE ROADS	7/28/00	MJR	BH
0	MASTER PLAN UPDATE	8/2/91	–	–

"THE PREPARATION OF THESE DOCUMENTS WAS FINANCED IN PART THROUGH A PLANNING GRANT FROM THE FEDERAL AVIATION ADMINISTRATION AS PROVIDED UNDER SECTION 505 OF THE AIRPORT AND AIRWAY IMPROVEMENT ACT OF 1982, AS AMENDED. THE CONTENTS DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FAA. ACCEPTANCE OF THESE DOCUMENTS BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAWS."

SHOW LOW REGIONAL AIRPORT

INNER PORTION OF THE RUNWAY 18 APPROACH SURFACE DRAWING

SHOW LOW, ARIZONA

PLANNED BY: Steve Wagner
DETAILED BY: Maggie Beaver
APPROVED BY: James M. Harris P.E.

June 1, 2012

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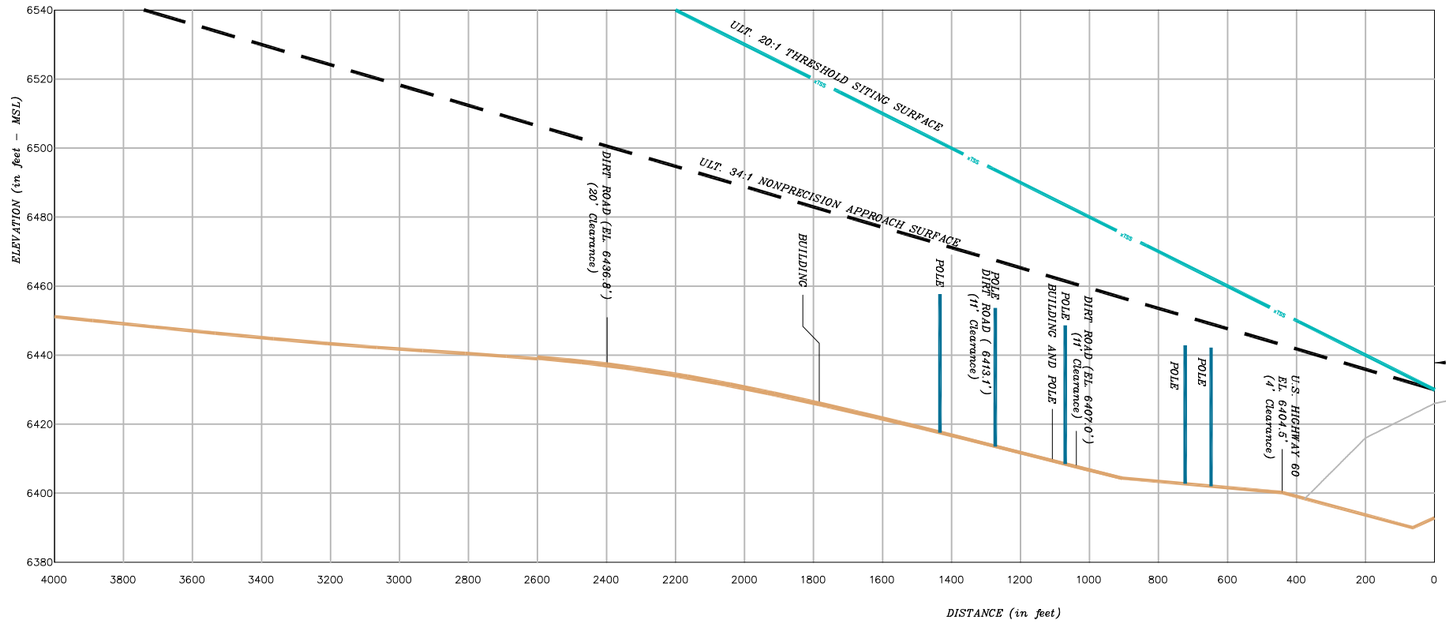
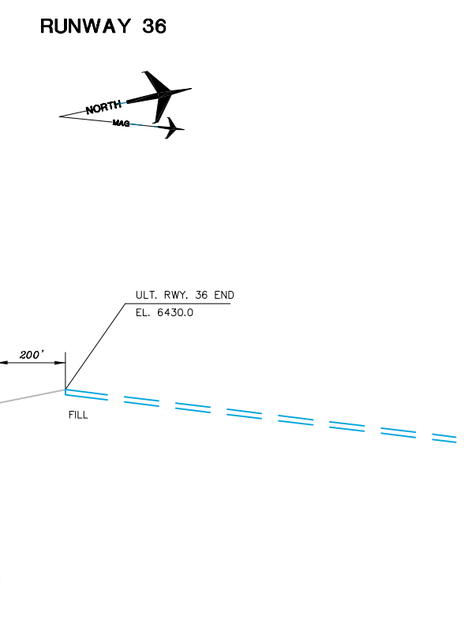
www.coffmanassociates.com





GENERAL NOTES:

1. Obstructions, clearances, and locations are calculated from ultimate runway end elevations and ultimate approach surfaces, unless otherwise noted.
2. Distance for road obstructions and clearances reflect a safety clearance of 10' for airport service roads, 15' for noninterstate roads, 17' for interstate roads, and 23' for railroads.
3. Depiction of features and objects within the outer portion of the approach surfaces, is illustrated on the RUNWAY APPROACH SURFACE PROFILES, sheet 10 of these plans.

