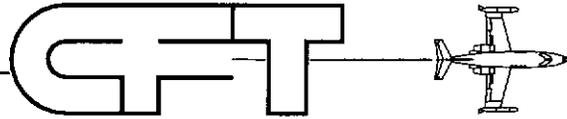


Greenlee County Airport Master Plan

(2000-2020)



Chapter 9 Appendices
June, 2002



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GLOSSARY
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AIR CARRIER - A commercial operator engaging in the carriage of persons or property in air commerce for compensation or hire. Air carriers are certified in accordance with FAR Parts 121 and 127, and generally operate aircraft having a seating capacity of more than 30 passengers or a maximum payload capacity of more than 7,500 pounds.

AIR ROUTE TRAFFIC CONTROL CENTER (ARTCC) - A facility established to provide positive air traffic control service to aircraft operating on IFR flight plans within controlled airspace. Controls only traffic en route between airports.

AIR TAXI - Schedule and/or nonscheduled aircraft operations carrying passengers and/or cargo for compensation. The capacity of air taxi aircraft is limited by Part 135 of the Federal Aviation Regulations.

AIR TRAFFIC - Aircraft operating in the air or on an airport surface, excluding loading ramps and parking areas.

AIRCRAFT APPROACH CATEGORY - A grouping of aircraft based on a speed of 1.3 times the stall speed in the landing configuration at maximum gross landing weight. An aircraft shall fit in only one category. If it is necessary to maneuver at speeds in excess of the upper limit of a speed range for a category, the minimum for the next higher category should be used. 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 166 knots or more.

AIRCRAFT MIX - The number of aircraft movements categorized by capacity group or operational group, and specified as a percentage of the total aircraft movements.

AIRCRAFT OPERATION - An aircraft takeoff or landing.

AIRPLANE DESIGN GROUP (PHYSICAL CHARACTERISTICS) - The airplane design group subdivides airplanes by wingspan. The airplane design group concept links an airport's dimensional standards to aircraft approach categories or to airplane design groups or to runway instrumentation configurations. The airplane design groups are:

1. **Airplane Design Group I:** Wingspan up to but not including 49 feet.
2. **Airplane Design Group II:** Wingspan 49 feet up to but not including 79 feet.
3. **Airplane Design Group III:** Wingspan 79 feet up to but not including 118 feet.
4. **Airplane Design Group IV:** Wingspan 118 feet up to but not including 171 feet.
5. **Airplane Design Group V:** Wingspan 171 feet up to but not including 197 feet.
6. **Airplane Design Group VI:** Wingspan 197 feet up to but not including 262 feet.

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AIRPORT CLASSIFICATIONS – There are four aviation facility classifications used by the FAA and the Arizona Department of Transportation. The first classification system utilizes the system in the National Plan of Integrated Airport Systems (NPIAS). The second system is used by the FAA to relate airport design criteria to the operational and physical characteristics of the airplanes. The third is a hierarchical classification used by the ADOT Aeronautics Division. The fourth was developed by ADOT based on FAA airport classification categories.

NPIAS Classifications:

- **Primary Service (PR)** – Primary Service airports are public use airports receiving scheduled airline passenger service which also enplane 10,000 or more passengers per year.
- **Commercial Service (CM)** – Commercial Service airports are public use airports, which receive, scheduled airline passenger service and which annually enplane 2,500 or more.
- **General Aviation (GA)** – General Aviation airports are either publicly or privately owned public use airports, which serve general aviation users.
- **Reliever (RL)** – Reliever airports are general aviation or commercial service airports which have the function of relieving congestion at a Primary Service airport.

ADOT Classifications:

- Primary system airports must be open to the public and meet at least one of the following criteria:
 - Have 10 or more based aircraft and/or 2,000 or more yearly operations; or
 - Have scheduled air carrier service; or
 - Receive commuter service regularly; or
 - Are projected to meet any of the above criteria within 10 years.
- A secondary airport is one that satisfies both following criteria: (1) recognized by the FAA as an airport per Form 5010 and (2) open to the public.
- Emerging Rural Airports are airport facilities that do not meet requirements of either the Primary or Secondary systems of airports, but exist in areas that are not adequately served by aviation facilities or have demonstrated a need for such facilities, or have not been registered with the FAA.

ADOT/FAA Classifications:

- **New/Emerging:** This category accommodates areas within the State of Arizona that demonstrate a need for an airport with minimum design standards to be utilized for general aviation, recreation, and/or emergency services.
- **Basic Utility – Stage I** – This type of airport serves about 75% of the single-engine and small twin-engine airplanes used for personal and business purposes. Precision approach operations are not usually anticipated.
- **Basic Utility – Stage II** – This type of airport serves all the airplanes in Stage I, plus some small business and air taxi-type twin-engine airplanes. Precision approach operations are not usually anticipated.

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- **General Utility – Stage I** – This type of airport serves all small airplanes. Precision approach operations are not usually anticipated. This airport is also designed for small airplanes in Airplane Design Group I.
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- **General Utility – Stage II** – This type of airport serves large airplanes in Aircraft approach Category A and B and usually has the capability for precision approach operations. This airport is normally designed for Airplane Design Groups I and II. It may also be designed to serve Aircraft Approach Category A large airplanes in Airplane Design Group III.
 - **Commercial Service** – An airport with regularly scheduled airline service.

AIRPORT ELEVATION/FIELD ELEVATION - The highest point of an airport's runways measured in feet from mean sea level.

AIRPORT LAYOUT PLAN (ALP) - A graphic presentation, to scale, of existing and proposed airport facilities, their location on the airport, and the pertinent clearance and dimensional information required to show conformance with applicable standards. To be eligible for AIP funding assistance, an airport must have an FAA-approved Airport Layout Plan.

AIRPORT LIGHTING - Various lighting aids that may be installed on an airport. Types of airport lighting include:

1. **Approach Light System/ALS:** An airport lighting facility which provides visual guidance to landing aircraft by radiating light beams in a directional pattern by which the pilot aligns with the extended centerline of the runway on his final approach for landing. Condenser-Discharge Sequential Flashing Lights/Sequenced Flashing Lights may be installed in conjunction with ALS at some airports. Types of Approach Light Systems are:
 - a) **ALSF-I:** Approach Light System with Sequenced Flashing Lights in ILS Cat-I configuration.
 - b) **ALSF-II:** Approach Light System with Sequenced Flashing Lights in ILS Cat-II configuration.
 - c) **SSALF:** Simplified Short Approach Light System with Sequenced Flashing Lights.
 - d) **SSALR:** Simplified Short Approach Light System with Runway Alignment Indicator Lights.
 - e) **MALSF:** Medium Intensity Approach Light System with Sequenced Flashing Lights.
 - f) **MALSR:** Medium Intensity Approach Light System with Runway Alignment Indicator Lights.
 - g) **LDIN:** Sequenced Flashing Lead-in Lights.
 - h) **RAIL:** Runway Alignment Indicator Lights (Sequenced Flashing Lights which are installed only in combination with other light systems).
 - i) **ODALS:** Omnidirectional Approach Lighting System consists of seven omnidirectional flashing lights located in the approach area of a non-precision runway.

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2. **Runway Lights/Runway Edge Lights:** Lights having a prescribed angle of emission used to define the lateral limits of a runway. Runway lights are uniformly spaced at intervals of approximately 200 feet, and the intensity may be controlled or preset.
 3. **Touchdown Zone 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.
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4. **Runway Centerline Lighting:** Flush centerline lights spaced at 50-foot intervals beginning 75 feet from the landing threshold and extending to within 75 feet of the opposite end of the runway.
 5. **Threshold Lights:** Fixed green lights arranged symmetrically left and right of the runway centerline, identifying the runway threshold.
 6. **Runway End Identifier Lights/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.
 7. **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.
 8. **Precision Approach Path Indicator/PAPI:** (same function and description as for VASI but different configuration).
 9. **Boundary Lights:** Lights defining the perimeter of an airport or landing area.

AIRPORT MASTER PLAN - An assembly of appropriate documents and drawings covering the development of a specific airport from a physical, economical, social, and political jurisdictional perspective. The airport layout plan is a part of this plan.

AIRPORT NOISE ABATEMENT PROGRAM - A program designed to mitigate noise impacts around an airport through changes in the manner in which aircraft are flown, or changes in the operation or layout of the airport.

AIRPORT OVERLAY ZONE - A zone intended to place additional land use conditions on land impacted by the airport while retaining the existing underlying zone.

AIRPORT REFERENCE CODE (ARC) - A coding system of aircraft approach speed and wingspan used to related to operational and physical airport design standards.

AIRPORT REFERENCE POINT (ARP) - An ARIP is a point having equal relationship to all existing and proposed landing and takeoff areas which is used to locate the airport geographically.

AIRPORT RESCUE AND FIRE FIGHTING (ARFF) - Airport rescue and fire fighting facilities, including vehicles, personnel, and buildings.

AIRPORT ROTATING BEACON - A visual NAVAID operated at many airports. At civil airports, alternating white and green flashes indicate the location of the airport.

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AIRSIDE - Portion of the airport directly related to the arrival and departure of aircraft, including such airfield facilities as runways, taxiways, navigational aids, marking, and lighting. (See LANDSIDE).

AIRSPACE - Space above the ground in which aircraft travel, divided into corridors, routes, and restricted zones.

AIR TRAFFIC CONTROL TOWER (ATCT) – A facility at an airport operated by appropriate authority to promote the safe, orderly and expeditious flow of air traffic within an airport traffic area.

AMBIENT NOISE - All encompassing noise associated with a given environment, being usually a composite of sounds from many sources near and far.

ANNUAL SERVICE VOLUME (ASV) - ASV is a reasonable estimate of an airport's annual capacity. It accounts for differences in runway use, aircraft mix, weather conditions, etc., that would be encountered over a year's time.

APPROACH AND RPZ PLAN - The Approach and RPZ Plan is compiled from the criteria in FAR Part 77, **Objects Affecting Navigable Airspace**. It shows the area affected by the Airport Obstructions Zoning Ordinance and includes layout of runways, airport boundary, elevations, and area topography. Applicable height limitation areas are shown in detail.

APPROACH SLOPES - The ratios of horizontal to vertical distance indicating the degree of inclination of the Approach Surface. The various ratios include:

- | | |
|-----------|--|
| 20:1 | For all utility and visual runways extended from the primary surface a distance of 5,000 feet. |
| 34:1 | For all non-precision instrument runways other than utility extended from the primary surface for a distance of 10,000 feet. |
| 50:1/40:1 | For all precision instrument runways extending from the primary surface for a distance of 10,000 feet at an approach slope of 50:1 and an additional 40,000 feet beyond this at a 40:1 Approach Slope. |

APPROACH SURFACE - An element of the airport imaginary surfaces longitudinally centered on the extended runway centerline, extending outward and upward from the end of the primary surface at a designated slope.

APPROVED INSTRUMENT APPROACH - An instrument approach approved for general use and publication by the FAA. It must meet design, accuracy, and equipment requirements set by the FAA, and is subject to periodic FAA flight checks.

APRON/RAMP - An area designated for aircraft use, other than taxiways and runways. Example uses for an apron include loading and unloading, parking, maintenance, refueling, before take-off engine run up, and as a temporary traffic holding area.

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AREA NAVIGATION (RNAV) - A method of navigation that permits aircraft operation on any desired course within the coverage of station-referenced navigation signals or within the limits of a self-contained system capability.

ARIZONA DEPARTMENT OF TRANSPORTATION (ADOT) – An agency of the State of Arizona government responsible for planning, design, construction and maintenance of transportation facilities.

AUTOMATIC DIRECTION FINDER (ADF) - An aircraft radio navigation system, which senses and indicates the direction to a Non-Directional radio beacon (NDB), ground transmitter. Direction is indicated to the pilot as a magnetic bearing or as a relative bearing to the aircraft, depending on the type of indicator installed in the aircraft.

AUTOMATED FLIGHT SERVICE STATION (AFSS) - An air traffic facility, which provides pilot briefing and en route communications; receives and processes flight plans; and offers other services to aviators. Some of these services are provided on an automated basis.

AUTOMATED WEATHER OBSERVATION SYSTEM (AWOS) – system of equipment that provides around-the clock, real-time weather information at airports without adequate weather observation personnel. The basic system consists of weather sensors to measure wind speed and direction, temperature, dewpoint, pressure, precipitation, visibility, cloud height, and density altitude.

AUTOMATED SURFACE OBSERVATION SYSTEM (ASOS) – In addition to AWOS data, ASOS Provides information on the degree and precipitation (i.e., rain, sleet, snow, freezing rain) received in the observation area.

AUTOMATIC TERMINAL INFORMATION SERVICE (ATIS) - The continuous broadcast of recorded non-control information intended to improve controller effectiveness and relieve frequency congestion by automating the repetitive transmission of essential but routine information.

AVIGATION AND HAZARD EASEMENT - An easement which provides right of flight at any altitude above the approach surface, prevents any obstruction above the approach surface, provides a right to cause noise vibrations, prohibits the creation of electrical interference's and grants right-of-way entry to remove trees or structures above the approach surface.

BASED AIRCRAFT - An aircraft permanently stationed at an airport.

BUILDING RESTRICTION LINE (BRL) - A line shown on the Airport Layout Plan beyond which airport buildings must not be positioned in order to limit their proximity to aircraft movement areas.

CAPACITY - Capacity (throughput capacity) is a measure of the maximum number of aircraft operations, which can be accommodated on the airport component in an hour. Since the

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capacity of an airport component is independent of the capacity of other airport components, it can be calculated separately.

COMMERCIAL SERVICE - Commercial service airports are public-use airports, which receive, scheduled passenger service aircraft and which annually enplane 2,500 or more passengers.

COMMUTER AIR CARRIER - An air carrier, certificated in accordance with FAR Part 135, which operates aircraft with a maximum of 60 seats and provides at least five schedule round trips per week between two or more points, or which carries mail.

COMPREHENSIVE PLAN - A set of public decisions dealing with how the land, air, and water resources of an area are to be used. The plan provides for all resources, uses, public facilities, and services in an area. It also incorporates the plans and programs of the various governmental units into a single management tool for the planning area.

CONDITIONAL USE - A land use regulatory procedure in which an applicant must adhere to "standards for approval" as established by local officials. A conditional-use procedure allows extensive public review of any development being considered.

CONTROLLED AIRSPACE - An airspace of defined dimensions which air traffic control service is provided to IFR flights and to VFR flights in accordance with the airspace classification.