OBSTRUCTION TABLE

Object Description	Object Elevation	Obstructed Part 77 Surface	Surface Elevation	Object Penetration	Proposed Object Disposition
1. NONE	--	--	--	--	-

0 20 40
VERTICAL SCALE IN FEET

0 200 400
HORIZONTAL SCALE IN FEET

No.	REVISIONS	DATE	BY	APP'D.
4	ALP UPDATE AND NARATIVE REPORT	6/1/12	JMH	6/1/12
3	MASTER PLAN UPDATE	7/15/05	JMH	7/15/05
2	RECERTIFICATION, ADDED NEW TERMINAL, AUTOMOBILE PARKING AND ENTERANCE ROADS	7/28/00	MJR	BH
1	MASTER PLAN UPDATE	8/2/91	--	--

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SHOW LOW REGIONAL AIRPORT

INNER PORTION OF THE RUNWAY 36 APPROACH SURFACE DRAWING

SHOW LOW, ARIZONA

PLANNED BY: Steve Wagner
DETAILED BY: Maggie Beaver
APPROVED BY: James M. Harris P.E.

June 1, 2012 | SHEET 15 OF 21

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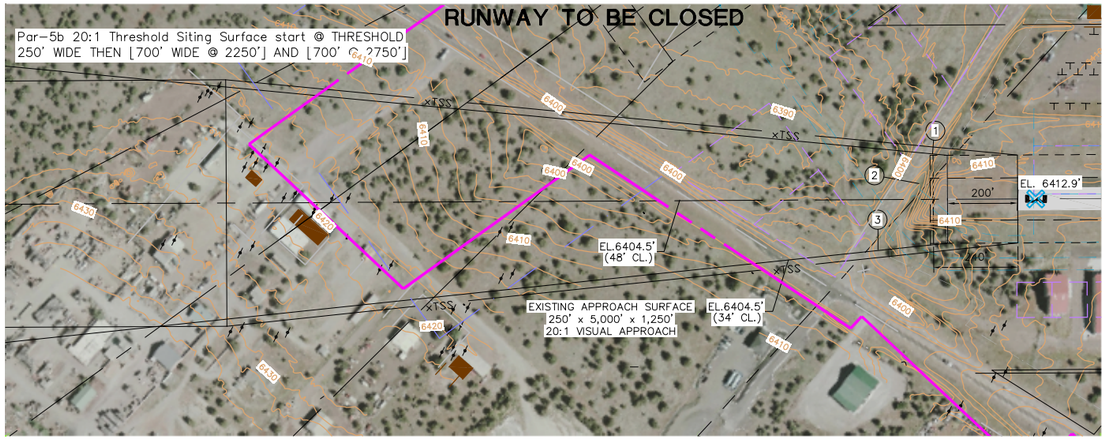

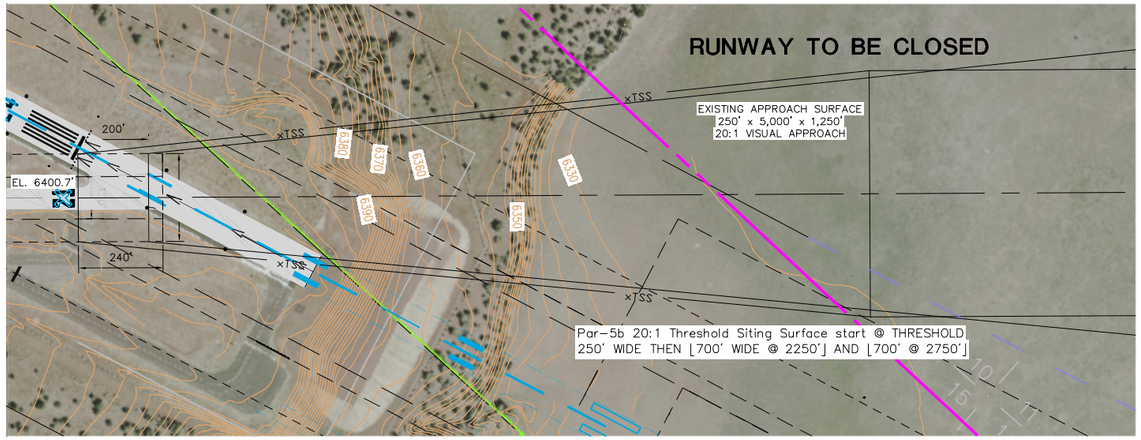

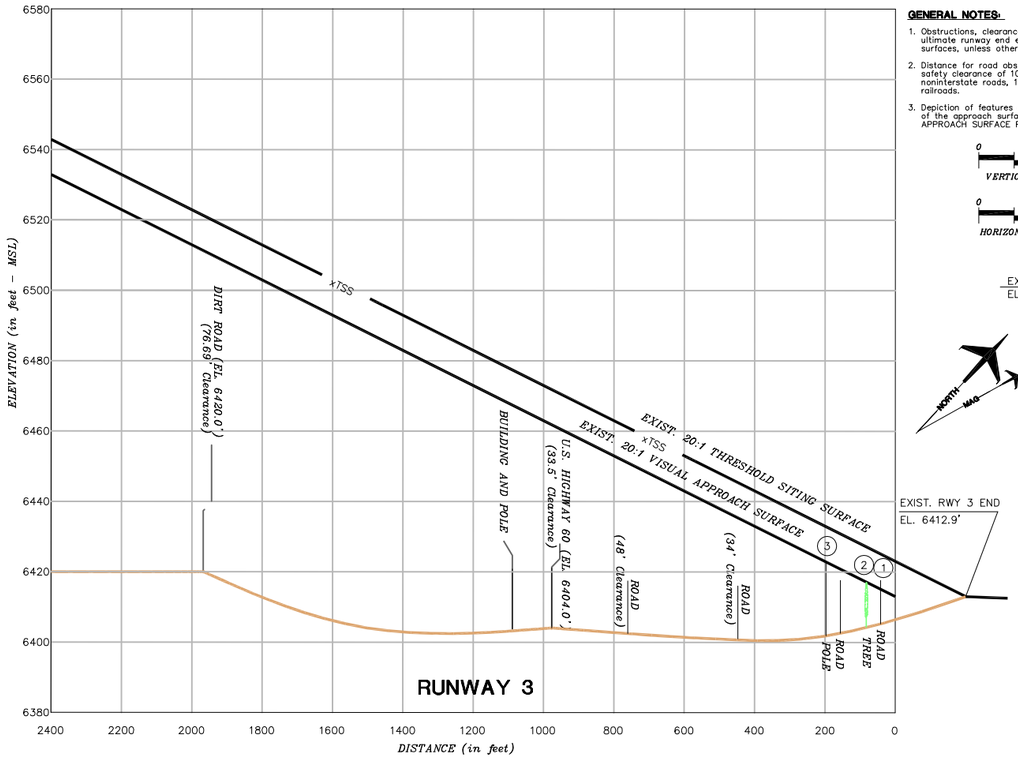

GENERAL NOTES:

1. Obstructions, clearances, and locations are calculated from ultimate runway end elevations and ultimate approach surfaces, unless otherwise noted.
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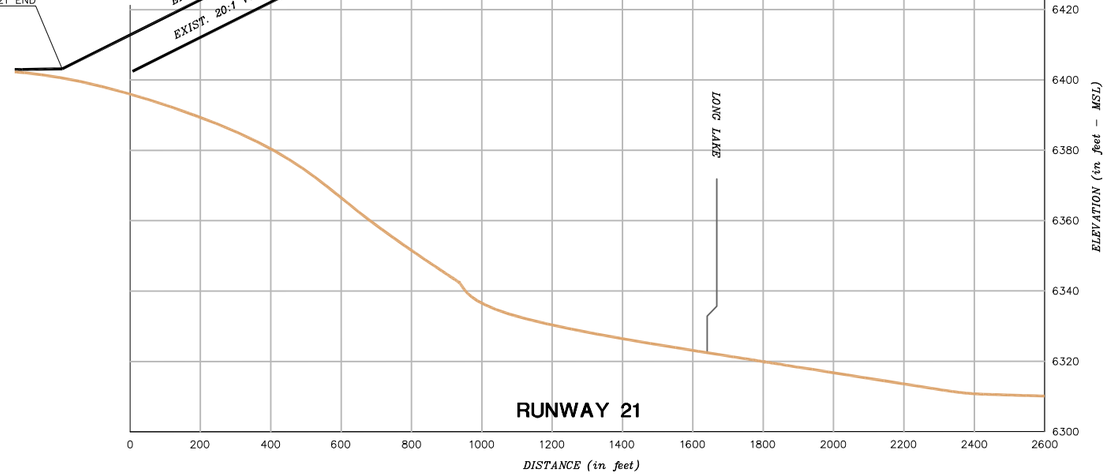
0 20 40
VERTICAL SCALE IN FEET

0 200 400
HORIZONTAL SCALE IN FEET



OBSTRUCTION TABLE (Runway 3 To Be Closed)

Object Description	Object Elevation	Obstructed Part 77 Surface	Surface Elevation	Object Penetration	Proposed Object Disposition
1. ROAD	6419 MSL	20:1 APPROACH	ROAD	3'	RUNWAY TO BE CLOSED
2. TREE	6417 MSL	20:1 APPROACH	ROAD	0'	RUNWAY TO BE CLOSED
3. LT POLE	6426 MSL	20:1 APPROACH	ROAD	3'	RUNWAY TO BE CLOSED

OBSTRUCTION TABLE (Runway 21 To Be Closed)

Object Description	Object Elevation	Obstructed Part 77 Surface	Surface Elevation	Object Penetration	Proposed Object Disposition
NONE					

No.	REVISIONS	DATE	BY	APP'D.
4	ALP UPDATE AND NARATIVE REPORT	6/1/12	JMH	6/1/12
3	MASTER PLAN UPDATE	7/15/05	JMH	7/15/05
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SHOW LOW REGIONAL AIRPORT

INNER PORTION OF THE RUNWAY 3-21 APPROACH SURFACE DRAWING

SHOW LOW, ARIZONA

PLANNED BY: Steve Wagner
DETAILED BY: Maggie Brewer
APPROVED BY: James M. Harris P.E.