- a. Controlled airspace is a generic term that covers Class A, Class B, Class C, Class D and Class E airspace.
- b. Controlled airspace is also that airspace within which all aircraft operators are subject to certain pilot qualifications, operating rules and equipment requirements in FAR Part 91 (for specific operating requirements, please refer to FAR Part 91). For IFR operations in any class of controlled airspace, a pilot must file an IFR flight plan and receive an appropriate ATC clearance. Each Class B, Class C and Class D airspace area designated for an airport contains at least one primary airport around which the airspace is designated (for specific designations and descriptions of the airspace classes, please refer to FAR Part 71).
- c. Controlled airspace in the United States is designated as follows:
 1. **CLASS A:** Generally, that airspace from 18,000 feet MSL up to and including FL 600, including the airspace overlying the waters within 12 nautical miles of the coast of the 48 contiguous States and Alaska. Unless otherwise authorized, all persons must operate their aircraft under IFR.
 2. **CLASS B:** Generally, that airspace from the surface to 10,000 feet MSL surrounding the nation's busiest airports in terms of airport operations or passenger enplanements. The configuration of each Class B airspace area is individually tailored and consists of a surface area and two or more layers (some Class B airspace areas resemble upside-down wedding cakes) and is designed to contain all published instrument procedures once an aircraft enters the airspace. An ATC clearance is

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required for all aircraft to operate in the area, and all aircraft that are so cleared receive separation services within the airspace. The cloud clearance requirement for VFR operations is "clear of clouds."

2. **CLASS C:** Generally, that airspace from the surface to 4,000 feet above the airport elevation (charted in MSL) surrounding those airports that have an operational control tower, are serviced by a radar approach control, and that have a certain number of IFR operations or passenger enplanements. Although the configuration of each Class C area is individually tailored, the airspace usually consists of a surface area within a 5 nautical mile (NM) radius, an outer circle with a 10NM radius that extends from 1,200 feet to 4,000 feet above the airport elevation
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and an outer area. Each person must establish two-way radio communications with the ATC facility providing air traffic services prior to entering the airspace and thereafter maintain those communications while within the airspace. VFR aircraft are only separated from IFR aircraft within the airspace. (See OUTER AREA.)

4. **CLASS D:** Generally, that airspace from the surface to 2,500 feet above the airport elevation (charted in MSL) surrounding those airports that have an operational control tower. The configuration of each Class D airspace area is individually tailored and when instrument procedures are published, the airspace will normally be designed to contain the procedures. Arrival extensions for instrument approach procedures may be Class D or Class E airspace. Unless otherwise authorized, each person must establish two-way radio communications with the ATC facility providing air traffic services prior to entering the airspace and thereafter maintain those communications while in the airspace. No separation services are provided to VFR aircraft.
5. **CLASS E:** Generally, if the airspace is not Class A, Class B, Class C or Class D, and it is controlled airspace, it is Class E airspace. 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. Also in this class are Federal airways, airspace beginning at either 700 or 1,200 feet AGL used to transition to/from the terminal or en route environment, en route domestic and offshore airspace areas designated below 18,000 feet MSL. Unless designated at a lower altitude, Class E airspace begins at 14,500 MSL over the United States, including that airspace overlying the waters within 12 nautical miles of the coast of the 48 contiguous States and Alaska, up to, but not including, 18,000 feet MSL and the airspace above FL 600.

CONVENTIONAL HANGAR - A large building used to store more than one aircraft and/or to conduct aircraft maintenance.

CRITICAL AIRCRAFT - In airport design, the aircraft which controls one or more design items such as runway length, pavement strength, lateral separation, etc., for a particular airport. The same aircraft may not be critical to all design items.

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CROSSWIND RUNWAY - A runway additional to the primary runway to provide for wind coverage not adequately provided by the primary runway.

DECISION HEIGHT (DH) - With respect to the operation of aircraft, DH means the height at which a decision must be during an ILS instrument approach to either continue the approach or to execute a missed approach.

DEPENDENT VARIABLE - The variable that is of interest to the researcher, the variable that is not forecast. In regression analysis, the variable on the left-hand side of the equation.

DISPLACED THRESHOLD - A threshold located at a point on the runway other than at the runway end. Except for the approach standards defined in FAR Part 77, approach surfaces are associated with the threshold location.

DISTANCE MEASURING EQUIPMENT (DME) - A navigation ground station capable of receiving interrogations from aircraft and transmitting signals which allow time, speed, and distance computations to be made. The station is usually sited with VOR and, at times, an ILS.

EASEMENT - The legal right held by one party to make use of the land of another for a limited purpose.

ECONOMETRIC METHODS - Regression correlation techniques applied to a great variety of forecasting problems to ascertain the relationships between the dependent variables and such explanatory and logically relevant economic variables as income, demographic variables such as population, and other market factors, such as usage impedance and intermodal competition. (See Regression Equation).

ENVIRONMENTAL ASSESSMENT (EA) - A concise public document, prepared under the guidelines of the **National Environmental Policy Act of 1969**, and for which a federal agency is responsible that serves to:

1. Briefly provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact.
2. Aid an agency's compliance with the Act when no environmental impact statement is necessary.
3. Facilitate preparation of a statement when one is necessary.

It includes brief discussions of the need for the proposal, of alternatives as required, of the environmental impacts of the proposed action and alternatives, and a listing of agencies and persons consulted.

ESSENTIAL AIR SERVICE - As one of goals of airline deregulation, the government guaranteed air service to small communities and provided subsidies where necessary.

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FEDERAL AVIATION ADMINISTRATION AIRPORT IMPROVEMENT PROGRAM (AIP) – A grant-in-aid program funded by the Airport and Airway Trust Fund.

FEDERAL AVIATION REGULATIONS (FAR), PART 36 - FAR Part 36 contains noise certifications standards for most airplane types, generally requiring newly designed and manufactured aircraft to be significantly quieter than older aircraft.

FEDERAL AVIATION REGULATIONS (FAR), PART 77 - Part 77, *Objects Affecting Navigable Airspace*, establishes standards for determining obstructions to navigable airspace.

FEDERAL AVIATION REGULATIONS (FAR), PART 150 - Implements portions of Title I of the *Aviation Safety and Noise Abatement Act*. It specifically establishes a single system for the measurement of airport (and background) noise, a single system for determining the exposure of individuals to airport noise, and a standardized airport noise compatibility planning program.

FIXED BASE OPERATOR (FBO) - A private firm providing airport services such as fuel sales, aircraft maintenance, aircraft rental, and flight instruction.

FLIGHT SERVICE STATION (FSS) - A facility operated by the FAA to provide flight service assistance.

GENERAL AVIATION (GA) - The portion of civil aviation which includes all facets of aviation except scheduled air carriers falls into four (4) major categories:

1. **Business**: The use of an aircraft for executive or business transportation. This category consists of aircraft used by an organization and operated by professional pilots to transport its employees and property (not for compensation of hire); and aircraft used by an individual for transportation required for business.
2. **Commercial**: The use of an aircraft for commercial purposes (other than the commuter and air carrier), including: air taxi, aerial application, special industrial usage, aerial surveys, advertising, aerial photography, and emergency medical transportation.
3. **Instructional**: The use of an aircraft for flight training under the supervision of an instructor.
4. **Personal**: The use of an aircraft for a variety of personal reasons.

GENERAL AVIATION AIRPORT - General Aviation airports are either publicly or privately owned airports which serve general aviation aircraft users.

GLIDE SLOPE (GS) - Provides vertical guidance for aircraft during approach and landing. The glide slope consists of the following:

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1. Electric components emitting signals which provide vertical guidance by reference to airborne instruments during instrument approaches such as an ILS, or
2. Visual ground aids, such as VASI, which provide vertical guidance for a VFR approach or for the visual portion of an instrument approach and landing.

GLOBAL POSITIONING SYSTEM (GPS) – A satellite-based navigational system operated by the United States Department of Defense and made available for civilian use for en route navigation, aircraft instrument approaches and other purposes.

HEIGHT ABOVE TOUCHDOWN (HAT) - The height of the decision height or minimum descent altitude above the highest runway elevation in the touchdown zone (first 3,000 feet of the runway). HAT is a published on instrument approach chart in conjunction with all straight-in minimums. (See **DECISION HEIGHT, MINIMUM DESCENT ALTITUDE**).

HELIPAD - A small, designated area, usually with a prepared surface, on a heliport, airport, landing/takeoff area, apron/ramp, or movement area used for takeoff, landing, or parking of helicopters.

HOLD HARMLESS AGREEMENT - An agreement that holds airport sponsors or jurisdictions harmless from alleged damages resulting from airport operations. Such agreements are recorded in deeds or permits as a condition of approval of a regulatory land-use decision.

IFR CONDITIONS - Weather conditions below the minimum for flight under visual flight rules (VFR).

IMAGINARY SURFACES - Those areas established in relation to the airport and to each runway consistent with FAR Part 77 in which any object extending above these imaginary surfaces is, by definition, an obstruction.

INDEPENDENT VARIABLE - An indicator which the dependent variable is projected. The Independent Variable may or may not cause the interval change in a dependent variable with which it is associated.

INSTRUMENT APPROACH - The act of making an approach to an airport solely by reference to instruments. To be counted in FAA statistics as an instrument approach, the aircraft must descend through clouds at some interval from the initial approach fix to the airport.

INSTRUMENT APPROACH AID - Any of several FAA-approved electronic aids designed to provide guidance to pilots making instrument approaches.

INSTRUMENT FLIGHT RULES (IFR) - Rules governing the procedures for conducting instrument flight. Pilots are required to follow these rules when operating in controlled airspace with a visibility of less than three miles and/or a ceiling lower than 1,000 feet.

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INSTRUMENT LANDING SYSTEM (ILS) - The instrument landing system is designed to provide electronic instrument guidance to the pilot to permit exact alignment and angle of descent of a properly equipped aircraft on final approach for landing.

INTEGRATED NOISE MODEL (INM) - The FAA's Integrated Noise Model is the standard prediction analysis tool to which all computer-based airport noise exposure models are compared. The INM calculates the total impact of aircraft noise at or around airports. This noise exposure level can be presented in contours of equal noise exposure of any one of the following noise measures. Noise Exposure Forecast (NEF), Equivalent Sound Level (Leq), Day-Night Average Sound Level and Community Noise Equivalent Level (CNEL); however, only the DNL is approved for use with FAR Part 150.

ITINERANT OPERATIONS - All operations at an airport that are not local operations. (See LOCAL OPERATIONS).

LANDING GEAR - That part of an aircraft which is required for landing. Gear may be configured as Single-Wheel Gear (SWG or SW), Dual-Wheel Gear (DWG or DW), or Dual-Tandem-Wheel Gear (DTWG or DTW).

LANDSIDE - Portions of the airport interfacing with or supporting the airfield functions, including such facilities as terminal area buildings, aircraft parking apron, automobile parking area, fuel storage, air cargo, and ground access. (See AIRSIDE).

LAND USE - The present or planned utilization of a given parcel of land. Such land uses are normally indicated or delineated on a land-use map. Land-use maps may indicate usage's for any given time period past, present, or future, and such period should always be indicated.

LARGE AIRCRAFT - Aircraft of more than 12,500 pounds maximum certified takeoff weight.

LIGHTING AND MARKING OF HAZARDS TO AIR NAVIGATION - Installation of appropriate lighting fixtures, painted markings, or other devices to such objects or structures that constitute hazards to air navigation.

LIMITED AVIGATION EASEMENT - An easement which provides right of flight above approach slope surfaces, prohibits any obstruction penetrating the approach slope surface, and provides right of entry to remove any structure or growth penetrating the approach slope surface.

LOCAL OPERATIONS - Operations by aircraft flying in the traffic pattern or within sight of the control tower, aircraft known to be arriving or departing from flight in local practice areas, or aircraft executing practice instrument approaches at the airport.

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

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LOW INTENSITY RUNWAY LIGHTS (LIRL) - runway edge lighting used to define the lateral limits of a taxiway. The intensity of the lights may be present or controlled to high (HITL), medium (MITL) and low (LITL) depending on the category of airport and use of the taxiway.

MARKET SHARE ANALYSIS - Proportions a large-scale activity down to a local level, assuming that the proportion of the large-scale activity, which can be assigned to the local level, is a regular and predictable quantity. Also known as "ratio" or "top-down" modeling, this method is commonly used to develop micro forecasts from the exogenous sources of macro forecasts.

MEAN SEA LEVEL (MSL) – A datum for defining elevations; usually termed mean sea level.

METEOROLOGICAL AVIATION REPORT (METAR) – Surface aviation weather observations taken and reported in a standard international format.

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MOVEMENT AREA - The runways, taxiways, and other areas of an airport/heliport which are utilized for taxiing/hover taxiing, takeoff, and landing of aircraft, exclusive of loading ramps and parking areas. At those airports/heliports with a tower, specific approval for entry onto the movement area must be obtained from ATC.

MICROWAVE LANDING SYSTEM (MLS) - An advanced form of precision approach equipment with improved accuracy and fewer siting problems than current ILS. An MLS also can permit curved path approaches to the runway instead of requiring a straight path as an ILS and PAR do.

MILITARY OPERATING AREA (MOA) - A MOA is airspace established outside of Class A airspace area to separate or segregate certain non-hazardous military activities from IFR traffic and to identify for VFR traffic where these activities are conducted.

MINIMUM DESCENT ALTITUDE (MDA) - The lowest altitude, expressed in feet above mean sea level, to which descent is authorized on final approach or during circle-to-land maneuvering in execution of a standard instrument approach procedure where no electronic glide is provided. (See NONPRECISION APPROACH PROCEDURE).

MISSED APPROACH - A maneuver conducted by a pilot when an instrument approach cannot be completed to a landing. The routes of flight and altitude are shown on instrument approach procedure charts. A pilot executing a missed approach prior to the Missed Approach Point (MAP) must continue along the final approach to the MAP. The pilot may climb immediately to the altitude specified in the missed approach procedure. It is also a term used by the pilot to inform ATC that he is executing the missed approach. At locations where ATC radar service is provided, the pilot should conform to radar vectors, when provided by ATC, in lieu of the published missed approach procedure.

MULTI-ENGINE AIRCRAFT - Reciprocating-powered, fixed-wing aircraft having more than one engine and categorized as weighing more than or less than 12,500 pounds maximum gross weight.