June 1, 2012 | SHEET 16 OF 21

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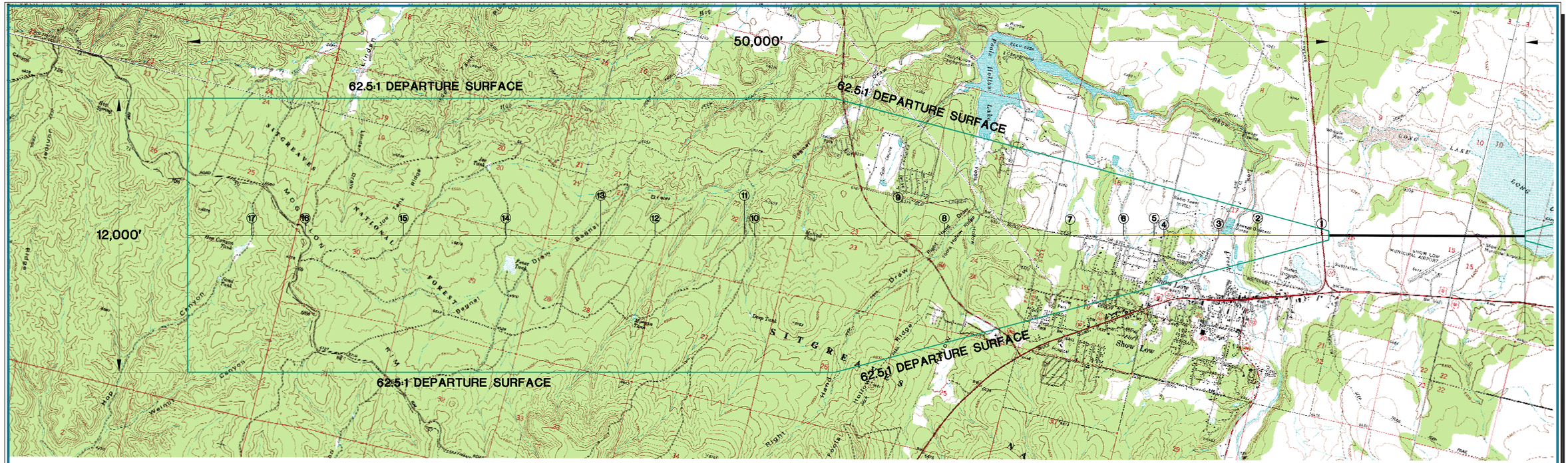
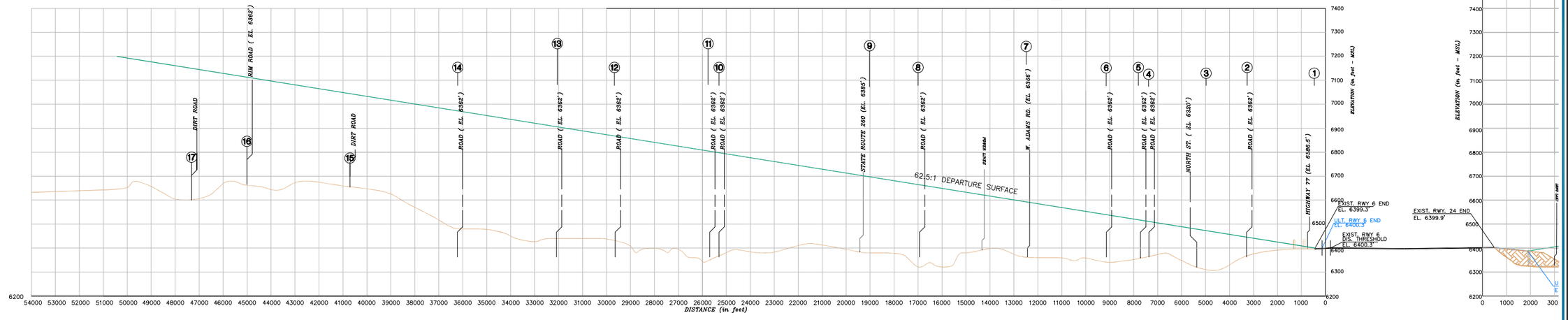
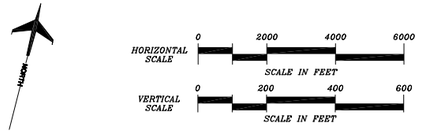


RUNWAY 6 APPROACH SURFACE PROFILE





No.	REVISIONS	DATE	BY	APP'D.
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1	MASTER PLAN UPDATE	8/2/91	–	–

SHOW LOW REGIONAL AIRPORT
RUNWAY 24 DEPARTURE SURFACE DRAWING
SHOW LOW, ARIZONA

PLANNED BY: Steve Wagner
DETAILED BY: Maggie Beaver
APPROVED BY: James M. Harris P.E.

June 1, 2012 | SHEET 17 OF 21

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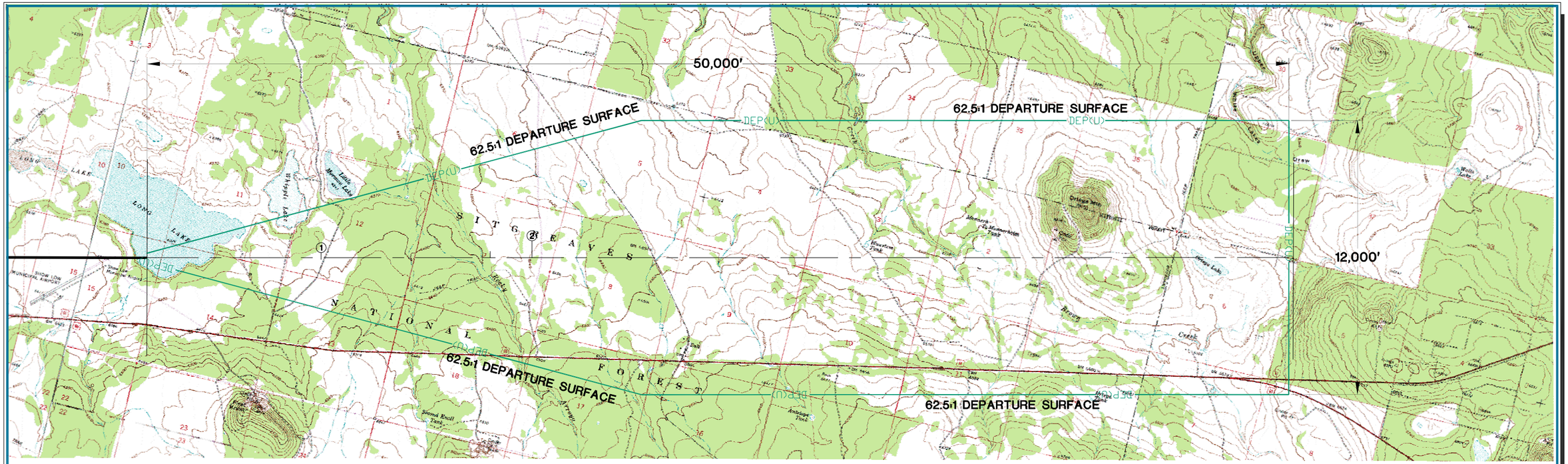
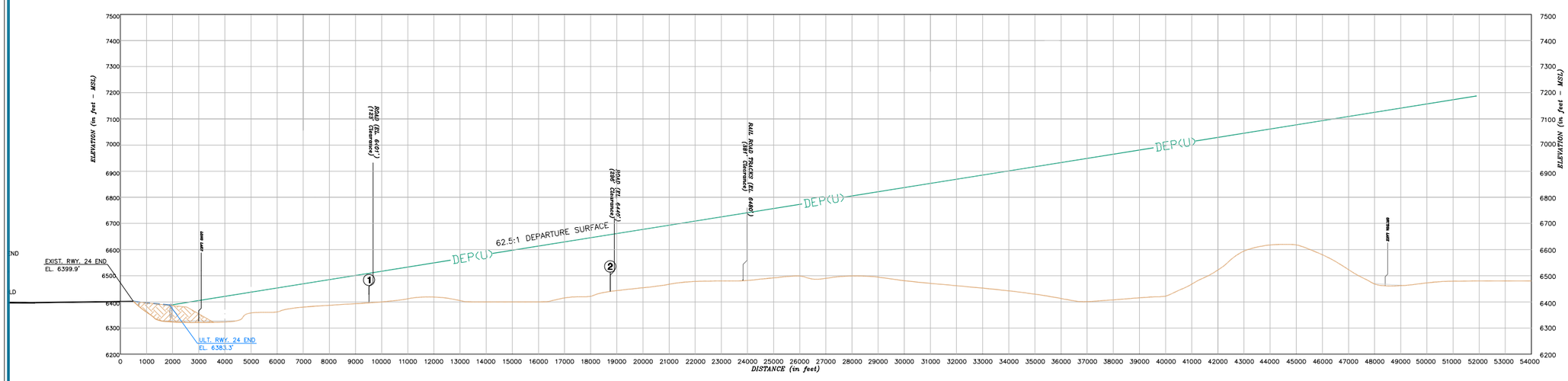
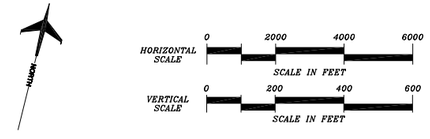


RUNWAY 24 APPROACH SURFACE PROFILE





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1	MASTER PLAN UPDATE	8/2/91	–	–

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SHOW LOW REGIONAL AIRPORT

RUNWAY 24 DEPARTURE SURFACE DRAWING

SHOW LOW, ARIZONA

PLANNED BY: Steve Wagner
DETAILED BY: Maggie Beaver
APPROVED BY: James M. Harris P.E.