MULTIPLE REGRESSION - regression model with more than one independent variable. (See REGRESSION EQUATION).

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA) - An agency of the U.S. Department of Commerce responsible for the collection of weather data and its translation into products and services.

NATIONAL PLAN OF INTEGRATED AIRPORT SYSTEMS (NPIAS) - A plan prepared annually by the FAA which identifies, for the Congress and the public, the composition of a national system of airports together with the airport development necessary to anticipate and meet the present and future needs of civil aeronautics, to meet requirements in support of the national defense, and to meet the special needs of the Postal Service. The plan includes both new facilities and qualitative improvements to existing airports to increase their capacity, safety, technological capability, etc.

GLOSSARY

Greenlee County Airport Master Plan Update

NATIONAL WEATHER SERVICE (NWS) – An agency of the U. S. Department of Commerce and a branch of NOAA responsible for providing nationwide meteorological services to the public and nonmilitary government agencies.

NAVIGATIONAL AID (NAVAID) - Any visual or electronic device airborne or on the surface which provides point-to-point guidance information or position data to aircraft in flight.

NOISE CONTOURS - A noise impact boundary line connecting places on a map where the level of sound is the same. Some of the terminology and methods used in developing noise contours include:

1. **A-Weighted Sound Level (dBA):** Commonly used sound measurement, which approximates the manner in which the human ear responds to sounds.
2. **Composite Noise Rating (CNR):** A measure, taken over a 24-hour period, of the noise environment produced by aircraft operations. The CNR is calculated from aircraft noise and is expressed in terms of the maximum perceived noise level (PNL) and the number of operations in daytime and nighttime periods.
3. **Day-Night Average Sound Level (DNL):** Equivalent noise level produced by airport/aircraft operations during a 24-hour time period, with a 10-decibel penalty applied to the level measured during the nighttime hours of 10pm to 7am.
4. **Equivalent Sound Level (Leq):** The constant sound levels which, in a given situation and time period, conveys the same sound energy, as does the actual time-varying sound in the same period. The equivalent sound level is the same as the average sound level.
5. **Noise Exposure Forecast (NEF):** A measure of the noise environment over a 24-hour period. It is based upon summation of individual noise events over the 24-hour period, with adjustments applied for nighttime noises.

NOISE EXPOSURE AREA/ZONE - An element of the airport impact zone or airport overlay zone used to identify areas sensitive to aircraft noise. Included in the corridor may be:

- Severe Noise Impact (75+)
- Substantial Noise Impact (65-75)
- Moderate Noise Impact (55-65)

NOISE IMPACT - A condition that exists when the noise levels that occur in an area exceed a level identified as appropriate for the activities in that area.

NONDIRECTIONAL BEACON/RADIO BEACON (NDB) - An L/MF or UHF radio beacon transmitting Nondirectional signals whereby the pilot of an aircraft equipped with direction-finding equipment can determine his bearing to or from the radio beacon and "home" on or track to or from the station. When the radio beacon is installed in conjunction with the instrument landing system marker, it is normally called a compass locator.

GLOSSARY

Greenlee County Airport Master Plan Update

NONPRECISION APPROACH PROCEDURE/NONPRECISION APPROACH - A standard instrument approach procedure in which no electronic glide slope is provided; e.g., VOR, TACAN, NDB, LOC, LDA, SDF, or ASR.

NONPRECISION INSTRUMENT APPROACH AID - An electronic aid designed to provide an approach path for aligning an aircraft on its final approach to a runway. It lacks the high accuracy of the precision approach equipment and does not provide guidance. The VHF Omnidirectional Range (VOR) and the Nondirectional beacon (NDB) are two examples of nonprecision instrument equipment.

NONPRECISION INSTRUMENT RUNWAY - A runway having an existing or planned instrument approach procedure from which a straight-in landing is approved but no electronic glide slope information is available and for which no precision approach facilities are planned.

OBJECT FREE AREA (OFA) - A two-dimensional ground area surrounding runways, taxiways, and taxilanes which is clear of objects except for objects whose location is fixed by function.

OBSTACLE FREE ZONE (OFZ) - The airspace defined by the runway OFZ and, as appropriate, the inner-approach OFZ and the inner-transitional OFZ, which is clear of object penetrations other than frangible NAVAIDS (NAVAIDS whose properties allow failure at a specified impact load).

- **Runway OFZ:** The airspace above a surface centered on the runway centerline.
- **Inner-approach OFZ:** The airspace above a surface centered on the extended runway centerline. It applies to runways with an approach lighting system.
- **Inner-transitional OFZ:** The airspace above surfaces located on the outer edges of the runway OFZ and the inner-approach OFZ. It applies to precision instrument runways.

OBSTRUCTION - An object, which penetrates an imaginary surface, described in the FAA's Federal Aviation Regulations (FAR), Part 77.

OBSTRUCTION LIGHTS - Lights, often red and white, mounted on a surface structure or on natural terrain, to warn pilots of an obstruction.

PARALLEL RUNWAYS - Two or more runways at the same airport whose centerlines are parallel. Designated both by runway number and L (left) or R (right), or, if three parallel runways exist, L (left), C (center), and R (right).

PRECISION APPROACH PROCEDURE/PRECISION APPROACH - A standard instrument approach procedure in which an electronic glide slope is provided, e.g., ILS, MLS, and PAR.

PRECISION APPROACH RADAR/PAR - Radar equipment in some ATC facilities operated by the FAA, and/or the military services at joint civil/military locations and separate military

GLOSSARY

Greenlee County Airport Master Plan Update
installations, to detect and display azimuth, elevation, and range of aircraft on the final approach course to a runway.

PRECISION APPROACH RADAR/PAR (cont'd) - This equipment may be used to monitor certain non-radar approaches, but is primarily used to conduct a precision instrument approach (PAR) wherein the controller issues guidance instructions to the pilot based on the aircraft's position in relation to the final approach course (azimuth), the glide path (elevation), and the distance (range) from the touchdown point on the runway as displayed on the radar scope.

PRECISION INSTRUMENT APPROACH AID - An electronic aid designed to provide an approach path for exact alignment and descent guidance of an aircraft on final approach to a runway. Instrument Landing System (ILS), Precision Approach Radar (PAR), and Microwave Landing System (MLS) are the existing precision NAVAIDS.

PRECISION INSTRUMENT RUNWAY - A runway having an existing or planned instrument approach that is essentially aligned with the runway centerline and that has electronic glide slope information for guidance of the descent of the aircraft to the touchdown point on the runway.

PRIMARY SERVICE AIRPORT - Primary service airports are public-use airports which receive scheduled passenger service aircraft and which annually enplane one one-hundredth percent (0.01%) or more of the combined total domestic passenger enplanements for all United States air carriers.

PRIMARY SURFACE - A primary surface is longitudinally centered on a runway. When the runway has a specially prepared hard surface, the primary surface extends 200 feet beyond each end of that runway. When the runway has no specially prepared hard surface, or planned hard surface, the primary surface terminates at each end of the runway. The width of a primary surface ranges from 250 feet to 1,000 feet, depending on the existing or planned approach system. The elevation of any point on the primary surface is the same as the elevation of the nearest point on the runway centerline.

r - The correlation coefficient. Measures the degree of association or covariance between the independent and dependent variable. Correlation does not equal causation. (See R^2).

R^2 - The coefficient of determination. Indicates the percentage variation in the dependent variable that is explained by variations in the causal variables.

RADIAL - A magnetic bearing extending from a VOR/VORTAC/TACAN navigational facility.

REGIONAL AIRLINE - An airline providing regularly scheduled passenger or cargo service with aircraft usually seating less than 60 passengers or cargo aircraft with 18,000-pound payload or less. Special provisions, however, enable regional airlines to operate any size aircraft under certain conditions.

REGRESSION EQUATION - A regression equation is the mathematical representation of a regression model. It states that one or more independent variables and a constant term are

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Greenlee County Airport Master Plan Update

related to the dependent variable in an additive fashion. The relationship may be linear or one of several curvilinear types.

RELIEVER AIRPORT - Reliever airports are general aviation airports which have the function of relieving congestion at a primary service airport and which provide the general aviation user with an alternate for access to the overall community. Reliever airports receive higher priority for funding assistance than other general aviation airports.

RELOCATED THRESHOLD - A permanent threshold located at the relocated runway end.

ROTATING BEACON - An airport aid allowing pilots the ability to locate an airport while flying under VFR conditions at night.

RUNWAY - A defined rectangular area, on a land airport prepared for the landing and takeoff run of an aircraft along its length. Runways are normally numbered in relation to their magnetic direction rounded off to the nearest 10 degrees, e.g., Runway 01, Runway 26. (See PARALLEL RUNWAYS).

RUNWAY GRADIENT (EFFECTIVE) - The average gradient consisting of the difference in elevation of the two ends of the runway divided by the runway length may be used, provided that no intervening point on the runway profile lies more than five feet above or below a straight line joining the two ends of the runway. In excess of five feet, the runway profile will be segmented and aircraft data will be applied for each segment separately.

RUNWAY LENGTH - LANDING - The measured length from the threshold to the end of the runway.

RUNWAY LENGTH - PHYSICAL - The actual measured length of the runway.

RUNWAY LENGTH - TAKEOFF - The measured length from where the takeoff is designed to being to the end of the runway.

RUNWAY LIGHTING SYSTEM - A system of lights running the length of a runway that may be high intensity (HIRL), medium intensity (MIRL), or low intensity (LIRL).

RUNWAY PROTECTION ZONE (RPZ) - An area (formerly the clear zone) used to enhance the safety of aircraft operations. It is at ground level beyond the runway end.

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.

SEGMENTED CIRCLE - A system of visual indicators designed to provide traffic pattern information at an airport without an operating control tower.

GLOSSARY

Greenlee County Airport Master Plan Update

SIMPLE REGRESSION - Simple regression involves a single independent variable. It assumes a linear relationship between the independent variable and the dependent variable. That relationship is estimated using the method of "least squares" and a set of observed values.

SIMPLIFIED DIRECTIONAL FACILITY (SDF) - A NAVAID used for nonprecision instrument approaches. The final approach course is similar to that of an ILS localizer except that the SDF course may be offset from the runway, generally not more than 3 degrees, and the course may be wider than the localizer, resulting in a lower degree of accuracy.

SMALL AIRCRAFT - Aircraft of 12,500 pounds or less, maximum certificated takeoff weight.

SPECIAL-USE AIRSPACE - Airspace of defined dimensions identified by an area on the surface of the earth 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. Types of special-use airspace included:

1. **Alert Area:** Airspace which may contain a high volume of pilot training activities or an unusual type of a aerial activity, neither of which is hazardous to aircraft. Alert areas are depicted on aeronautical charts for the information of nonparticipating pilots.
2. **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 and property on the ground.
3. **Military Operations Area (MOA):** An MOA is an airspace assignment of defined vertical and lateral dimensions established outside positive control areas to separate/segregate certain military activities from IFR traffic and to identify for VFR traffic where these activities are conducted.
4. **Prohibited Area:** Designated airspace within which the flight of aircraft is prohibited.
5. **Restricted Area:** Airspace designated under FAR Part 73 within which the flight of aircraft, while not wholly prohibited is subject to restriction. Most restricted areas are designated joint use and IFR/VFR operations in the area may be authorized by the controlling ATC facility when it is not being utilized by the using agency. Restricted areas are depicted on en route charts.
6. **Warning Area:** Airspace, which may contain hazards to nonparticipating aircraft in international airspace.

STANDARD ERROR - A measure of the precision of a coefficient. It tells how reliable the relationship has been measured, the standard deviation for a relationship.

STOPWAY - An area beyond the takeoff runway, no less wide than the runway and centered upon the extended centerline of the runway, able to support an airplane during an aborted takeoff without causing structural damage to the airplane, and designated by the airport authorities for use in decelerating an airplane during an aborted takeoff.

T-HANGAR - A-T-shaped aircraft hangar that provides shelter for a single plane.

GLOSSARY

Greenlee County Airport Master Plan Update

TACTICAL AIR NAVIGATION (TACAN) - An ultra-high frequency electronic air navigation aid which provides suitably equipped aircraft a continuous indication of bearing and distance to the TACAN station. (See VORTAC).

TAXI - The movement of an airplane under its own power on the surface of an airport. Also, it describes the surface movement of helicopters equipped with wheels.

TAXILANE - The portion of the aircraft parking area used for access between taxiways, aircraft parking positions, hangars, storage facilities, etc. A taxilane is outside the movement area.

TAXIWAY - A defined path, from one part of an airport to another, selected or prepared for the taxiing of aircraft.

TERMINAL AREA - The area used or intended to be used for such facilities as terminal and cargo buildings, gates, hangars, shops, other service buildings, automobile parking, airport motels, restaurants, garages, and automobile service.

TERMINAL RADAR APPROACH CONTROL (TRACON) - An FAA traffic control facility using radar and air/ground communications to provide approach control services to aircraft arriving, departing, or transiting the airspace controlled by the facility. Service may be provided to both civil and military airports. A TRACON is similar to a RAPCON (USAF), RATCF (USN), and ARAC (Army).

TERMINAL RADAR SERVICE AREA (TRSA) - Airspace surrounding designated airports wherein ATC provides radar vectoring, sequencing, and separation on a full-time basis for all IFR and participating VFR aircraft. TRSA's are depicted on VFR aeronautical charts. Pilot participation is urged but is not mandatory.

TERMINAL VERY HIGH FREQUENCY OMNIDIRECTIONAL RANGE STATION (TVOR) - An electronic navigation aid that provides guidance, both for en route flights on low altitude "Victor" airways and for non-precision approaches. (See also NONPRECISION APPROACH AID).

THRESHOLD - The beginning of that portion of the runway available and suitable for the landing of airplanes.

TIEDOWN AREA - A parking area for securing aircraft; can be for overnight (transient operator) or permanent use (in lieu of a hangar).

TIME SERIES DATA - Data that examine a decision unit at different points in time. Trend extrapolation examines a historical pattern of activity and assumes that those factors, which determined the variation in activity level in the past, will continue to exhibit similar relationships in the future.

TOUCH-AND-GO/TOUCH-AND-GO LANDING - An operation by an aircraft that lands and departs on a runway without stopping or exiting the runway.

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Greenlee County Airport Master Plan Update

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

1. **Upwind Leg:** A flight path parallel to the landing runway in the direction of landing.
2. **Crosswind Leg:** A flight path at right angles to the landing runway off its upwind end.
3. **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.
4. **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.
5. **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. An aircraft making a straight-in approach VFR is also considered to be on final approach.

TRANSIENT - Operations or other activity performed by aircraft not based at the airport.

TRANSITIONAL SURFACE - An element of the imaginary surfaces extending outward and upward at right angles to the runway centerline and runway centerline extended at a slope of 7:1 from the sides of the primary and approach surfaces to where they intersect the horizontal and conical surfaces.

ULTRALIGHT VEHICLE - An aeronautical vehicle operated for sport or recreational purposes which does not require FAA registration, an airworthiness certificate, nor pilot certification. They are primarily single-occupant vehicles, although some two-place vehicles are authorized for training purposes. Operation of an ultralight vehicle in certain airspace required authorization from ATC.

UNICOM - A non-government communication facility, which may provided airport information at certain airports. Locations and frequencies of UNICOMS are shown on aeronautical charts and publications.

VISUAL APPROACH RUNWAY - A runway intended for visual approaches only, with no straight-in instrument approach procedure either existing or planned for that runway.

VISUAL DESCENT POINT/VDP - A defined point on the final approach course of a non-precision straight-in approach procedure from which normal descent from the MDA to the runway touchdown point may be commenced, provided the approach threshold of that runway, or approach lights, or other markings identifiable with the approach end of that runway are clearly visible to the pilot.

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Greenlee County Airport Master Plan Update

VISUAL FLIGHT RULES (VFR) - Rules that govern flight procedures under visual conditions. Also indicates a type of flight plan.

VOR/VERY HIGH FREQUENCY OMNIDIRECTIONAL RANGE STATION - 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. ATC or FSS may use voice features for transmitting instructions/information to pilots. (See Navigational Aid).

VORTAC/VHF OMNIDIRECTIONAL RANGE/TACTICAL AIR NAVIGATION - A navigational aid providing VOR azimuth. TACAN azimuth and TACAN distance measuring equipment (DME) at one site. (See Distance Measuring Equipment, Navigational Aid, TACAN, VOR).

WIDE AREA AUGMENTATION SYSTEM (WAAS) - A system of ground-based facilities providing differential corrections for GPS satellites and intended to support aviation navigation for the en-route, terminal area, non-precision and Category I precision approaches phase of flight.

WIND COVERAGE - The percent of time for which aeronautical operations are considered safe due to acceptable crosswind components.

WIND ROSE - A graphic depiction of historical prevailing wind patterns by speed and direction at a given location. A series of concentric circles cut by radial lines indicates the average percentage of time during the observation period that winds were occurring at successive wind speed groupings and by true direction. Wind rose data are used primarily for determining optimal runway alignment for wind coverage.

ZONING - The demarcation of a jurisdiction by ordinance into zones and the establishment of regulations to govern the use of the land and the location, height, use, and coverage of structures within each zone.

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Greenlee County Airport Master Plan Update
ABBREVIATIONS

AC	-	Advisory Circular
ADF	-	Automatic Direction Finder
ADO	-	Airports District Office (FAA)
AFSS	-	Automated Flight Service Station
AGL	-	Above Ground Level
AIA	-	Airport Influence Area
AIP	-	Airport Improvement Program
ALP	-	Airport Layout Plan
ALS	-	Approach Lighting System
ARC	-	Airport Reference Code
ARP	-	Airport Reference Point
ARSA	-	Airport Radar Service Area
ARFF	-	Airport Rescue and Fire Fighting
ARTCC	-	Air Route Traffic Control Center
ARTS	-	Automated Radar Terminal System
ASDA	-	Accelerate-Stop Distance Available
ASNA	-	Aviation Safety and Noise Abatement Act of 1979
ASR	-	Airport Surveillance Radar
ASV	-	Annual Service Volume
ATC	-	Air Traffic Control
ATCT	-	Airport Traffic Control Tower
ATIS	-	Automated Terminal Information Service
ASOS	-	Automated Surface Observation System
AWOS	-	Automated Weather Observation System
AWP	-	Western Pacific Region
BRL	-	Building Restriction Line
CAD	-	Computer Aided Drawing
CAP	-	Civil Air Patrol
CAT	-	Category
CFR	-	Code of Federal Regulations
CIP	-	Capital Investment Plan
CWY	-	Clearway
dB	-	Decibel
DGPS	-	Differential Global Positioning System
DME	-	Distance Measuring Equipment
DNL	-	Day-Night Average Sound Level
DOD	-	Department of Defense
DOT	-	Department of Transportation
EA	-	Environmental Assessment
EIS	-	Environmental Impact Statement
EPA	-	Environmental Protection Agency
FAA	-	Federal Aviation Administration
FAR	-	Federal Aviation Regulations
FBO	-	Fixed Base Operator
FIS	-	Flight Information Services

GLOSSARY

Greenlee County Airport Master Plan Update

ABBREVIATIONS (continued)

FONSI	-	Finding of No Significant Impact
FSS	-	Flight Service Station
GA	-	General Aviation
GPS	-	Global Positioning System
GS	-	Glide Slope
HIRL	-	High-Intensity Runway Lighting
HUD	-	Housing and Urban Development
IFR	-	Instrument Flight Rules
ILS	-	Instrument Landing System
IMC	-	Instrument Meteorological Conditions
INM	-	Integrated Noise Model
LAAS	-	Local Area Augmentation System
LAGPS	-	Local Area Global Positioning System
LAN	-	Local Area Network
LDA	-	Localizer Directional Aid
LIRL	-	Low-Intensity Runway Lighting
LLWAS	-	Low-Level Windshear Alert System
LOC	-	ILS Localizer
LORAN	-	Long-Range Navigation
MALSF	-	Medium Intensity Approach Lighting System
MALSR	-	MALSF with Runway Alignment Indicator Lights
MDA	-	Minimum Descent Altitude
METAR	-	Meteorological Aviation Report
MHz	-	Megahertz
MIRL	-	Medium Intensity Runway Lighting
MITL	-	Medium Intensity Taxiway Lighting
MLS	-	Microwave Landing System
MOA	-	Military Operating Area
MSA	-	Minimum Safe Altitude
MSL	-	Mean Sea Level
NAVAID	-	Air Navigation Facility/Navigational Aid
NBAA	-	National Business Aircraft Association
NDB	-	Nondirectional Beacon
NEPA	-	National Environmental Policy Act of 1969
NM	-	Nautical Mile
NOAA	-	National Oceanic and Atmospheric Administration
NOTAM	-	Notice to Airmen
NPIAS	-	National Plan of Integrated Airport Systems
NWS	-	National Weather Service
OAG	-	Official Airline Guide
OC	-	Obstruction Chart
ODALS	-	Omnidirectional Approach Lighting Systems
OPBA	-	Operations per Based Aircraft

ABBREVIATIONS (continued)

GLOSSARY

Greenlee County Airport Master Plan Update

OFA	-	Object Free Area
OFZ	-	Obstacle Free Zone
PAPI	-	Precision Approach Path Indicator
PLASI	-	Pulsating Light Approach Slope Indicator
RAIL	-	Runway Alignment Indicator Lights
R/R²	-	Correlation Coefficient/Determination Coefficient
REIL	-	Runway End Identifier Lights
RNAV	-	Area Navigation
RPZ	-	Runway Protection Zone
RVZ	-	Runway Visibility Zone
RWY	-	Runway
SEPA	-	State Environmental Policy Act
SID	-	Standard Instrument Departure
SIGMET	-	Significant Meteorological Information
SIMMOD	-	Airspace and Airport Simulation Model
STOL	-	Short Takeoff and Landing
TAC	-	Tactical Air Command (USAF)
TACAN	-	Tactical Air Navigation
TCA	-	Terminal Control Area
TERPS	-	Terminal Instrument Procedures
TRACON	-	Terminal Radar Approach Control
TRSA	-	Terminal Radar Service Area
TVOR	-	Terminal Very High Frequency Omni Range
TXY	-	Taxiway
UHF	-	Ultra High Frequency
USAF	-	United States Air Force
USCG	-	United States Coast Guard
UTC	-	Coordinated Universal Time (ZULU)
VASI	-	Visual Approach Slope Indicator
VFR	-	Visual Flight Rules
VHF	-	Very High Frequency
VMC	-	Visual Meteorological Conditions
VOR	-	Very High Frequency Omni-Directional Range
VOR/DME	-	Very High Frequency Omnidirectional Range Co-located with Distance Measuring Equipment
VORTAC	-	Very High Frequency Omnidirectional Range Co-located Tactical Air Navigation
WAAS	-	Wide Area Augmentation System
WADGPS	-	Wide Area Differential Global Positioning System

B
ENVIRONMENTAL CORRESPONDENCE
Greenlee County Airport Master Plan





Stantec

28 January 2002
File: 81400902

Mr. Theresa Pella
ADEQ, Air Assessment Section
3003 N. Central Ave., Suite 800
Phoenix, Arizona 85012-2945

**Reference: Potential Environmental Impacts Relative to Proposed Airport
Development - Greenlee County Airport Master Plan -
Clifton/Morenci, Arizona**

Dear Ms. Pella:

Stantec Consulting Inc. is currently working with Greenlee County in the preparation of the Greenlee County Airport Master Plan. The Greenlee County Airport is located in southeastern Arizona in Township 5 South, Range 30 East. The airport is approximately 8½ miles southeast of the towns of Clifton and Morenci.

The Airport Master Plan proposes development to meet the future aviation demand at the airport over an estimated 20-year planning window. In addition, the Plan reflects other possible development referred to as "contingency development" which may be needed as the community continues its ongoing economic development efforts. Further, "contingency development" includes a scenario which consists of the possible development of a federal prison and its associated need for a lengthy runway for large aircraft operations.

State and FAA guidance coupled with our scope of services requires that we conduct a preliminary environmental review of the proposed development.

This letter serves to:

- 1) Notify your office of this planning effort.
- 2) Request any "preliminary comments" on the potential water quality impacts associated with the proposed development.

Buildings

Environment

Industrial

Transportation

Urban Land

Reference: Potential Environmental Impacts Relative to Proposed Airport Development - Greenlee County Airport Master Plan - Clifton/Morenci, Arizona

The attached color-coded drawing is provided to simplify your preliminary review. The drawing includes seven primary land use areas which define the type of development proposed for that portion of the airport. However, these land use areas provide more than adequate space for development needs anticipated over the 20-year planning period. Consequently, development is defined as either "Master Planning Period 2020 Development" (projected demand-driven development through 2020) or "Contingency Development" (driven by unanticipated demand or economic development efforts).

MASTER PLANNING PERIOD 2020 DEVELOPMENT - the most significant demand-driven development is projected to be limited to the following over the next 20 years:

Airport Operations Area (yellow):

- Install precision approach path indicators (PAPIs) on Runway 7-25
- Install new game fencing and security warning signs
- Install AWOS III
- Continue pavement preservation on all airfield pavements
- Extend Runway 7-25 from 4,989 to 5,280 feet to accommodate 95% of the small aircraft fleet and some larger aircraft (12,500 pounds or more)
- Relocate power poles, residence, and buildings to mitigate protected airspace obstructions
- Install GPS system for non-precision approach
- Construct parallel taxiway to Runway 7-25

Terminal Area (green)/ General Aviation (dark blue)/ FBO (red):

- Install apron lighting
- Install additional terminal area/apron security fencing, lighting and controlled access automatic sliding gate with card reader system

Airportwide

- Conduct comprehensive drainage study & improve drainage airport-wide
- Upgrade airport signage

CONTINGENCY DEVELOPMENT - unanticipated demand or economic development efforts may potentially drive the need for airport improvements such as the following:

- Expand terminal (green)
- Construct additional aircraft hangars or shades (dark blue)
- Environmental assessment and land acquisition (yellow areas outside existing airport perimeter)
- Relocate/realign SR 78 for new Runway 18-36 (as illustrated)
- Design/construct new Runway 18-36 (yellow)
- Design/construct new partial parallel taxiway to Runway 18-36 (yellow)
- Construct south side access and support infrastructure (orange)
- Construct Federal Prison facility (orange)
- Expand aircraft parking apron (dark blue)
- Construct helipad/ helicopter operations area (purple)
- Develop aviation/ non-aviation industrial area (light blue)

Reference: Potential Environmental Impacts Relative to Proposed Airport Development - Greenlee County Airport Master Plan - Clifton/Morenci, Arizona

Please provide your comments and concerns regarding the proposed development no later than February 28, 2002.

You may mail, fax or e-mail comments. However, if you have any questions or need additional information in order to prepare a response, please feel free to contact me directly at 602-707-4647.

Sincerely,

STANTEC CONSULTING INC.



Paul Tober, P.E.
Project Manager
ptober@stantec.com

Copy: Phil Ronnerud, Greenlee County
Wendy Renier, Airport Planning West



Jane Dee Hull
Governor

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

3033 North Central Avenue • Phoenix, Arizona 85012-2809
(602) 207-2300 • www.adeq.state.az.us



Jacqueline E. Schafer
Director

February 22, 2002

RECEIVED

FEB 28 2002

STANTEC

Mr. Paul Tober, P.E.
Stantec Consulting
8211 South 48th Street
Phoenix, AZ 85044

SUBJECT: Comments on Greenlee County Airport Master Plan - Clifton/Morenci, Arizona

Dear Mr. Tober:

Thank you for your January 28, 2002, letter requesting a review of the Greenlee County Airport project. As per the February 15, 2002, telephone conversation with Andra Juniel of my staff, a copy of your letter has been forwarded to Kris Randall, Environmental Program Supervisor, in the Water Quality Division, at (602) 207-4509 for comments on your proposed project. This letter documents the comments of the Air Quality Division.

The project is not located in a nonattainment area, as designated by EPA pursuant to Section 107 of the Clean Air Act. Consequently, there are no State Implementation Plan requirements for specific control measures with respect to the ambient air quality of Greenlee County.

Although the development of the Greenlee County airport over the 20-year planning window is not expected to result in any air quality violations, nevertheless, the proposed project may increase ambient particulate matter (dust) levels. Particulate matter is one of the criteria pollutants identified in the Clean Air Act. The following steps may minimize the amount of particulate matter generated, including incidental emissions caused by strong winds, as well as tracking soil off the construction site by machinery and trucks.