June 1, 2012 | SHEET 18 OF 21

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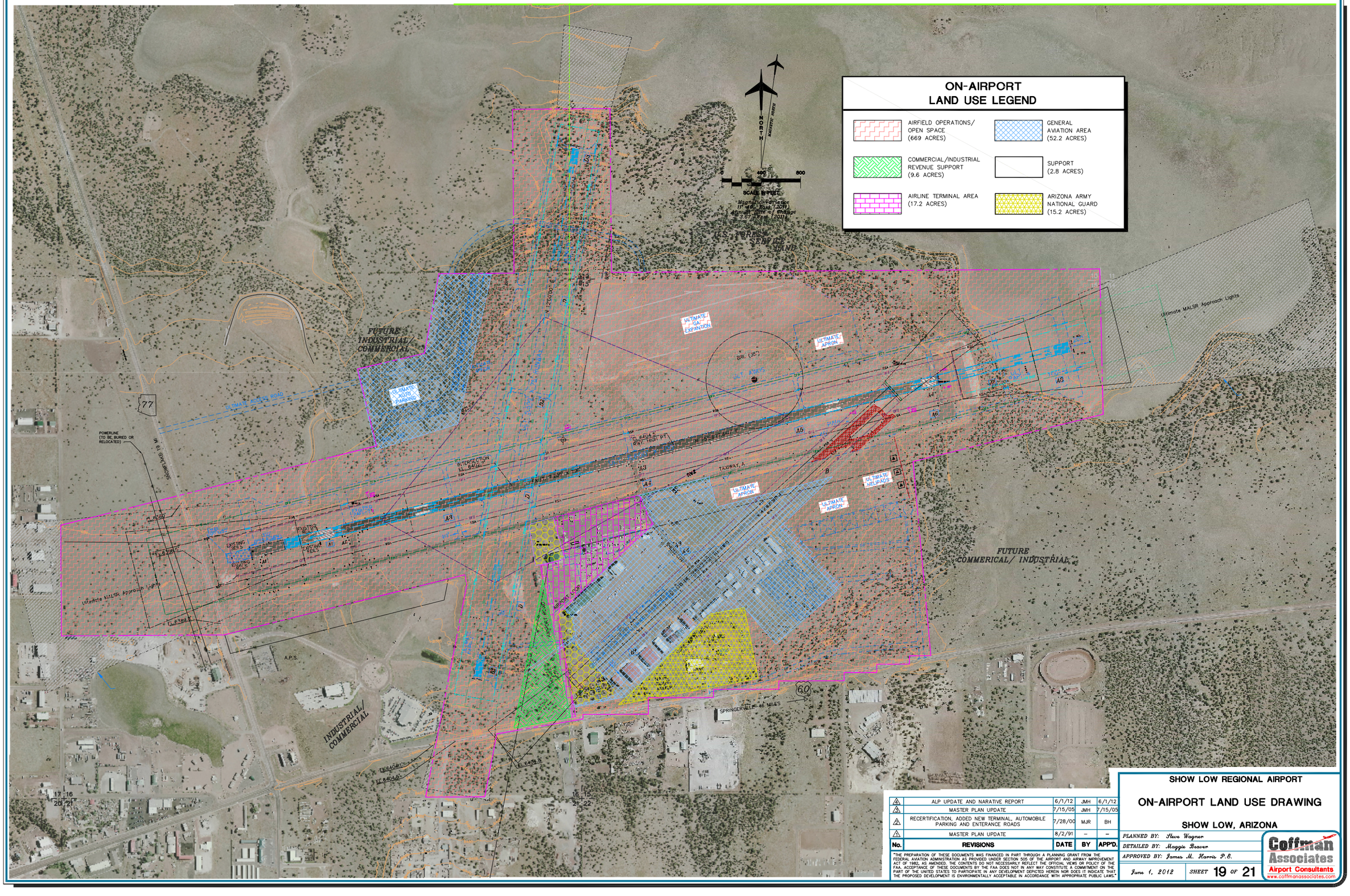

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SHOW LOW REGIONAL AIRPORT

ON-AIRPORT LAND USE DRAWING

SHOW LOW, ARIZONA

PLANNED BY: Steve Wagner
DETAILED BY: Maggie Beaver
APPROVED BY: James M. Harris P.E.

June 1, 2012 | SHEET 19 OF 21

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LEGEND

EXISTING	ULTIMATE	DESCRIPTION
		AIRPORT PROPERTY LINE
		AIRPORT REFERENCE POINT (ARP)
		AIRPORT ROTATING BEACON
		AVIGATION EASEMENT (if applicable)
		BUILDING CONSTRUCTION
BRL	BRL	BUILDING RESTRICTION LINE (BRL)
OFA	OFA(U)	OBJECT FREE AREA (OFA)
RSA	URSA	RUNWAY SAFETY AREA (RSA)
OFZ	OFZ(U)	OBSTACLE FREE ZONE (OFZ)
		DRAINAGE
		FACILITY CONSTRUCTION
		FENCING
PAPI-2	PAPI-2	NAVIGATIONAL AID INSTALLATION
		RUNWAY END IDENTIFICATION LIGHTS (REIL)
		RUNWAY THRESHOLD LIGHTS
		SECTION CORNER
		SEGMENTED CIRCLE/LIGHTED WIND TEE
		TOPOGRAPHIC CONTOURS
		WIND INDICATOR (Lighted)
		POWER POLE
		TAXIWAY DESIGNATION
		DIRT ROADS
		RUNWAY EDGE LIGHTING
		PAVEMENT TO BE ABANDONED
		SPECIAL USE PERMIT BOUNDARY
		PRIMARY AIRPORT CONTROL STATION (PACS)
		SECONDARY AIRPORT CONTROL STATION (SACS)