- I. Site Preparation
 - A. Minimize land disturbance;
 - B. Use watering trucks to minimize dust;
 - C. Cover trucks when hauling soil;
 - D. Stabilize the surface of soil piles if not removed immediately; and
 - E. Use windbreaks to prevent any accidental dust pollution.

Northern Regional Office
1515 East Cedar Avenue • Suite F • Flagstaff, AZ 86004
(520) 779-0313

Southern Regional Office
400 West Congress Street • Suite 433 • Tucson, AZ 85701
(520) 628-6733

Paul Tober
February 22, 2002
Page 2

II. Site Construction

- A. Cover trucks when transferring materials;
- B. Use dust suppressants on traveled paths which are not paved;
- C. Minimize unnecessary vehicular and machinery activities; and
- D. Minimize soil track-out by washing or cleaning trucks before leaving the construction site.

III. Site Restoration

- A. Revegetate any disturbed land not used;
- B. Remove unused material; and
- C. Remove soil piles.

Enclosed please find a copy of applicable state rules contained in Arizona Administrative Code R18-2-604, R18-2-605, R18-2-606 and R18-2-607. R18-2-604 through 606 specifically relate to construction and earth moving activities. In addition, please be aware that portable sources such as rock, sand, gravel, and asphalt concrete plants are required to receive permits from the Arizona Department of Environmental Quality. For further information regarding permitting requirements, please contact Eric Massey in the Permit Section at (602) 207-2288.

Should you have any further questions, please contact me at (602) 207-2375, or Andra Juniel of my staff at (602) 207-4417.

Sincerely,



Theresa Pella, Manager
Air Quality Planning Section

Enclosure

Stantec Consulting Inc.
8211 South 48th Street
Phoenix AZ 85044
Tel: (602) 438-2200 Fax: (602) 431-9562
stantec.com



Stantec

28 January 2002
File: 81400902

Ms. Linda Taunt
ADEQ, Hydrologic Support & Assessment
3033 N. Central Avenue
Phoenix, Arizona 85012

**Reference: Potential Environmental Impacts Relative to Proposed Airport
Development - Greenlee County Airport Master Plan -
Clifton/Morenci, Arizona**

Dear Ms. Taunt:

Stantec Consulting Inc. is currently working with Greenlee County in the preparation of the Greenlee County Airport Master Plan. The Greenlee County Airport is located in southeastern Arizona in Township 5 South, Range 30 East. The airport is approximately 8½ miles southeast of the towns of Clifton and Morenci.

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State and FAA guidance coupled with our scope of services requires that we conduct a preliminary environmental review of the proposed development.

This letter serves to:

- 1) Notify your office of this planning effort.
- 2) Request any "preliminary comments" on the potential water quality impacts associated with the proposed development.

Buildings

Environment

Industrial

Transportation

Urban Land

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Please provide your comments and concerns regarding the proposed development no later than February 28, 2002.

You may mail, fax or e-mail comments. However, if you have any questions or need additional information in order to prepare a response, please feel free to contact me directly at 602-707-4647.

Sincerely,

STANTEC CONSULTING INC.



Paul Tober, P.E.
Project Manager
ptober@stantec.com

Copy: Phil Ronnerud, Greenlee County
Wendy Renier, Airport Planning West



Jane Dee Hull
Governor

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

3033 North Central Avenue • Phoenix, Arizona 85012-2809
(602) 207-2300 • www.adeq.state.az.us



Jacqueline E. Schafer
Director

February 8, 2002

Stantec Consulting Inc.
Attn: Paul Tober, Project Manager
8211 South 48th Street
Phoenix, Arizona 85044

RECEIVED

FEB 11 2002

STANTEC

**Subject: Environmental Review, Proposed Greenlee County Airport Master Plan,
Clifton/Morenci, Greenlee County, Arizona**

Dear Mr. Tober:

The Arizona Department of Environmental Quality (ADEQ), Water Quality Division has reviewed your January 28, 2002 letter addressed to Ms. Linda Taunt requesting review of the proposed Greenlee County Airport Development project.

It appears that the project is currently in a conceptual planning phase, as such it is difficult to address any potential water quality impacts without more detailed information. The project may require a Section 404 Permit from the Corps of Engineers and Section 401 Water Quality Certification if the project impacts waters of the U.S. In addition, activities which disturb 5 acres or are part of a larger development will require an NPDES Stormwater Permit.

Any future questions regarding Section 401 Certification or Stormwater Permits should be addressed to:

Arizona Department of Environmental Quality
Federal Permits and Program Development Unit
Attn: Mr. Chris Varga
3033 North Central Avenue
Phoenix, Arizona 85012

Sincerely,

Karyn Moldenhauer
Federal Permits and Program Development Unit

FPPDU02:0045

Northern Regional Office
1515 East Cedar Avenue • Suite F • Flagstaff, AZ 86004
(928) 779-0313

Southern Regional Office
400 West Congress Street • Suite 433 • Tucson, AZ 85701
(520) 628-6733



Jane Dee Hull
Governor

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

3033 North Central Avenue • Phoenix, Arizona 85012-2809
(602) 207-2300 • www.adeq.state.az.us



Jacqueline E. Schafer
Director

February 21, 2002

Mr. Paul Tober, P.E.
Stantec Consulting Inc.
8211 South 48th Street
Phoenix, AZ 85044

Re: Stantec Consulting Inc.

Dear Mr. Tober:

The Arizona Department of Environmental Quality, Water Quality Division appreciates the opportunity to review and comment on the proposed Greenlee Airport expansion document prepared by Stantec Consulting Inc. Per our conversation, Tuesday February 19, the recommendations provided concern the "airport operations", "terminal area/general aviation/fbo" and "airport wide" sections of the Master Planning Period 2020 and does not comment on the "contingency development" section. This letter provides you with some recommended pollution prevention actions which could be implemented to protect water quality resources from potential pollution impacts that may arise from the proposed airport expansion activities.

If the area disturbed by expansion is greater than five acres, you must obtain a stormwater permit. Contact Robert Wilson at (602) 207-4574 for assistance.

If the drainages of Cold Creek or Willow Creek are impacted, you will need to notify the Army Corps of Engineers.

While the proposed activities do not appear to represent a serious threat to the quality of water resources, the Department believes that the following pollution prevention measures could be considered.

Where feasible, the following efforts could be used to implement Best Management Practices (BMPs), such as:

- 1) Reduce soil erosion by implementing control measures to minimize soil loss during storm water runoff events. Controlling storm water runoff can lower sediment levels in the river, thereby minimizing an increase in turbidity levels to nearby Cold and Willow Creeks.

Northern Regional Office
1515 East Cedar Avenue • Suite F • Flagstaff, AZ 86004
(520) 779-0313

Southern Regional Office
400 West Congress Street • Suite 433 • Tucson, AZ 85701
(520) 628-6733

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STANTEC

Mr. Paul Tober, P.E.

February 21, 2002

Page 2

- 2) Where feasible retain existing vegetation to catch and filter runoff.
- 3) Stabilize disturbed areas immediately after final grade has been attained; exposed soil is subject to erosion from rainfall, wind, and vehicles. Temporary stabilization practices include seeding, mulching, and erosion control blankets or mats.
- 4) The Department supports and encourages your intention to include stormwater design and BMPs in the airport wide drainage study and improvement plan.
- 5) Continue to practice good housekeeping including proper vehicle maintenance and using staging areas for fueling and fluid addition.

Please contact me at 602-207-4470, if you have any questions regarding this letter.

Sincerely,



Cheri Horsley, Environmental Program Specialist
Watershed Management Unit

cc: Kris Randall, Unit Manager, Watershed Management Unit

Stantec Consulting Inc.
8211 South 48th Street
Phoenix AZ 85044
Tel: (602) 438-2200 Fax: (602) 431-9562

stantec.com



Stantec

28 January 2002
File: 81400902

Arizona Game and Fish Dept
2221 W. Greenway Road
Phoenix, Arizona 85023-4399

**Reference: Potential Environmental Impacts Relative to Proposed Airport
Development - Greenlee County Airport Master Plan -
Clifton/Morenci, Arizona**

Dear Sir or Madam:

Stantec Consulting Inc. is currently working with Greenlee County in the preparation of the Greenlee County Airport Master Plan. The Greenlee County Airport is located in southeastern Arizona in Township 5 South, Range 30 East. The airport is approximately 8½ miles southeast of the towns of Clifton and Morenci.

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This letter serves to:

- 1) Notify your office of this planning effort.
- 2) Request any "preliminary comments" on the potential water quality impacts associated with the proposed development.

Buildings

Environment

Industrial

Transportation

Urban Land

Reference: Potential Environmental Impacts Relative to Proposed Airport Development - Greenlee County Airport Master Plan - Clifton/Morenci, Arizona

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Reference: Potential Environmental Impacts Relative to Proposed Airport Development - Greenlee County Airport Master Plan - Clifton/Morenci, Arizona

Please provide your comments and concerns regarding the proposed development no later than February 28, 2002.

You may mail, fax or e-mail comments. However, if you have any questions or need additional information in order to prepare a response, please feel free to contact me directly at 602-707-4647.

Sincerely,

STANTEC CONSULTING INC.



Paul Tober, P.E.
Project Manager
ptober@stantec.com

Copy: Phil Ronnerud, Greenlee County
Wendy Renier, Airport Planning West



THE STATE OF ARIZONA
GAME AND FISH DEPARTMENT

2221 WEST GREENWAY ROAD, PHOENIX, AZ 85023-4399
(602) 942-3000 • WWW.AZGFD.COM

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DUANE L. SHROUFE
DEPUTY DIRECTOR
STEVE K. FERRELL



February 11, 2002

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FEB 12 2002

STANTEC

Mr. Paul Tober
Stantec Consulting Inc.
8211 S. 48th St.
Phoenix, AZ 85044

Re: **Special Status Species Information for Township 5 South, Range 30 East,
Section 36; Greenlee County Airport Master Plan.**

Dear Mr. Tober:

The Arizona Game and Fish Department (Department) has reviewed your request, dated January 28, 2002, regarding special status species information associated with the above-referenced project area. The Department's Heritage Data Management System (HDMS) has been accessed and current records show that the special status species listed on the attachment have been documented as occurring in the project area. In addition, this project occurs in the vicinity of designated Critical Habitat for the razorback sucker (Gila River).

The Department's HDMS data are not intended to include potential distribution of special status species. Arizona is large and diverse with plants, animals, and environmental conditions that are ever changing. Consequently, many areas may contain species that biologists do not know about or species previously noted in a particular area may no longer occur there. Not all of Arizona has been surveyed for special status species, and surveys that have been conducted have varied greatly in scope and intensity.

Making available this information does not substitute for the Department's review of project proposals, and should not decrease our opportunities to review and evaluate new project proposals and sites. The Department is also concerned about other resource values, such as other wildlife, including game species, and wildlife-related recreation. The Department would appreciate the opportunity to provide an evaluation of impacts to wildlife or wildlife habitats associated with project activities occurring in the subject area, when specific details become available.

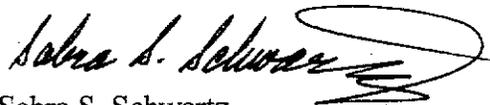
Mr. Paul Tober
February 11, 2002

2

If you have any questions regarding the attached species list, please contact me at (602) 789-3618. General status information and county distribution lists for special status species are also available on our web site at:

http://www.azgfd.com/frames/fishwild/hdms_site/Home.htm.

Sincerely,



Sabra S. Schwartz
Heritage Data Management System, Coordinator

SSS:ss

Attachment

cc: Bob Broscheid, Project Evaluation Program Supervisor
Joan Scott, Habitat Program Manager, Region V

AGFD #2-1-02(06)

Stantec Consulting Inc.
8211 South 48th Street
Phoenix AZ 85044
Tel: (602) 438-2200 Fax: (602) 431-9562

stantec.com



Stantec

28 January 2002
File: 81400902

Ms. Jo Anne Miller
Arizona State Historic Preservation Office
1300 W. Washington St.
Phoenix, AZ 85007

**Reference: Potential Environmental Impacts Relative to Proposed Airport
Development - Greenlee County Airport Master Plan -
Clifton/Morenci, Arizona**

Dear Ms. Miller:

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Buildings

Environment

Industrial

Transportation

Urban Land

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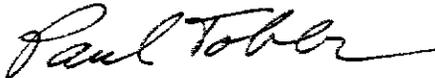
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Sincerely,

STANTEC CONSULTING INC.



Paul Tober, P.E.
Project Manager
ptober@stantec.com

Copy: Phil Ronnerud, Greenlee County
Wendy Renier, Airport Planning West

February 6, 2002

RECEIVED

FEB 08 2002

STANTEC

Paul Tober
Project Manager
Stantec Consulting Inc.
8211 South 48th Street
Phoenix, AZ 85044

RE: Environmental Assessment for Proposed Airport Development,
Greenlee County Airport Master Plan, Clifton/Morenci, Arizona;
SHPO-2002-214 (9699)

Dear Mr. Tober:

Thank you for advising the State Historic Preservation Office (SHPO) regarding planning efforts involving the above project. We appreciate your cooperation with this office in considering the impacts of development on cultural resources situated in Arizona. We recommend the areas proposed for development be surveyed by a qualified cultural resources specialist to determine the presence or absence of historic properties (i.e., any prehistoric or historic district, site, building, structure, traditional cultural place, or object included in, or eligible for inclusion in the National or State Registers of Historic Places).

Based on our records, the areas of the proposed runway and other developments have not been surveyed and should be inspected for cultural resources. It should be noted that there are some historic era Register-eligible properties to the southwest in the area of the intersection of the highways. We would appreciate an adequate opportunity to review the survey report (i.e., 30 days) and again offer recommendations prior to any development. If warranted by the survey results, this office may recommend that archaeological testing be performed to evaluate the potential impacts of development on cultural resources or to establish their eligibility for inclusion in the National or State Registers of Historic Places. If historic properties cannot be avoided by development activities, then we may further recommend that a data recovery (excavation) program be implemented or that archaeological monitoring take place during construction.

Please be aware that Arizona State law (i.e., A.R.S. § 41-865) requires that if human remains or burial goods are encountered during any ground-disturbing activities on private lands, work in the immediate vicinity must cease and the Director of the Arizona State Museum promptly notified. One of the main advantages of sponsoring a cultural resources survey is to determine the likelihood of burials being encountered during construction.


Arizona
State Parks

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Governor

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Arizona State Parks
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Phoenix, AZ 85007

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from (520) area code

General Fax:
602.542.4180

Director's Office Fax:
602.542.4188

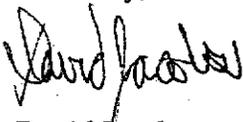
Mr. Tober, February 6, 2002

Page 2

If a federal permit is required for a portion of the road alignment (e.g., a Section 404 permit from the Army Corps of Engineers) or a National Pollutant Discharge Elimination System (NPDES) permit from the U.S. Environmental Protection Agency, the applicant should be aware that any archaeological work performed must meet the Secretary of Interior's Standards, and will be reviewed by the federal agency pursuant to Section 106 of the National Preservation Act as implemented by 36 C.F.R. Part 800. If such federal involvement is anticipated, we strongly urge the project proponents to contact the federal agency as soon as possible to obtain information on the requirements for projects that may involve cultural resources. Federal involvement entails compliance and review considerations different from the State Historic Preservation Act and must be addressed before development can begin.

If you have any questions or comments, please contact me at (602) 542-7140 or electronically via djacobs@pr.state.az.us.

Sincerely,



David Jacobs
Compliance Specialist/Archaeologist
State Historic Preservation Office

Stantec Consulting Inc.
8211 South 48th Street
Phoenix AZ 85044
Tel: (602) 438-2200 Fax: (602) 431-9562

stantec.com



Stantec

28 January 2002
File: 81400902

USDA-NRCS
3003 N. Central Ave., Suite 800
Phoenix, Arizona 85012-2945

**Reference: Potential Environmental Impacts Relative to Proposed Airport
Development - Greenlee County Airport Master Plan -
Clifton/Morenci, Arizona**

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STANTEC CONSULTING INC.



Paul Tober, P.E.
Project Manager
ptober@stantec.com

Copy: Phil Ronnerud, Greenlee County
Wendy Renier, Airport Planning West



3003 North Central Avenue, Suite 800, Phoenix, Arizona 85012-2946

February 4, 2002

Paul Tober
Stantec Consulting Inc.
8211 South 48th Street
Phoenix, Arizona 85044

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FEB 05 2002

STANTEC

Dear Mr. Tober:

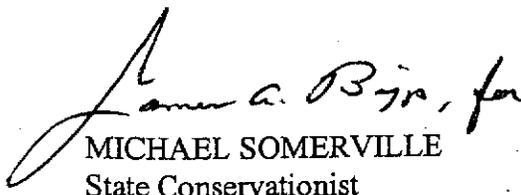
This response is in regard to your letter dated January 28, 2002, concerning the Greenlee County Airport Master Plan proposed actions over the next twenty years.

The Natural Resources Conservation Service (NRCS) has general responsibility, nationwide, for implementing the Farmland Protection Policy Act (FPPA) and to review projects that may affect prime farmland and/or wetlands associated with agriculture. After reviewing the information provided, the following is noted:

1. The proposed project if implemented as planned, is exempt from the requirements of the FPPA - as revised in 1994, that excludes land which is already in or is committed to urban development, currently used as water storage, or land that is not prime or unique farmland.
2. We do not see any immediate concerns or impacts that would directly affect wetland areas associated with agriculture.

Should you have questions, please feel free to contact Jeff Schmidt, Community Assistance Coordinator at 602.280.8818. Thank you for the chance to review the proposed project.

Sincerely,


MICHAEL SOMERVILLE
State Conservationist

Cc:

Jim Briggs, Assistant State Conservationist, NRCS, Phoenix, Arizona
David Fisher, District Conservationist, NRCS, Safford, Arizona
Jeff Schmidt, Community Assistance Coordinator, NRCS, Phoenix, Arizona

Stantec Consulting Inc.
8211 South 48th Street
Phoenix AZ 85044
Tel: (602) 438-2200 Fax: (602) 431-9562

stantec.com



Stantec

28 January 2002
File: 81400902

U.S. Fish and Wildlife Service
Arizona Ecological Services Field Office
2321 W. Royal Palm Rd., Suite 103
Phoenix, Arizona 85021-4951

**Reference: Potential Environmental Impacts Relative to Proposed Airport
Development - Greenlee County Airport Master Plan -
Clifton/Morenci, Arizona**

Dear Sir or Madam:

Stantec Consulting Inc. is currently working with Greenlee County in the preparation of the Greenlee County Airport Master Plan. The Greenlee County Airport is located in southeastern Arizona in Township 5 South, Range 30 East. The airport is approximately 8½ miles southeast of the towns of Clifton and Morenci.

The Airport Master Plan proposes development to meet the future aviation demand at the airport over an estimated 20-year planning window. In addition, the Plan reflects other possible development referred to as "contingency development" which may be needed as the community continues its ongoing economic development efforts. Further, "contingency development" includes a scenario which consists of the possible development of a federal prison and its associated need for a lengthy runway for large aircraft operations.

State and FAA guidance coupled with our scope of services requires that we conduct a preliminary environmental review of the proposed development.

This letter serves to:

- 1) Notify your office of this planning effort.
- 2) Request any "preliminary comments" on the potential water quality impacts associated with the proposed development.

Buildings

Environment

Industrial

Transportation

Urban Land

Reference: Potential Environmental Impacts Relative to Proposed Airport Development - Greenlee County Airport Master Plan - Clifton/Morenci, Arizona

The attached color-coded drawing is provided to simplify your preliminary review. The drawing includes seven primary land use areas which define the type of development proposed for that portion of the airport. However, these land use areas provide more than adequate space for development needs anticipated over the 20-year planning period. Consequently, development is defined as either "Master Planning Period 2020 Development" (projected demand-driven development through 2020) or "Contingency Development" (driven by unanticipated demand or economic development efforts).

MASTER PLANNING PERIOD 2020 DEVELOPMENT - the most significant demand-driven development is projected to be limited to the following over the next 20 years:

Airport Operations Area (yellow):

- Install precision approach path indicators (PAPIs) on Runway 7-25
- Install new game fencing and security warning signs
- Install AWOS III
- Continue pavement preservation on all airfield pavements
- Extend Runway 7-25 from 4,989 to 5,280 feet to accommodate 95% of the small aircraft fleet and some larger aircraft (12,500 pounds or more)
- Relocate power poles, residence, and buildings to mitigate protected airspace obstructions
- Install GPS system for non-precision approach
- Construct parallel taxiway to Runway 7-25

Terminal Area (green)/ General Aviation (dark blue)/ FBO (red):

- Install apron lighting
- Install additional terminal area/apron security fencing, lighting and controlled access automatic sliding gate with card reader system

Airportwide

- Conduct comprehensive drainage study & improve drainage airport-wide
- Upgrade airport signage

CONTINGENCY DEVELOPMENT – unanticipated demand or economic development efforts may potentially drive the need for airport improvements such as the following:

- Expand terminal (green)
- Construct additional aircraft hangars or shades (dark blue)
- Environmental assessment and land acquisition (yellow areas outside existing airport perimeter)
- Relocate/realign SR 78 for new Runway 18-36 (as illustrated)
- Design/construct new Runway 18-36 (yellow)
- Design/construct new partial parallel taxiway to Runway 18-36 (yellow)
- Construct south side access and support infrastructure (orange)
- Construct Federal Prison facility (orange)
- Expand aircraft parking apron (dark blue)
- Construct helipad/ helicopter operations area (purple)
- Develop aviation/ non-aviation industrial area (light blue)

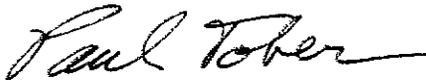
Reference: Potential Environmental Impacts Relative to Proposed Airport Development - Greenlee County Airport Master Plan - Clifton/Morenci, Arizona

Please provide your comments and concerns regarding the proposed development no later than February 28, 2002.

You may mail, fax or e-mail comments. However, if you have any questions or need additional information in order to prepare a response, please feel free to contact me directly at 602-707-4647.

Sincerely,

STANTEC CONSULTING INC.



Paul Tober, P.E.
Project Manager
ptober@stantec.com

Copy: Phil Ronnerud, Greenlee County
Wendy Renier, Airport Planning West



United States Department of the Interior

U.S. Fish and Wildlife Service

Arizona Ecological Services Field Office

2321 West Royal Palm Road, Suite 103

Phoenix, Arizona 85021-4951

Telephone: (602) 242-0210 Fax: (602) 242-2513



In Reply Refer to:

AESO/SE

2-21-02-I-090

February 12, 2002

RECEIVED

FEB 14 2002

STANTEC

Mr. Paul Tober, P.E., Project Manager
Stantec Consulting Inc.
8211 South 48th Street
Phoenix, Arizona 85044

RE: Proposed Airport Development, Greenlee County Airport Master Plan in Clifton/Morenci, Arizona

Dear Mr. Tober:

This letter responds to your January 28, 2002, request for an inventory of threatened or endangered species, or those that are proposed to be listed as such under the Endangered Species Act of 1973, as amended (Act), which may potentially occur in your project area (Greenlee County). The enclosed list may include candidate species as well. We hope the enclosed county list of species will be helpful. In future communications regarding this project, please refer to consultation number 2-21-02-I-090.

The enclosed list of the endangered, threatened, proposed, and candidate species includes all those potentially occurring anywhere in the county, or counties, where your project occurs. Please note that your project area may not necessarily include all or any of these species. The information provided includes general descriptions, habitat requirements, and other information for each species on the list. Also on the enclosed list is the Code of Federal Regulations (CFR) citation for each list and is available at most public libraries. This information should assist you in determining which species may or may not occur within your project area. Site-specific surveys could also be helpful and may be needed to verify the presence or absence of a species or its habitat as required for the evaluation of proposed project-related impacts.

Endangered and threatened species are protected by Federal law and must be considered prior to project development. If the action agency determines that listed species or critical habitat may be adversely affected by a federally funded, permitted, or authorized activity, the action agency must request formal consultation with the Service. If the action agency determines that the planned action may jeopardize a proposed species or destroy or adversely modify proposed critical habitat, the action agency must enter into a section 7 conference with the Service. Candidate species are those which are being considered for addition to the list of threatened or endangered species. Candidate species are those for which there is sufficient information to support a proposal for listing. Although candidate species have no legal protection under the Act, we

Mr. Paul Tober, P.E., Project Manager

2

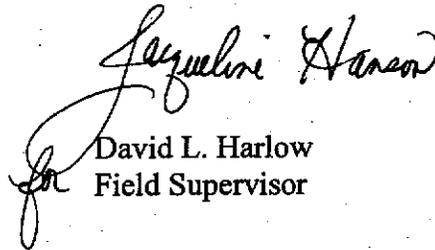
recommend that they be considered in the planning process in the event that they become listed or proposed for listing prior to project completion.

If any proposed action occurs in or near areas with trees and shrubs growing along watercourses, known as riparian habitat, the Service recommends the protection of these areas. Riparian areas are critical to biological community diversity and provide linear corridors important to migratory species. In addition, if the project will result in the deposition of dredged or fill materials into waterways, we recommend you contact the Army Corps of Engineers which regulates these activities under Section 404 of the Clean Water Act.

The State of Arizona protects some plant and animal species not protected by Federal law. We recommend you contact the Arizona Game and Fish Department and the Arizona Department of Agriculture for State-listed or sensitive species in your project area.

The Service appreciates your efforts to identify and avoid impacts to listed and sensitive species in your project area. If we may be of further assistance, please feel free to contact Tom Gatz (x240).

Sincerely,



David L. Harlow
Field Supervisor

Enclosure

cc: John Kennedy, Habitat Branch, Arizona Game and Fish Department, Phoenix, AZ

W:\Cathy Gordon\species list letters\stantec phx greenlee cty airport master plan.wpd:cgg



Stantec

28 January 2002
File: 81400902

Ms. Lisa Hanf (CMD-2)
U.S. EPA, Region IX
Chief Office of Federal Activities
75 Hawthorne St.
San Francisco, CA 94105

**Reference: Potential Environmental Impacts Relative to Proposed Airport
Development - Greenlee County Airport Master Plan -
Clifton/Morenci, Arizona**

Dear Ms. Hanf:

Stantec Consulting Inc. is currently working with Greenlee County in the preparation of the Greenlee County Airport Master Plan. The Greenlee County Airport is located in southeastern Arizona in Township 5 South, Range 30 East. The airport is approximately 8½ miles southeast of the towns of Clifton and Morenci.

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- 1) Notify your office of this planning effort.
- 2) Request any "preliminary comments" on the potential water quality impacts associated with the proposed development.

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Industrial

Transportation

Urban Land

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Reference: Potential Environmental Impacts Relative to Proposed Airport Development - Greenlee County Airport Master Plan - Clifton/Morenci, Arizona

Please provide your comments and concerns regarding the proposed development no later than February 28, 2002.

You may mail, fax or e-mail comments. However, if you have any questions or need additional information in order to prepare a response, please feel free to contact me directly at 602-707-4647.

Sincerely,

STANTEC CONSULTING INC.



Paul Tober, P.E.
Project Manager
ptober@stantec.com

Copy: Phil Ronnerud, Greenlee County
Wendy Renier, Airport Planning West

Appendix C

Alternatives Evaluation Worksheet for PAC Members

Land Use	Alternatives				Total
	1-A/B	2	3	4	
AOA				4	
Helicopter					
Industrial					
GA					
Terminal					
FBO					
Federal Prison					
Evaluation Criteria					
Cost					
Function/operation					
Environmental Considerations					
Overall Public Acceptance					

++ Strongly Favor + Favor 0 Neutral - Dislike -- Strongly Dislike

D
FAA FORM 7460-1
Greenlee County Airport Master Plan

NOTICE OF PROPOSED CONSTRUCTION OR ALTERATION

Sec. 77.13 Construction or alteration requiring notice.

a) Except as provided in Sec. 77.15, each sponsor who proposes any of the following construction or alteration shall notify the Administrator in the form and manner prescribed in Sec. 77.17:

(1) Any construction or alteration of more than 200 feet in height above the ground level at its site.

(2) Any construction or alteration of greater height than an imaginary surface extending outward and upward at one of the following slopes:

(i) 100 to 1 for a horizontal distance of 20,000 feet from the nearest point of the nearest runway of each airport specified in paragraph (a) (5) of this section with at least one runway more than 3,200 feet in actual length, excluding heliports.

(ii) 50 to 1 for a horizontal distance of 10,000 feet from the nearest point of the nearest runway of each airport specified in paragraph (a) (5) of this section with its longest runway no more than 3,200 feet in actual length, excluding heliports.