AIRPORT PROPERTY INFORMATION

PARCEL #		FAA GRANT #	ADOT GRANT #	ACRES
1	U.S. BUREAU OF LAND MANAGEMENT LAND PATENT JULY, 20 1984	N/A	N/A	358.65
2	ULTIMATE U.S. FOREST LAND TRANSFER	N/A	N/A	341.8
3	ULTIMATE U.S. FOREST SPECIAL USE PERMIT	N/A	N/A	22.5
4	ULTIMATE U.S. FOREST SPECIAL USE PERMIT	N/A	N/A	110.3
5	ULTIMATE AVIGATION EASMENT	N/A	N/A	20.5

NORTH
MAGNETIC NORTH
0 400 800
SCALE IN FEET

Magnetic Variance
11° 40' East (2011)
Annual Rate of Change
3.67' West (2011)

U.S. FOREST SERVICE LAND

ULTIMATE ACCESS ROAD
POWERLINE (TO BE BURIED OR RELOCATED)
SHOWLOW LAKE 19 MI
BRL 35'
RWY
ULT. 5,500' x 75' RUNWAY
N 12°00'00" E
EXIST. 7,200' x 100'
ULT. 8,600' x 100'
N 75°58'47.640" E
TAXIWAY A
EXISTING
SEG. CIRCLE/ LIGHTED WIND TEE
BRL (35')
EMAS 300' (est.)
1320' DISPLACEMENT
EXISTING REILS
EXISTING PAPI-2
Ultimate MALSR Approach Lights
AIRPORT LOOP
AIRPORT ROAD
TO BE CONVERTED TO TWY
CORPORATE WAY
NAT'L GUARD ARMORY
A.P.S. SUB STATION
INDUSTRIAL/ COMMERCIAL
SPRINGERVILLE-46 MILES
60

LEGEND

- EXISTING AIRPORT PROPERTY LINE
- ULTIMATE AIRPORT PROPERTY LINE
- PARCEL BOUNDARIES

No.	REVISIONS	DATE	BY	APP'D.
4	ALP UPDATE AND NARATIVE REPORT	6/1/12	JMH	6/1/12
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SHOW LOW REGIONAL AIRPORT

EXHIBIT "A" AIRPORT PROPERTY MAP

SHOW LOW, ARIZONA

PLANNED BY: Steve Wagner
DETAILED BY: Maggie Beaver
APPROVED BY: James M. Harris P.E.
June 1, 2012
SHEET 20 OF 21