(iii) 25 to 1 for a horizontal distance of 5,000 feet from the nearest point of the nearest landing and takeoff area of each heliport specified in paragraph (a) (5) of this section.

(3) Any highway, railroad, or other traverse way for mobile objects, of a height which, if adjusted upward 17 feet for an Interstate Highway that is part of the National System of Military and Interstate Highways where overcrossings are designed for a minimum of 17 feet vertical distance, 15 feet for any other public roadway, 10 feet or the height of the highest mobile object that would normally traverse the road, whichever is greater, for a private road, 23 feet for a railroad, and for a waterway or any other traverse way not previously mentioned, an amount equal to the height of the highest mobile object that would normally traverse it, would exceed a standard of paragraph (a) (1) or (2) of this section.

(4) When requested by the FAA, any construction or alteration that would be in an instrument approach area (defined in the FAA standards governing instrument approach procedures) and available information indicates it might exceed a standard of Subpart C of this part.

(5) Any construction or alteration on any of the following airports (including heliports):

(i) An airport that is available for public use and is listed in the Airport Directory of the current Airman's Information Manual or in either the Alaska or Pacific Airman's Guide and Chart Supplement.

(ii) An airport under construction, that is the subject of a notice or proposal on file with the Federal Aviation Administration, and, except for military airports, it is clearly indicated that that airport will be available for public use.

(iii) An airport that is operated by an armed force of the United States.

(b) Each sponsor who proposes construction or alteration that is the subject of a notice under paragraph (a) of this section and is advised by an FAA regional office that a supplemental notice is required shall submit that notice on a prescribed form to be received by the FAA regional office at least 48 hours before the start of the construction or alteration.

(c) Each sponsor who undertakes construction or alteration that is the subject of a notice under paragraph (a) of this section shall, within 5 days after that construction or alteration reaches its greatest height, submit a supplemental notice on a prescribed form to the FAA regional office having jurisdiction over the region involved, if--

(1) The construction or alteration is more than 200 feet above the surface level of its site; or

(2) An FAA regional office advises him that submission of the form is required.

Sec. 77.15 Construction or alteration not requiring notice.

No person is required to notify the Administrator for any of the following construction or alteration:

(a) Any object that would be shielded by existing structures of a permanent and substantial character or by natural terrain or topographic features of equal or greater height, and would be located in the congested area of a city, town, or settlement where it is evident beyond all reasonable doubt that the structure so shielded will not adversely affect safety in air navigation.

(b) Any antenna structure of 20 feet or less in height except one that would increase the height of another antenna structure.

(c) Any air navigation facility, airport visual approach or landing aid, aircraft arresting device, or meteorological device, of a type approved by the Administrator, or an appropriate military service on military airports, the location and height of which is fixed by its functional purpose.

(d) Any construction or alteration for which notice is required by any other FAA regulation.

Sec. 77.17 Form and time of notice.

(a) Each person who is required to notify the Administrator under Sec. 77.13(a) shall send one executed form set (four copies) of FAA Form 7460-1, Notice of Proposed Construction or Alteration, to the Manager, Air Traffic Division, FAA Regional Office having jurisdiction over the area within which the construction or alteration will be located. Copies of FAA Form 7460-1 may be obtained from the headquarters of the Federal Aviation Administration and the regional offices.

(b) The notice required under Sec. 77.13(a) (1) through (4) must be submitted at least 30 days before the earlier of the following dates:

- (1) The date the proposed construction or alteration is to begin.
- (2) The date an application for a construction permit is to be filed.

However, a notice relating to proposed construction or alteration that is subject to the licensing requirements of the Federal Communications Act may be sent to FAA at the same time the application for construction is filed with the Federal Communications Commission, or at any time before that filing.

(c) A proposed structure or an alteration to an existing structure that exceeds 2,000 feet in height above the ground will be presumed to be a hazard to air navigation and to result in an inefficient utilization of airspace and the applicant has the burden of overcoming that presumption. Each notice submitted under the pertinent provisions of this Part 77 proposing a structure in excess of 2,000 feet above ground, or an alteration that will make an existing structure exceed that height, must contain a detailed showing, directed to meeting this burden. Only in exceptional cases, where the FAA concludes that a clear and compelling showing has been made that it would not result in an inefficient utilization of the airspace and would not result in a hazard to air navigation, will a determination of no hazard be issued.

(d) In the case of an emergency involving essential public services, public health, or public safety that requires immediate construction or alteration, the 30-day requirement in paragraph (b) of this section does not apply and the notice may be sent by telephone, telegraph, or other expeditious means, with an executed FAA Form 7460-1 submitted within 5 days thereafter. Outside normal business hours, emergency notices by telephone or telegraph may be submitted to the nearest FAA Flight Service Station.

(e) Each person who is required to notify the Administrator by paragraph (b) or (c) of Sec. 77.13, or both, shall send an executed copy of FAA Form 117-1, Notice of Progress of Construction or Alteration, to the Manager, Air Traffic Division, FAA Regional Office having jurisdiction over the area involved.

ADDRESSES OF THE REGIONAL OFFICES

Alaska Region

AK

Alaskan regional Office
Air Traffic division, AAL-530
222 West 7th Avenue
Anchorage, AK 99513
Tel: 907-271-5893

Mailing Address

Federal Aviation Administration
Alaskan Regional Office
Air Traffic Division, AAL-530
222 West 7th Avenue, Box 14
Anchorage, AK 99513-7587

Central Region

NE, IA, MO, KS

Central Regional Office
Air Traffic division, ACE-530
601 East 12th Street
Kansas, city, MO 64106
Tel. 816-426-3408

Eastern Region

NY, PA, WV, VA, DC, MD, DE, NJ

Eastern Regional Office
Air Traffic Division, AEA-530
JFK International Airport
Fitzgerald Federal building
Jamaica, NY 11430
Tel. 718-553-1228
Fax. 718-553-1384

Great Lakes Region

ND, WI, MI, SD, IL, OH, MN, IN

Great lakes Regional Office
Air Traffic Division, AGL-530
2300 East Devon Avenue
Des Plaines, IL 60018
Tel. 847-294-7568

New England Region

MA, NH, VT, RI, CT, ME

New England Regional Office
Air Traffic Division, ANE-530
12 New England Executive Park
Burlington, MA 01803-5299
Tel. 781-238-7538

Northwest Mountain Region

WA, OR, MT, ID, WY, UT, CO

Northwest Mountain Regional Office
Air Traffic Division, ANM-530
1601 Lind Avenue, SW
Renton, WA 98055-4056
Tel. 425-227-2530
Fax. 425-227-1530

Southern Region

KY, TN, NC, SC, GA, AL, MS, FL, VI, PR

Southern Regional Office
Air Traffic Division, ASO-530
1710 Columbia Avenue
College Park, GA 30337
Tel. 404-305-5585

Mail Address:

Federal Aviation Administration
Southern Regional Office
Air Traffic Division, ASO-530
P.O. Box 20636
Atlanta, GA 30320

Southwest Region

NM, TX, OK, AR, LA

Southwest Regional Office
Air Traffic Division, ASW-530
2601 Meacham Blvd.
Ft Worth, TX 76137-4298
Tel. 817-222-5531

Mail Address:

Department of Transportation
Federal Aviation Administration
Fort Worth, TX 76193-0530

Western Pacific Region

HI, CA, NV, AZ, GU

Western-Pacific Regional Office
Air Traffic Division, AWP-530
15000 Aviation Boulevard
Hawthorne, CA 90260
Tel. 310-725-6530

Mail Address:

AWP-530
P.O. Box 92007
World Way Postal Center
Los Angeles, CA 90009

E
BASED AIRCRAFT LISTING
Greenlee County Airport Master Plan



F
UNIT COST SUMMARY
Greenlee County Airport Master Plan

Unit Cost Summary

Year	Project Description		Project Cost
2002	Install PAPI	lump sum	\$ 115,000
2002	Install new security and game fencing and security warning signs	Design @ lump sum	\$ 50,000
		4 Gates @ 10,000	\$ 40,000
		200 signs @ 200	\$ 40,000
		16,000 lf fencing @ 20	\$ 320,000
		Total	\$ 450,000
2002	Install Apron Lighting	Design @ lump sum	\$ 13,700
		1,200 lf wiring and connections @ 10/lf	\$ 12,000
		3 Lights @ 4,100	\$ 12,300
		Misc elec vault mod @ ls	\$ 12,000
		Total	\$ 50,000
2003	Design Pavement Preservation for Runway, Taxiway, Apron	lump sum	\$ 27,000
2003	Install AWOS III	lump sum	\$ 185,000
2004	Comprehensive Drainage Study	lump sum	\$ 83,000
2004	Pavement Preservation for Runway, Taxiway, Apron	Design @ lump sum	\$ 14,000
		65,500sy @ 2/sy	\$ 131,000
		Total	\$ 145,000
2004	Design East Partial Parallel Taxiway to Runway 25	lump sum	\$ 125,000
2005	Construct East Partial Parallel Taxiway to Runway 25, MITL	SEC @ ls	\$ 5,000
		40 lights @ 600/unit	\$ 24,000
		5 signs @ 3000	\$ 15,000
		5,000 cy grading @ 5/cy	\$ 25,000
		19,000 sy paving @ 10/sy	\$ 190,000
		9,000 cy ag base @ 15/cy	\$ 135,000
		3,000 sf marking @ 2/sf	\$ 6,000
		Total	\$ 400,000
2005	Drainage Improvements	Design @ lump sum	\$ 44,000
		600 lf piping @ 75	\$ 45,000
		30,000 cy grading @ 5/cy	\$ 150,000
		7 headwalls @ 5,000/unit	\$ 35,000
		7 catchbasins @ 2,000	\$ 14,000
		15,000 sy soil stabilization @ 1/sy	\$ 15,000
		300 cy rip rap @ 100/cy	\$ 30,000
		Total	\$ 333,000
2005	Install add'l terminal area/apron security fencing, lighting & access	Design @ lump sum	\$ 12,500
		1 Automatic gate @ 25,000	\$ 25,000
		1 gate @ 10,000	\$ 10,000
		10 signs @ 200	\$ 2,000
		5 lights @ 4,100	\$ 20,500
		Total	\$ 70,000
Phase I			\$ 1,963,000

G
AIRPORT LAYOUT PLAN CHECKLIST
Greenlee County Airport Master Plan

U.S. Department of Transportation
 Federal Aviation Administration
 Western-Pacific Region – Airports Division

AIRPORT LAYOUT PLAN DRAWING CHECKLIST

Name of Airport: Greenlee County Airport
 Location of Airport: Clifton/Morenci, Arizona
 Date of Review: May, 2002 Reviewed by: Stantec Consulting Inc.
(Paul Tober) in association with Airport Planning West (Wendy Renier)

<u>Item</u>	<u>Included</u>		<u>Remarks</u>
	Yes	No	
<u>SHEET SIZE:</u> 24" X 36"	(X)	()	
<u>BAR SCALE:</u> 1"=200' to 1"=600'	(X)	()	1"=500'
<u>NORTH ARROW:</u> True & Current Magnetic Declination w/Annual Rate of Change	(X)	()	
<u>WIND ROSE:</u> Source & Time Period	(X)	()	
Shown in MPH & Knots	(X)	()	
12 MPH Individual & Combined Coverage	(X)	()	Combined TBD
15 MPH Individual & Combined Coverage	(X)	()	Combined TBD
<u>AIRPORT REFERENCE POINT</u> Existing	(X)	()	
Ultimate Development	(X)	()	
Labeled Lat/Long at point on drawing	(X)	()	
<u>TOPOGRAPHIC INFO:</u> 2' to 10' Contours	(X)	()	10'
Contours are Labeled	(X)	()	
<u>NAD 83: (Mandatory)</u> North American Datum Used for <u>ALL</u> Lat/Long identifications	(X)	()	

ELEVATIONS:

Existing Runway Ends including
Displaced Threshold
Ultimate Runway Ends
Runway Intersections

() (n/a)
(X) ()
(X) ()

N/A

Runway High & Low Points
Touchdown Zone Elevation
(TDZE) Highest RWY Elevation
in first 3000' of any RWY which
will have published straight-in
minimums

(X) ()
(X) ()

█

LINES:

Existing Property Boundary
Ultimate Property Boundary
Building Restriction Line (BRL)-
on both sides of the Runway
Section Corners (minimum of 2)
Existing Development shown
with Solid or Bold Lines
Future Development shown
w/Dashed or Screened Lines

() (X)
() (X)
() (X)
(X) ()
() ()
(X) ()

one shown

Some future facilities labeled

RUNWAY DRAWING DETAILS:

Length & Width of Existing R/W
Length & Width of Ultimate R/W
End Numbers – for each end
True Bearings to nearest sec.
Runway Markings –
(Basic, Non-Prec., Precision)
Existing Lighting shown
Ultimate Lighting indicated
Lat./Long. & Elevations for
Runway Thresholds and
Displaced Thresholds
Runway Safety Areas (RSA)
w/dimensions
Centerline shown w/ true
bearings
Existing Runway should be
lightly shaded
Approach aides indicated (ILS,
REILS)
Obstacle Free Zone (OFZ)
-Based on usage by only small
Airplanes or to include Large
Aircraft
Latitude, Longitude & Elevation
-For any non-federal on-airport
NAVAID to be used in the Instrument
Approach Procedure

(X) ()
(X) ()

(X) ()
(X) ()
(X) ()
(X) ()
(X) ()
(X) ()
(X) ()
(X) ()
(X) ()
() (n/a)
(X) ()

() (n/a)

In progress

N/A

N/A – Future GPS TBD

TAXIWAY DETAILS:

- Width of Existing (X) ()
- Width of Ultimate (X) ()
- Labeled by Name (i.e. T/W A, T/W B, T/W D) (X) ()
- Dimensional Clearance Widths And Separations from:
 - a) Runway Centerline(s) (X) ()
 - b) Parallel Taxiway (X) ()
 - c) Aircraft Parking Area(s) (X) ()

AIRCRAFT PARKING APRON:

- Existing location depicted (X) ()
- Ultimate location depicted (X) ()
- If scale permits:
 - Aircraft Tie-down locations (X) ()
 - Aircraft Tie-down layout (X) ()

RUNWAY PROTECTION ZONES:

- Dimensions Indicated (X) ()
- Approach Slope Labeled ex: 20:1 (X) ()
- Existing RPZ shown (X) ()
- Ultimate RPZ shown (X) ()
- Type of Ownership: (Labeled)
 - a) Currently Own in Fee (X) ()
 - b) Avigation Easement (X) ()
 - c) Future Fee Acquisition (X) ()
 - d) Unregulated () (n/a)
- Hatching/Shading not used (X) ()

Limited

TITLE & REVISION BLOCKS:

- Name & Location of Airport (X) ()
- Name of Preparer (Sponsor or Consultant) (X) ()
- Date of Drawing (X) ()
- Drawing Title (ALP, Terminal) (X) ()
- Revision Area Block provided w/FAA Disclaimer information (X) ()
- Approval Block (Sponsor only) (X) ()
- Standardized Area for FAA Approval Stamp (X) ()

AIRPORT DATA BLOCK:

- Airport Elevation in Feet above Mean Sea Level (MSL)
 - a) Existing (X) ()
 - b) Ultimate (X) ()
- Airport Reference Point (ARP) Coordinates (Lat/Long to nearest second)
 - a) Existing (X) ()
 - b) Ultimate (X) ()

Airport & Terminal NAVAIDS indicated (Beacon, ILS, etc.)	(X)	()	
Mean Max. Temp. –Indicate hottest month in degrees Fahrenheit	(X)	()	
Airport Reference Code:			
- Runway Category (A-D)	(X)	()	
- Airplane Design Group (I-VI) Example: (A-I, B-II, D-VI)	(X)	()	
Design Aircraft (B-727, Cessna 172, B-747) Desired airport usage	(X)	()	
GPS at Airport	(X)	()	<u>Future</u>
<u>RUNWAY DATA BLOCK:</u>			
% Effective Gradient	(X)	()	
% Wind Coverage (show MPH)	(X)	()	
Max Elevation Above MSL	(X)	()	
Runway Length – Existing	(X)	()	
Runway Length – Ultimate	(X)	()	
Runway Width – Existing	(X)	()	
Runway Width – Ultimate	(X)	()	
Runway Surface Type (turf, dirt, asphalt)	(X)	()	
Taxiway Surface Type (turf, dirt, asphalt)	(X)	()	
Instrument Runway (type)	(X)	()	<u>Visual(E); NPI (F)</u>
Approach Slope (20:1, 50:1, 34:1)	(X)	()	<u>20:1 (E); 34:1 (F)</u>
Pavement Strength in lbs. and type (single wheel, dual, dual tandem)	(X)	()	
Runway Lighting (low, medium, high – LIRL, MIRL, HIRL)	(X)	()	
Runway Marking (Basic, Non-prec)	(X)	()	
Navigational Aids (ILS, NDB, GPS)		()	<u>GPS (F)</u>
Visual Aids (GVGI, REIL, etc.)	(X)	()	<u>PAPI (F)</u>
Runway Safety Area (RSA)			
Dimensions:			
a) Length beyond runway end	(X)	()	
b) Width	(X)	()	
FAR Part 77 Category by Rwy End:			
a) visual/visual	(X)	()	<u>Visual (E)</u>
b) precision/non-precision	()	(n/a)	<u>NPI (F) – all runway ends</u>
c) visual/utility	()	(n/a)	<u>for planning purposes</u>
d) non-precision/utility	()	(n/a)	

H
HOUSE BILL 2491
Greenlee County Airport Master Plan

State of Arizona
House of Representatives
Forty-third Legislature
First Regular Session
1997

HOUSE BILL 2491

AN ACT

AMENDING TITLE 28, CHAPTER 25, ARTICLE 7, ARIZONA REVISED STATUTES, BE
ADDING SECTION 28-8485; RELATING TO AIRPORTS.

1 Be it enacted by the Legislature of the State of Arizona:

2 Section 1. Title 28, chapter 25, article 7, Arizona Revised Statutes, is amended by
3 adding section 28-8485, to read:

4 28-8485. Airport influence areas; notice

5 A. AFTER NOTICE AND HEARING, THIS STATE OR THE GOVERNING
6 BODY OF A POLITICAL SUBDIVISION THAT HAS ESTABLISHED, OR OPERATES, AN
7 AIRPORT MAY DESIGNATE AS AN AIRPORT INFLUENCE AREA ALL PROPERTY
8 THAT IS IN THE VICINITY OF THE AIRPORT, THAT IS CURRENTLY EXPOSED TO
9 AIRCRAFT NOISE AND OVERFLIGHT AND THAT EITHER HAS A DAY-NIGHT
10 AVERAGE SOUND LEVEL FOR SIXTY-FIVE DECIBELS OR HIGHER OR IS WITHIN
11 SUCH GEOGRAPHICAL DISTANCE FROM AN EXISTING RUNWAY THAT EXPOSES
12 THE AREA TO AIRCRAFT NOISE AND OVERFLIGHTS AS DETERMINED BY THE
13 AIRPORT OWNER OR OPERATOR.

14 B. IF THIS STATE OR THE GOVERNING BODY OF A POLITICAL
15 SUBDIVISION ESTABLISHES AN AIRPORT INFLUENCE AREA, THIS STATE OF THE
16 GOVERNING BODY SHALL PREPARE AND FILE A RECORD OF THE AIRPORT
17 INFLUENCE AREA IN THE OFFICE OF THE COUNTY RECORDER IN EACH COUNTY
18 THAT CONTAINS PROPERTY IN THE AIRPORT INFLUENCE AREA. THE RECORD
19 SHALL BE SUFFICIENT TO NOTIFY OWNERS OR POTENTIAL PURCHASERS OR
20 PROPERTY IN THE AIRPORT INFLUENCE AREA THAT PROPERTY IN THE AREA IS
21 CURRENTLY SUBJECT TO AIRCRAFT NOISE AND AIRCRAFT OVERFLIGHTS.

22 Sec.2. Delayed effective date

23 This act is effective from and after September 30, 1997.

I
AIRPOST DEED INFORMATION
Greenlee County Airport Master Plan



P A T E N T

THE UNITED STATES OF AMERICA, acting through the Acting Secretary of the Interior, pursuant to the authority contained in section 16 of the Federal Airport Act, approved May 13, 1946 (60 Stat. 179; 49 U.S.C. 1115), as amended by section 1402 (b) of the Federal Aviation Act of 1958 (72 Stat. 806), and in conformity with Executive Order No. 10536 of June 9, 1954, hereby gives and grants a patent to the County of Greenlee, State of Arizona, and to its successors in function, for the following-described lands:

Lots one and two of section thirty-one in township five south of range thirty-one east of the Gila and Salt River Meridian, Arizona, containing 79.04 acres, according to the official plats of survey thereof on file in the Bureau of Land Management, Department of the Interior.

There are excepted from this patent and reserved to the United States all minerals in the lands, together with the right of the United States through its authorized agents, representatives, or lessees at any time to enter upon the lands and prospect for, mine, and remove such minerals, insofar as such right does not interfere with the development, operation, and maintenance of the airport to be constructed upon the lands by the County of Greenlee, State of Arizona, as determined by the Secretary of the Interior and the Administrator of the Federal Aviation Agency.

TO HAVE AND TO HOLD the lands included in this patent together with all rights, privileges, immunities, and appurtenances of whatsoever nature, thereunto belonging unto the County of Greenlee, State of Arizona, and to its successors in function forever; subject, however, to (1) any vested and accrued water rights for mining, agricultural, manufacturing, or other purposes, and rights to ditches and reservoirs used in connection with such water rights, as may be recognized and acknowledged by the local customs, laws, or decisions of the courts;

J
CARETAKER AGREEMENT
Greenlee County Airport Master Plan

INDEPENDENT CONTRACTOR'S AGREEMENT

AIRPORT CARETAKER SERVICE

County of Greenlee, State of Arizona, herein referred to as "COUNTY", hereby contracts with JIM and MARY DENTON as INDEPENDENT CONTRACTORS, herein referred to as "CONTRACTORS" for Airport Caretaker Services to perform such duties at times and places and in such manner as COUNTY may from time to time direct.

INDEPENDENT CONTRACTORS agrees to faithfully perform the following duties assigned to him to the best of his ability:

- (1) To act as caretaker of the county airport.
- (2) Do routine clean-up of area, including where he lives, runway, and restrooms.
- (3) Perform routine maintenance and electrical work.
- (4) Advise COUNTY of any need for special work on runway.

In consideration of such service, COUNTY agrees to provide INDEPENDENT CONTRACTOR with trailer space and water, and sufficient area for small garden.

Either party may terminate this agreement by giving the other party thirty (30) days written notice.

This contract shall be in effect for a term of ONE YEAR beginning July 1, 1999 and expiring June 30, 2000.

IN WITNESS THEREOF, the parties have executed this agreement at Clifton, Arizona, this 9th day of July, 1999.

GREENLEE COUNTY
BOARD OF SUPERVISORS

Donald R. Stacey
Donald R. Stacey, Chairman

INDEPENDENT CONTRACTORS

Jim Denton
Jim Denton

Mary Denton
Mary Denton

ATTEST:

Deborah K. Gale
Deborah K. Gale
Clerk of the Board

APPROVED AS TO FORM:

Derek D. Rapier
Derek D. Rapier
Greenlee County Attorney

K
ADOT Tentative Five Year Program 2003-2007
Greenlee County Airport Master Plan

Alphabetical Listing - Airport

Airport Name	County	Project Component	Project Description	State Share	Local Share	Federal Share	Project Total
2005 Runway Pavement Preservation			Seal coat	\$4,967	\$4,967	\$101,178	\$111,112
2005 Pavement Marking Install (ADOT)			Recondition existing	\$3,725	\$3,725	\$75,883	\$83,333
2005 Runway Construct			Construct parallel, phase 2	\$74,500	\$74,500	\$1,517,666	\$1,666,666
2005 Taxiway Construct			Construct parallel, phase 2	\$74,500	\$74,500	\$1,517,666	\$1,666,666
2005 Apron Construct			Construct, phase 2	\$104,473	\$104,473	\$2,128,260	\$2,337,206
2005 MIFL/HIRL Install			Install on parallel	\$11,379	\$11,379	\$231,801	\$254,559
2005 MITL/HITL Install			Install on parallel	\$11,379	\$11,379	\$231,801	\$254,559
2005 Equipment Other			Snow plow	\$5,900	\$5,900	\$120,199	\$131,999
2005 APMS - Apron Pavement Preservation			Overlay, AC thin; A01GC, 10	\$86,625	\$9,625	\$0	\$96,250
2006 Apron Pavement Preservation			Slurry seal/seal coat	\$12,293	\$12,293	\$250,415	\$275,001
2006 Taxiway Pavement Preservation			Slurry seal/seal coat	\$12,293	\$12,293	\$250,415	\$275,001
2006 Apron Expand			GA terminal area	\$1,341	\$1,341	\$27,318	\$30,000
2006 Grnd. Transp. - Access Rd.			Seal coat	\$4,470	\$4,470	\$91,060	\$100,000
2006 APMS - Apron Pavement Preservation			Crack seal and slurry; A01GC, 20	\$156,369	\$17,374	\$0	\$173,743
2006 APMS - Runway Pavement Preservation			Crack seal; Rwy321GC, 10	\$41,925	\$4,658	\$0	\$46,583
2006 APMS - Taxiway Pavement Preservation			Crack seal and slurry; TWPGC, 10	\$94,021	\$10,447	\$0	\$104,468
Airport Total				\$1,249,341	\$912,505	\$17,731,236	\$19,893,082
Greenlee County							
2003 Runway Vertical/Visual Lighting	Greenlee		Install PAPI	\$5,141	\$5,141	\$104,719	\$115,001
2003 Equipment AWOS			Install AWOS 3	\$7,363	\$7,363	\$150,000	\$164,726
2003 Fencing (Security) Install			Install security / w/ fence (est 20,000')	\$20,115	\$20,115	\$409,770	\$450,000
2003 Apron Lighting Install			Install security lighting: apron	\$2,235	\$2,235	\$45,530	\$50,000
2004 Planning Special			Conduct master drainage plan/study	\$3,682	\$3,682	\$75,000	\$82,364
2004 Runway Reconstruct			Drainage structure for rwy/twy T1 connector	\$3,682	\$3,682	\$75,000	\$82,364
2004 Runway Pavement Preservation			Seal coat rwy (43,722 SY)	\$4,470	\$4,470	\$91,060	\$100,000
2004 Taxiway Pavement Preservation			Seal coat twy (10,000 SY)	\$1,565	\$1,565	\$31,871	\$35,001
2004 Auto Parking Construct			Seal coat (2,000 SY)	\$447	\$447	\$9,106	\$10,000
2004 Taxiway Construct (ADOT)			Design parallel twy	\$112,500	\$12,500	\$0	\$125,000
2005 Taxiway Construct			Construct parallel twy, phase 1 (2600')	\$17,880	\$17,880	\$364,240	\$400,000
2005 Taxiway Construct			Drainage improvements	\$11,175	\$11,175	\$227,650	\$250,000
2005 Apron Reconstruct (ADOT)			Design & reconstruct apron A01GR (23,000 SY)	\$90,000	\$10,000	\$0	\$100,000
2006 Apron Reconstruct			Reconstruct apron (23,000 SY)	\$89,400	\$89,400	\$1,821,200	\$2,000,000
2006 Equipment Other			GPS approach/equipment	\$11,175	\$11,175	\$227,650	\$250,000
2006 Obstruction Removal (Part 77) (ADOT)			Relocate power poles, residence, buildings	\$45,000	\$5,000	\$0	\$50,000
2007 Obstruction Removal (Part 77)			Relocate power poles, residence, buildings	\$13,410	\$13,410	\$273,180	\$300,000
Airport Total				\$439,240	\$219,240	\$3,905,976	\$4,564,456
H.A. Clark Memorial Field							
2003 Environmental Studies Conduct	Coconino		E.A. for rwy extension	\$1,565	\$1,565	\$31,871	\$35,001
2003 Master Plans Develop			Update MP/economic study	\$6,035	\$6,035	\$122,931	\$135,001
2003 Buildings Other			New ARFF building	\$11,175	\$11,175	\$227,650	\$250,000
2003 Rotating Beacon Install			Upgrade rotating beacon	\$3,353	\$3,353	\$68,295	\$75,001
2003 Runway Vertical/Visual Lighting			Install PAPI	\$3,353	\$3,353	\$68,295	\$75,001
2003 REIL Install			Install new REIL	\$1,788	\$1,788	\$36,424	\$40,000