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LEGEND

EXISTING	ULTIMATE	DESCRIPTION
		AIRPORT PROPERTY LINE
		AIRPORT REFERENCE POINT (ARP)
		AIRPORT ROTATING BEACON
		AVIGATION EASEMENT (if applicable)
		BUILDING CONSTRUCTION
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OFA	OFA(U)	OBJECT FREE AREA (OFA)
RSA	URSA	RUNWAY SAFETY AREA (RSA)
OFZ	OFZ(U)	OBSTACLE FREE ZONE (OFZ)
		DRAINAGE
		FACILITY CONSTRUCTION
		FENCING
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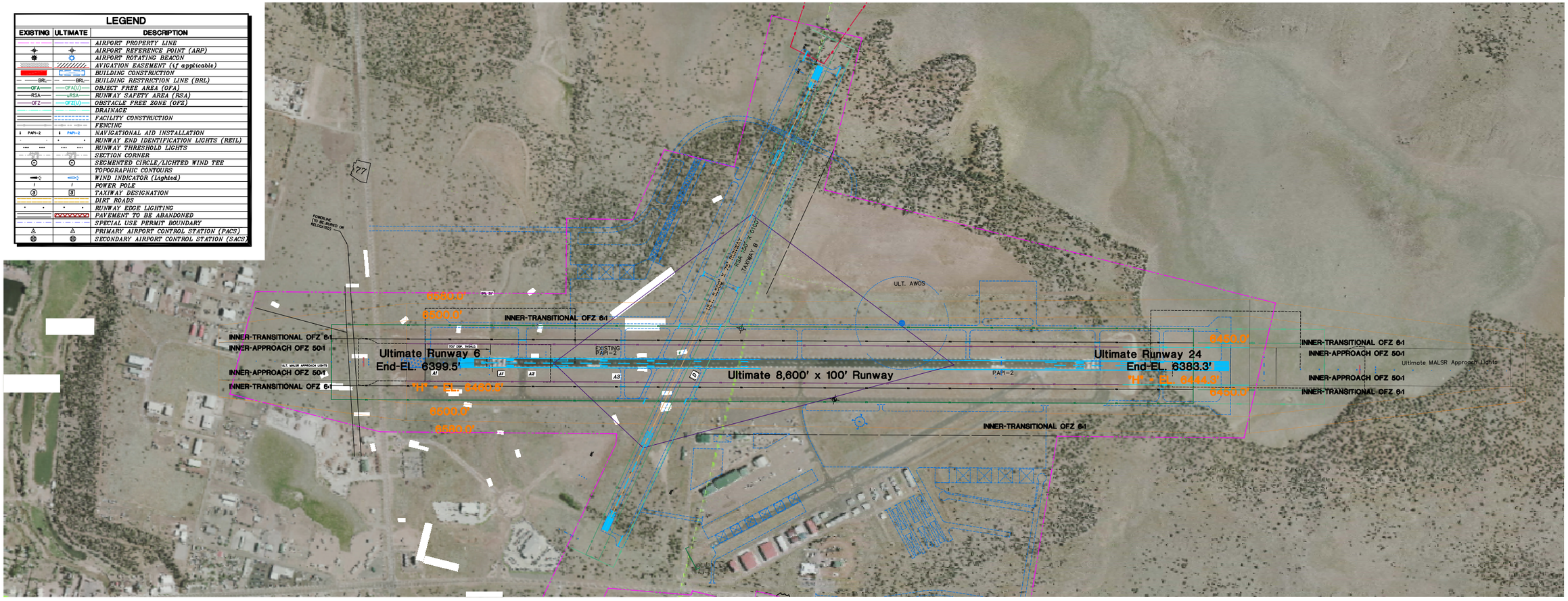
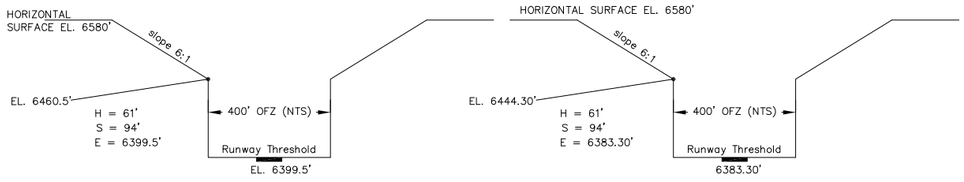
		WIND INDICATOR (Lighted)
		POWER POLE
		TAXIWAY DESIGNATION
		DIRT ROADS
		RUNWAY EDGE LIGHTING
		PAVEMENT TO BE ABANDONED
		SPECIAL USE PERMIT BOUNDARY
		PRIMARY AIRPORT CONTROL STATION (PACS)
		SECONDARY AIRPORT CONTROL STATION (SACS)





OBSTACLE FREE ZONE (OFZ) OBJECT PENETRATIONS

OBJECT	PENETRATION	DISPOSITION
None	-	-
	-	-

0 500 1000 1500
SCALE IN FEET

OBSTRUCTION TABLE

Object Description	Object Elevation	Obstructed Part 77 Surface	Surface Elevation	Object Penetration	Proposed Object Disposition
2. LT POLE	6418 MSL	APPROACH SURFACE/RWY 6	6412.0'	6.0'	REMOVE/RELOCATE
3. POLE	6433 MSL	APPROACH SURFACE/RWY 6	6416.0'	17.0'	REMOVE/RELOCATE
4. POLE	6436 MSL	APPROACH SURFACE/RWY 6	6417.0'	19.0'	REMOVE/RELOCATE
5. POLE	6437 MSL	APPROACH SURFACE/RWY 6	6417.0'	20.0'	REMOVE/RELOCATE
6. POLE	6433 MSL	APPROACH SURFACE/RWY 6	6418.0'	15.0'	REMOVE/RELOCATE
7. POLE	6433 MSL	APPROACH SURFACE/RWY 6	6418.0'	15.0'	REMOVE/RELOCATE
8. POLE	6438 MSL	APPROACH SURFACE/RWY 6	6424.0'	14.0'	REMOVE/RELOCATE
9. POLE	6436 MSL	APPROACH SURFACE/RWY 6	6420.0'	16.0'	REMOVE/RELOCATE

GENERAL NOTES:

1. Obstructions, clearances, and locations are calculated from ultimate runway end elevations and ultimate approach surfaces, unless otherwise noted.
2. Distance for road obstructions and clearances reflect a safety clearance of 10' for airport service roads, 15' for noninterstate roads, 17' for interstate roads, and 23' for railroads.
3. Depiction of features and objects within the outer portion of the approach surfaces, is illustrated on the RUNWAY APPROACH SURFACE PROFILES, sheet 6 and 7 of these plans.

0 20 40
VERTICAL SCALE IN FEET

0 200 400
HORIZONTAL SCALE IN FEET

No.	REVISIONS	DATE	BY	APP'D.
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SHOW LOW REGIONAL AIRPORT

INNER APPROACH OFZ DRAWING FOR RUNWAY 6-24

SHOW LOW, ARIZONA

PLANNED BY: Steve Wagner
DETAILED BY: Maggie Beaver
APPROVED BY: James M. Harris P.E.

June 1, 2012 SHEET 21 OF 21

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